Dr.V.S.KRISHNA GOVT. DEGREE COLLEGE
(AUTONOMOUS)
NODAL RESOURCE CENTRE & AU CENTRE FOR RESEARCH
Maddilapalem, Visakhapatnam – 530013, Andhra Pradesh.
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Department of History

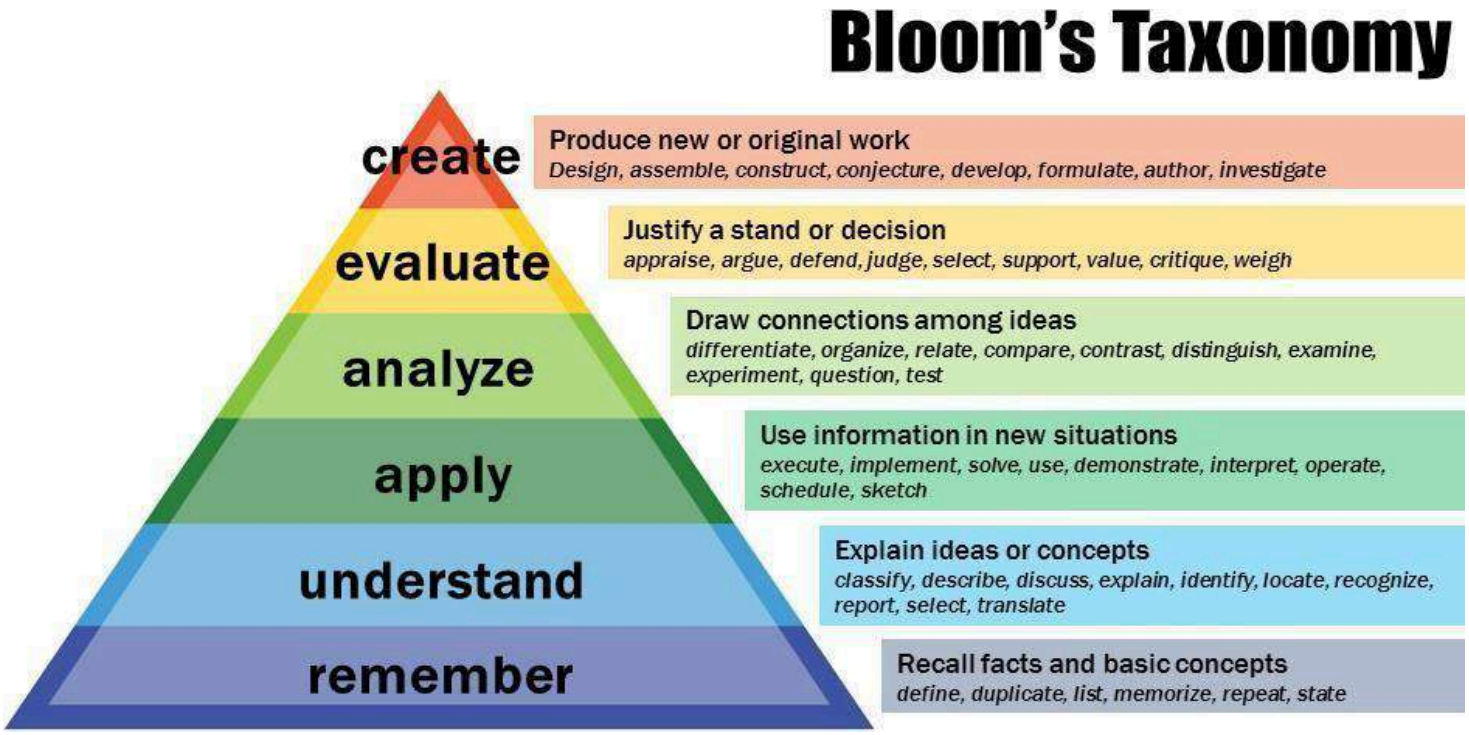
2018-2019

POs & COs

ATTAINMENT

BOARD OF STUDIES IN B.A HISTORY 2018-2019

Dr.V.S.Krishna Govt. Degree College (Autonomous),
(Accredited with 'A' Grade by NAAC) Visakhapatnam 530013,
ANDHRA PRADESH



Levels in Bloom's Taxonomy

Level-1	**Knowledge / Remember**
Level-2	**Understand**
Level-3	**Application**
Level-4	**Analyze**
Level-5	**Evaluation**
Level-6	**Create**

Program Outcomes

Students graduating with a B.SC /B.A /B.Com should be able to

	Programme Outcome
PO 1	**Critical Thinking**: Ability to take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
PO 2	**Effective Communication:** Ability to speak, read, write, and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media, and technology.
PO 3	**Social Interaction:** Ability to elicit views of others, mediate disagreements and help reach conclusions in group settings.
PO 4	**Effective Citizenship:** Ability to demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.
PO 5	**Ethics:** Ability to recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.
PO 6	**Environment and Sustainability:** Ability to understand the issues of environmental contexts and sustainable development
PO 7	**Employability skills:** Equipping graduates with the essential abilities and knowledge to excel in their chosen careers
PO 8	**Entrepreneurship skills:** Seeks to empower students with the competencies needed to be successful entrepreneurs, enabling them to launch, operate, and innovate in their own businesses or entrepreneurial ventures.

PO 9	**Self-directed and Life-long Learning:** Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes

Program Specific Outcomes (PSOs) B.A. HEP

PSOs	Program Specific Outcomes (PSOs)
PSO1	Understand the basic concepts like GDP, Poverty, Employment, International trade, Fiscal and Monetary policies, Economic conditions of various Historic periods, the development of Trade and Commerce from the ancient period to modern period and their role in administration, for formulating relevant policies for effective utilisation of resources and tackling. Evaluate the contemporary economic conditions with the economic theories and principles.
PSO2	To analyze the concept of political science processes, institutions and the Welfare State and Urban governance of Mauryan administration, Local Self-Government of Chola administration and all Democratic practices of modern British administration.
PSO3	Demonstrate proficiency in Historical knowledge of India and modern world.To understand the impact of economic prosperity that attracted the foreign invaders towards India, resulting in changed administration and economy in due course.
PSO4	To provide life skills required for gainful employment by using domain knowledge such as Economics,History and Political Science at various levels. I play the equator knowledge to solve problems in relevant fields.
PSO5	To promote values such as sustainable development, Optimum utilisation of resources, patriotism, respecting the ideals of freedom struggle and responsible citizenship, political participation and socialisation

Semester I

ANCIENT INDIAN HISTORY & CULTURE (from earliest times to 600A.D)

Course code - N-1101

Unit – 1

Survey of Sources: Literary & Archaeological Sources; Influence of Geography on History; Unity in Diversity; Traces of Stone Age Cultures (Circa 3,50,000 B. C to 3,000 B. C); Indus Valley Civilization (Circa 3000 B. C to 1,500 B. C): Origin, Extent, Salient Features.

Unit – II

Vedic Age & Religious Reform Movements (Circa 1500 B. C to 600 B. C): Society, Polity, Economy, Culture during early and later Vedic period; Jainism and Buddhism: Causes, Doctrines, Spread, Importance and Impact

Unit - III

Transition from Territorial States to Emergence of Empires (Circa 600to Century to 300 B. C): Rise of Mahajanapadas – Causes for Magadha's Success; Persian and Macedonian Invasions; Mauryan Empire: State, Imperial Administration, Economy, Ashoka'sDhamma, Art & Architecture, Significance & Downfall

Unit - IV

Conditions during 200 B. C to 300 A. D.: Central Asian Contacts – Kushanas – Aspects of polity, society, Economy, Religion, Art& Architecture; The Age of Satavahanas: Pattern of Administration – Social, Economic, Religious & Cultural Developments; Sangam Age: The Three Early Kingdoms (Chola, Chera& Pandya) – Society, Language & Literature.

Unit – V

India between 300 A. D & 600 A. D.: The Rise and Growth of Guptas: Administration, Society,

Economy, Religion, Art, Literature and Science & Technology – Decline.

COURSE OUTCOMES(COs)

On completion of the course the student will be able to

CO 1:	Learn about the Survey of Sources and ancient civilisations
CO 2:	Understand the Vedic Age & Religious Reform Movements
CO 3:	Compare theTransition from Territorial States to Emergence of Empires
CO 4:	Appraise the Conditions during 200 B. C to 300 A. D and describe the conditions of south
CO 5:	Support the concept of golden age during the conditions of India under the Guptas.

Average level weightage COWA: 2.2922419

Sl.no	Course outcomes	Knowledge level (Bloom's Taxonomy)	Average level weightage	CO Attainment
CO 1:	Learn about the Survey of Sources and ancient civilisations	Remember and understand	1.5	2.6966751
CO 2:	Understand the Vedic Age & Religious Reform Movements	Understand and evaluate	3.5	2.2922419
CO 3:	Compare theTransition from Territorial States to Emergence of Empires	Analyze	4	2.191133599
CO 4:	Appraise the Conditions during 200 B. C to 300 A. D and describe the conditions of south India.	Analyze and Understand	3	2.191133599

CO 5:	Support the concept of golden age during the conditions of India under the Guptas.	Evaluate	5	**1.988916999**

CO-PO Mapping

1. Low, 2- Moderate, 3- High, '-' No Correlatio

	PO:1 Critical Thinking	PO:2 Effective Communication	PO:3 Social Interaction	PO:4 Effective Citizenship	PO:5 Ethics	PO:6 Environment and Sustainability	PO:7 Employ a-bility skills	PO:8 Entrepreneur -ship skills	PO:9 Self-directed and Life-long Learning
CO:1	2	-	3	1	-	-	-	-	-
CO:2	2	-	2	2	3	1	-	-	-
CO:3	1	-	2	-	2	1	-	-	-
CO:4	1	-	-	1	-	2	-	2	-
CO:5	2	-	2	1	-	-	-	-	-

PROGRAM OUTCOMES ATTAINMENT								
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
5.39335	2.696675 1	8.09002 5	2.69667 5	0	0	0	0	3
4.58448 4	2.292241 9	4.58448 4	4.58448 4	6.87672 6	2.29224 2	0	0	0
2.19113 4	2.191133 6	4.38226 7	0	4.38226 7	2.19113 4	0	0	0
2.19113 4	2.191133 6	0	2.19113 4	0	4.38226 7	0	4.38226 7	0
3.97783 4	1.988917	3.97783 4	1.98891 7	0	0	0	0	0

2.292242	2.2720202	2.337179	2.292242	2.251799	2.216411	#DIV/0!	2.191134	#DIV/0!

CO-PSO Mapping

1.Low, 2- Moderate, 3- High, '-' No Correlation

	PSO:1	PSO:2	PSO:3	PSO:4	PSO:5
CO:1	3	-	3	-	-
CO:2	2	-	-	2	-
CO:3	2	-	-	3	-
CO:4	2	2	-	3	2
CO:5	2	2	-	2	2

PROGRAM SPECIFIC OUTCOMES ATTAIMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO:1	8.090025	0	8.090025	0	0
CO:2	4.584484	0	0	4.584484	0
CO:3	4.382267	0	0	6.573401	0

CO:4	4.382267	4.382267	0	6.573401	4.382267
CO:5	3.977834	3.977834	0	3.977834	3.977834
	2.310625	**2.090025**	**2.696675**	**2.170912**	**2.090025**

Semester – II

Paper – II (Core Paper)

EARLY MEDIEVAL INDIAN HISTORY & CULTURE (600 A.D to 1526 A. D.)

Unit-I

Harsha & His Times: Administration, Religion – Hiuen Tsang -Polity, Society, Economy and Culture from 7th to 11th Century A. D. under Chalukyas of Badami & Eastern Chalukyas of Vengi.

Unit-II

Age of later Pallavas during 7th& 8th Centuries A. D.: Contribution to Cultural Development & Art & Architecture; The Chola Empire from 9th to 12 Century A. D.: Rise of the Empire, Administration and Cultural Life

Unit-III

Conditions in India on the eve of Turkish Invasions; Early Invasions: Traces of Arab Invasion, Ghazni&Ghori; Delhi Sultanate (1206 to 1290 A.D.) under Slave Dynasty

Unit-IV

Delhi Sultanate (1290 to 1526 A.D.): Khaljis: Expansion & Consolidation, Administrative & Economic Reforms - The Tughlaqs - Decline & Disintegration of the Delhi Sultanate; Administration, Society, Economy, Technology, Religion, Art & Architecture under the Sultanate.

Unit-V

Cultural Development in India between 13th& 15th Centuries A. D.: Impact of Islam on Indian Society and Culture – Bhakti and Sufi Movements – Emergence of Composite Culture

COURSE OUTCOMES(COs)

On completion of the course the student will be able to

CO 1:	Describe the conditions of India from 7th to 11th Century A. D.
CO 2:	Appraise the Contribution of the Pallavas to Cultural Development and compare the local self g Cholas with modern democracy.
CO 3:	Examine the Conditions in India on the eve of Turkish Invasions and explain Delhi Sultanate (120 under Slave Dynasty
CO 4:	Compare the Conditions during the Delhi Sultanate to earlier times(1290 to 1526 A.D.)
CO 5:	Analyze the Cultural Development in India between 13th& 15th Centuries A. D

Average level weightage

COURSE OUTCOME WEIGHTED AVERAGE - COWA –2.042174988

Sl.no	**Course outcomes**	Knowledge level (Bloom's Taxonomy)	**Average level weightage**	**CO Attainment**
CO 1:	Describe the conditions of India from 7th to 11th Century A. D.	understand	2	2.161865407
CO 2:	Appraise the Contribution of the Pallavas to Cultural Development and compare the local self government of the Cholas with modern democracy.	Evaluate and Analyze	4.5	1.563197841

CO-PO Mapping

2. Low, 2- Moderate, 3- High, '-' No Correlation

	PO:1 Critical Thinking	PO:2 Effective Communication	PO:3 Social Interaction	PO:4 Effective Citizenship	PO:5 Ethics	PO:6 Environment and Sustainability	PO:7 Employa-bility skills	PO:8 Entrepreneur-ship skills	PO:9 Self-directed and Life-long Learning
CO:1		-	-	1	2	-	-	-	2
CO:2	1	-	2	-	3	1	-	2	-
CO:3	2	1	2	-	2	1	-	-	-
CO:4	-	-	-	1	-	-	1	2	-
CO:5	2	-	2	-	-	-	-	-	-

PROGRAM OUTCOMES ATTAINMENT								
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
2.452671	0	0	2.452671	4.905343	2.452671	2.452671	0	4.90534284
1.768511	1.7685107	3.537021	1.768511	5.305532	1.768511	1.768511	3.537021	0

4.358014	2.1790071	4.358014	0	4.358014	2.179007	0	0	0
1.905343	1.9053428	0	1.905343	0	0	1.905343	3.810686	0
3.810686	0	3.810686	0	1.905343	1.905343	1.905343	0	0
2.042175	**1.9509536**	**1.950954**	**2.042175**	**2.059279**	**2.076383**	**2.007967**	**1.836927**	**2.4526714**

CO-PSO Mapping

1.Low, 2- Moderate, 3- High, '-' No Correlation

	PSO:1	PSO:2	PSO:3	PSO:4	PSO:5
CO:1	3	-	3	-	-
CO:2	2	-	-	2	-
CO:3	2	-	-	3	-
CO:4	2	2	-	3	2
CO:5	2	2	-	2	2

MAPPING PROGRAM SPECIFIC OUTCOMES				
PSO1	PSO2	PSO3	PSO4	PSO5
7.358014	0	7.358014	2.452671	0
3.537021	0	1.768511	3.537021	0

4.358014	2.179007	2.179007	6.537021	0
3.810686	3.810686	0	5.716029	3.810686
3.810686	3.810686	0	3.810686	3.810686
2.079493	**1.960076**	**2.261106**	**2.004857**	**1.905343**

Semester – III

Paper – III (Core Paper)

LATE MEDIEVAL & COLONIAL HISTORY OF INDIA (1526 to 1857 A. D.)

Unit – 1

India from 1526 to 1707 A. D.: Emergence of Mughal Empire - Sources, Conditions in India on the eve of Babur's invasion, Brief Summary of Mughal Polity – Sher Shah & Sur Interregnum – Expansion & Consolidation of Mughal Empire – Rise of Marathas &Peshwas.

Unit – II

Administration, Economy, Society and Cultural Developments under the Mughals – Disintegration of Mughal Empire.

Unit - III

India under Colonial Hegemony : Beginning of European Settlements – Anglo-French Struggle – Policies of Expansion - Subsidiary Alliance & Doctrine of Lapse - Consolidation of British Empire in India up to 1857 A. D.

Unit - IV

Economic Policies of the British (1757-1857): Land Revenue Settlements – Commercialization of Agriculture – Impact of Industrial Revolution on Indian Industry ; Administration of the Company – Regulating Charter Acts; Cultural & Social Policies: Humanitarian Measures & Spread of Modern Education

Unit – V

Anti-Colonial Upsurge –Peasant & Tribal Revolts - 1857 Revolt – Causes, Nature & Consequence

COURSE OUTCOMES (COs) - Average level weightage

COURSE OUTCOME WEIGHTED AVERAGE 2.161865407

On completion of the course the student will be able to

Sl.no	**Course outcomes**	Knowledge level (Bloom's Taxonomy	**Average level weightage**	**CO Attainment**
CO 1:	Explain the Emergence of Mughal Empire and support Rise of Marathas	Understand and Evaluate	3.5	**2.161865407**
CO 2:	Designs a new agriculture policy	Create	6	**1.563197841**
CO 3:	Examine the Consolidation of the British Empire in India up to 1857	Analyze	4	**2.042131894**
CO 4:	Compare the Economic Policies of the British with present policies	Analyze	4	**2.042131894**
CO 5:	Analyze the Peasant & Tribal Revolts - 1857 Revolt	Analyze	4	**2.042131894**

CO-PO Mapping

3. Low, 2- Moderate, 3- High, '-' No Correlation

	PO:1 Critical Thinking	PO:2 Effective Communication	PO:3 Social Interaction	PO:4 Effective Citizenship	PO:5 Ethics	PO:6 Environment and Sustainability	PO:7 Employa-bility skills	PO:8 Entrepreneur-ship skills	PO:9 Self-directed and Life-long Learning
CO:1	1	0	1	1	2	1	1	0	2
CO:2	1	1	0	0	3	1	0	2	1
CO:3	2	1	2	0	2	1	0	0	0
CO:4	2	1	1	1	1	1	1	2	0
CO:5	2	0	2	1	1	0	0	0	1

PROGRAM OUTCOMES ATTAINMENT								
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
2.452671	0	2.452671	2.452671	4.905343	2.452671	2.4527	0	4.90534

1.768511	1.7685107	0	0	5.305532	1.768511	0	3.537021	1.76851
4.358014	2.1790071	4.358014	0	4.358014	2.179007	0	0	0
3.810686	1.9053428	1.905343	1.905343	1.905343	1.905343	1.9053	3.810686	0
3.810686	0	3.810686	1.905343	1.905343	0	0	0	1.90534
2.025071	**1.9509536**	**2.087786**	**2.087786**	**2.042175**	**2.076383**	**2.179**	**1.836927**	**2.1448**

CO-PSO Mapping

1.Low, 2- Moderate, 3- High, '-' No Correlation

	PSO:1	PSO:2	PSO:3	PSO:4	PSO:5
CO:1	3	1	3	0	1
CO:2	2	1	1	2	1
CO:3	2	0	1	3	0
CO:4	2	2	0	3	2
CO:5	2	2	2	2	2

MAPPING PROGRAM SPECIFIC OUTCOMES				
PSO1	PSO2	PSO3	PSO4	PSO5
7.358014	2.452671	7.358014	0	2.452671
3.537021	1.768511	1.768511	3.537021	1.768511

4.358014	0	2.179007	6.537021	0
3.810686	3.810686	0	5.716029	3.810686
3.810686	3.810686	3.810686	3.810686	3.810686
2.079493	**1.973759**	**2.15946**	**1.960076**	**1.973759**

Semester – IV

Paper – IV (Core Paper)

SOCIAL REFORM MOVEMENT & FREEDOM STRUGGLE (1820 to 1947 A.D.)

Unit – 1

Social, Religious & Self-Respect Movements: Social & Cultural Awakening – Brahma Samaj, Arya Samaj, Theosophical Society, Ramakrishna Mission, Aligarh Movement – Emancipation of Women – Struggle Against Caste: JyotibaPhule, Narayana Guru, Periyar, Dr. B. R. Ambedkar.

Unit – II

Growth of Nationalism in the 2nd Half of 19th Century – Impact of British Colonial Policies under Viceroys' Rule and the Genesis of Freedom Movement – Birth of Indian National Congress.

Unit - III

Freedom Struggle from 1885 to 1920: Moderate Phase — Partition of Bengal - Emergence of Militant Nationalism –Swadeshi & Boycott Movement – Home Rule Movement.

Unit - IV

Freedom Struggle from 1920 to 1947: Gandhiji's Role in the National Movement – Revolutionary Movement –Subhas Chandra Bose.

Unit – V

Muslim League & the Growth of Communalism – Partition of India – Advent of Freedom - Integration of Princely States into Indian Union – SardarVallabhai Patel.

COURSE OUTCOMES(COs)

On completion of the course the student will be able to

CO 1:	Explain the Emergence of Mughal Empire and sketch the causes for the Rise of Marathas
CO 2:	Designs a new agriculture policy
CO 3:	Examine the Consolidation of the British Empire in India up to 1857
CO 4:	Compare the Economic Policies of the British with present policies
CO 5:	Analyze the Peasant & Tribal Revolts - 1857 Revolt

Average level weightage

COURSE OUTCOME WEIGHTED AVERAGE COWA - 2.331329708

Sl.no	**Course outcomes**	Knowledge level (Bloom's Taxonomy)	**Average level weightage**	**CO Attainment**
CO 1:	Explain the Emergence of Mughal Empire and sketch the causes for Rise of Marathas	Understand and Apply	2.5	**2.522378363**
CO 2:	Designs a new agriculture policy	Create	6	**1.853708071**

CO 3:	Examine the Consolidation of the British Empire in India up to 1857	Analyze	4	**2.235805381**
CO 4:	Compare the Economic Policies of the British with present policies	Analyze	4	**2.235805381**
CO 5:	Analyze the Peasant & Tribal Revolts - 1857 Revolt	Analyze	4	**2.235805381**

CO-PO Mapping

4. Low, 2- Moderate, 3- High, '-' No Correlation

	PO:1 Critical Thinking	PO:2 Effective Communication	PO:3 Social Interaction	PO:4 Effective Citizenship	PO:5 Ethics	PO:6 Environment and Sustainability	PO:7 Employa-bility skills	PO:8 Entrepreneur-ship skills	PO:9 Self-directed and Life-long Learning
CO:1	1	0	2	1	2	1	0	0	2
CO:2	1	1	2	1	3	1	0	2	1
CO:3	2	1	2	1	2	1	0	0	0
CO:4	2	0	2	1	0	0	2	2	0
CO:5	2	0	2	0	0	0	0	0	0

PROGRAM OUTCOMES ATTAINMENT								
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
2.522378	0	5.044757	2.522378	5.044757	2.522378	0	0	5.04476

1.853708	1.8537081	3.707416	1.853708	5.561124	1.853708	0	3.707416	1.85371
4.471611	2.2358054	4.471611	2.235805	4.471611	2.235805	0	0	0
4.471611	0	4.471611	2.235805	0	0	4.4716	4.471611	0
4.471611	0	4.471611	0	0	0	0	0	0
2.223865	**2.0447567**	**2.216701**	**2.211924**	**2.153927**	**2.203964**	**2.2358**	**2.044757**	**2.29949**

CO-PSO Mapping

1.Low, 2- Moderate, 3- High, '-' No Correlation

	PSO:1	PSO:2	PSO:3	PSO:4	PSO:5
CO:1	3	0	3	0	1
CO:2	2	0	0	2	1
CO:3	2	1	1	3	1
CO:4	2	2	1	3	2
CO:5	2	2	1	2	2

MAPPING PROGRAM SPECIFIC OUTCOMES				
PSO1	PSO2	PSO3	PSO4	PSO5
7.567135	0	7.567135	0	2.522378
3.707416	0	0	3.707416	1.853708

4.471611	2.235805	2.235805	6.707416	2.235805
4.471611	4.471611	2.235805	6.707416	4.471611
4.471611	4.471611	2.235805	4.471611	4.471611
2.244489	**2.235805**	**2.379092**	**2.159386**	**2.222159**

Semester – V

Paper – V (Core Paper)

AGE OF RATIONALISM AND HUMANISM

(The World Between 15th& 18th Centuries)

Unit – 1

Feudalism -Geographical Discoveries: Causes – Compass & Maps – Portugal Leads and Western World Follows – Consequences;

Unit – II

The Renaissance Movement: Factors for the Growth of Renaissance – Characteristic Features - Transformation from Medieval to Modern World; Reformation & Counter Reformation Movements: The Background – Protestantism – Spread of the Movement– Counter Reformation– Effects of Reformation

Unit - III

Emergence of Nation States: Contributory Factors - England and other Nation States – Impact due to the Emergence of Nation States.;Age of Revolutions: The Glorious Revolution (1688) – Origin of Parliament – Constitutional Settlement – Bill of Rights – Results.

Unit - IV

Age of Revolutions: The American Revolution (1776) – Opening of New World – Causes – Course – Declaration of Independence, 1776 – Bill of Rights, 1791 – Significance.

Unit – V

Age of Revolutions: The French Revolution (1789) – Causes - Teachings of Philosophers - Course of the Revolution – Results.

COURSE OUTCOMES(COs)

On completion of the course the student will be able to

CO 1:	Explain the Geographical Discoveries and the Consequences
CO 2:	Describe the Factors for the Growth of Renaissance and differentiate between Reformation & Counter Reformation
CO 3:	Judge the results of Glorious Revolution
CO 4:	Interpret the effect of results of The American Revolution
CO 5:	Analyze the causes and results of French Revolution (1789)

Average level weightage

COURSE OUTCOME WEIGHTED AVERAGE COWA- 2.154257389

Sl.no	**Course outcomes**	Knowledge level (Bloom's Taxonomy)	**Average level weightage**	**CO Attainment**
CO 1:	Explain the Geographical Discoveries and the Consequences	Understand	2	**2.516718508**

CO 2:	Describe the Factors for the Growth of Renaissance and differentiate between Reformation & Counter Reformation	Understand and Analyse	3	**2.275077762**
CO 3:	Judge the results of Glorious Revolution	Evaluate	5	**1.791796269**
CO 4:	Interpret the effect of results of The American Revolution	Apply	3	**2.275077762**
CO 5:	Analyze the causes and results of French Revolution (1789)	Analyze	4	**2.033437016**

CO-PO Mapping

5. Low, 2- Moderate, 3- High, '-' No Correlation

	PO:1 Critical Thinking	PO:2 Effective Communication	PO:3 Social Interaction	PO:4 Effective Citizenship	PO:5 Ethics	PO:6 Environment and Sustainability	PO:7 Employa-bility skills	PO:8 Entrepreneur-ship skills	PO:9 Self-directed and Life-long Learning
CO:1	1	1	2	1	2	2	2	2	2
CO:2	1	0	2	-	3	1	0	2	1
CO:3	2	1	2	3	2	1	0	0	0
CO:4	2	0	2	2	2	1	2	2	0
CO:5	2	2	2	3	2	1	1	0	1

PROGRAM OUTCOMES ATTAINMENT								
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
2.516719	2.5167185	5.033437	2.516719	5.033437	5.033437	5.0334	5.033437	5.03344
2.275078	0	4.550156	0	6.825233	2.275078	0	4.550156	2.27508

3.583593	1.7917963	3.583593	5.375389	3.583593	1.791796	0	0	0
4.550156	0	4.550156	4.550156	4.550156	2.275078	4.5502	4.550156	0
4.066874	4.066874	4.066874	6.100311	4.066874	2.033437	2.0334	0	2.03344
2.124052	**2.0938472**	**2.178421**	**2.060286**	**2.187208**	**2.234804**	**2.3234**	**2.355625**	**2.33549**

CO-PSO Mapping

1.Low, 2- Moderate, 3- High, '-' No Correlation

	PSO:1	PSO:2	PSO:3	PSO:4	PSO:5
CO:1	3	1	2	0	2
CO:2	2	0	2	2	1
CO:3	2	1	0	3	0
CO:4	2	2	1	3	2
CO:5	2	2	0	2	2

MAPPING PROGRAM SPECIFIC OUTCOMES				
PSO1	PSO2	PSO3	PSO4	PSO5
7.550156	2.516719	5.03343702	0	5.033437
4.550156	0	4.55015552	4.550156	2.275078
3.583593	1.791796	0	5.375389	0
4.550156	4.550156	2.27507776	6.825233	4.550156
4.066874	4.066874	0	4.066874	4.066874

2.209176	2.154257	2.37173406	2.081765	2.275078

Semester – V

Paper – VI (Core Paper)

HISTORY & CULTURE OF ANDHRA DESA (from 12th to 19th Century A.D.)

Unit – 1

Andhra during 12th& 13th Centuries A.D.: Kakatiyas – Origin & its Antecedents – Administration – Social & Economic Life – Industries & Trade - Promotion of Literature and Culture – Architecture & Sculpture – Decline; The Age of Reddy Kingdoms: Patronage to Literature – Trade & Commerce.

Unit – II

Andhra between 14th & 16th Centuries A.D.: Vijayanagara Empire: Polity, Administration, Society & Economy – Sri Krishna Devaraya and his contribution to Andhra Culture – Development of Literature & Architecture – Decline and Downfall.

Unit - III

Andhra through 16th& 17th Centuries A.D.: Evolution of Composite Culture - The QutbShahis of Golconda – Origin & Decline – Administration, Society & Economy – Literature & Architecture.

Unit - IV

The 18th& 19th Centuries in Andhra: East India Company's Authority over Andhra – Three Carnatic Wars – Occupation of Northern Circars and Ceeded Districts –Early Uprisings – Peasants and Tribal Revolts.

Unit – V

The 18th& 19th Centuries in Andhra: Impact of Company Rule on Andhra – Administration – Land Revenue Settlements – Society – Education - Religion – Impact of Industrial Revolution on Economy – Peasantry & Famines – Contribution of Sir Thomas Munroe, C. P. Brown & Sir Arthur Cotton – Impact of 1857 Revolt in Andhra

COURSE OUTCOMES(COs)

On completion of the course the student will be able to

CO 1:	Explain the conditions of Andhra during 12th& 13th Centuries
CO 2:	Appraise the contribution of Sri Krishna Devaraya to Andhra Culture
CO 3:	Examine the Evolution of Composite Culture
CO 4:	Sketch the causes for Peasants and Tribal Revolts in Andhra
CO 5:	Designs a new revenue policy

Average level weightage

COURSE OUTCOME WEIGHTED AVERAGE - COWA - 2.320646997

Sl.no	**Course outcomes**	Knowledge level (Bloom's Taxonomy)	**Average level weightage**	**CO Attainment**

CO 1:	Explain the conditions of Andhra during 12th& 13th Centuries	Understand	2	**2.611798284**
CO 2:	Appraise the contribution of Sri Krishna Devaraya to Andhra Culture	Evaluation	5	**2.02949571**
CO 3:	Examine the Evolution of Composite Culture	Analyse	4	**2.223596568**
CO 4:	Sketch the causes for Peasants and Tribal Revolts in Andhra	Apply	3	**2.417697426**
CO 5:	Designs a new revenue policy	Create	6	**1.835394852**

CO-PO Mapping

6. Low, 2- Moderate, 3- High, '-' No Correlation

	PO:1 Critical Thinking	PO:2 Effective Communication	PO:3 Social Interaction	PO:4 Effective Citizenship	PO:5 Ethics	PO:6 Environment and Sustainability	PO:7 Employa-bility skills	PO:8 Entrepreneur-ship skills	PO:9 Self-directed and Life-long Learning
CO:1	1	1	2	1	2	2	2	2	2
CO:2	1	0	2	1	3	0	1	2	1
CO:3	2	1	2	3	2	1	0	0	0
CO:4	2	1	2	2	2	2	2	2	0
CO:5	2	0	2	3	2	1	0	1	1

PROGRAM OUTCOMES ATTAINMENT

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
2.611798	2.6117983	5.223597	2.611798	5.223597	5.223597	5.2236	5.223597	5.2236
2.029496	0	4.058991	2.029496	6.088487	0	2.0295	4.058991	2.0295
4.447193	2.2235966	4.447193	6.67079	4.447193	2.223597	0	0	0
4.835395	2.4176974	4.835395	4.835395	4.835395	4.835395	4.8354	4.835395	0
3.67079	0	3.67079	5.506185	3.67079	1.835395	0	1.835395	1.83539
2.199334	**2.4176974**	**2.223597**	**2.165366**	**2.205951**	**2.352997**	**2.4177**	**2.279054**	**2.27212**

CO-PSO Mapping

1.Low, 2- Moderate, 3- High, '-' No Correlation

	PSO:1	PSO:2	PSO:3	PSO:4	PSO:5
CO:1	2	0	2	0	2
CO:2	3	1	2	2	0
CO:3	2	0	1	3	0
CO:4	1	2	0	3	2
CO:5	2	2	1	2	2

MAPPING PROGRAM SPECIFIC OUTCOMES

PSO1	PSO2	PSO3	PSO4	PSO5
5.223597	0	5.22359657	0	5.223597
6.088487	2.029496	4.05899142	4.058991	0
4.447193	0	2.22359657	6.67079	0
2.417697	4.835395	0	7.253092	4.835395
3.67079	3.67079	1.83539485	3.67079	3.67079
2.184776	**2.107136**	**2.22359657**	**2.165366**	**2.288297**

Semester – VI

Paper – VII-(A):: (Elective Paper)

HISTORY OF MODERN EUROPE (from 19th Century to 1945 A. D.)

Unit – 1

Industrial Revolution: Origin, Nature and Impact.

Unit – II

Unification Movements in Italy & Germany and their Impact.

Unit - III

Communist Revolution in Russia – Causes, Course and Results – Impact on World Order.

Unit - IV

World War I: Age of Rivalry in Europe Between 1870 and 1914 – Results of the War – Paris Peace Conference - League of Nations.

Unit – V

World War II: Causes, Fascism & Nazism – Results; The United Nations Organization: Structure, Functions and Challenges.

COURSE OUTCOMES(COs)

On completion of the course the student will be able to

CO 1:	Examine the Impact of Industrial Revolution
CO 2:	Appraise the Unification Movements in Europe
CO 3:	Examine Impact of Communist Revolution on World Order.
CO 4:	Sketch the causes for World War - I
CO 5:	Designs a new foreign policy

Average level weightage

COURSE OUTCOME WEIGHTED AVERAGE COWA- 2.512371338

Sl.no	**Course outcomes**	Knowledge level (Bloom's	**Average**	CO

		Taxonomy)	**level weightage**	**Attainment**
CO 1:	Examine the Impact of Industrial Revolution	Analyse	4	2.223596568
CO 2:	Appraise the Unification Movements in Europe	Evaluation	5	2.02949571
CO 3:	Explain the Impact of Communist Revolution on the World Order.	Understand	2	2.611798284
CO 4:	Sketch the causes for World War - I	Apply	3	2.417697426
CO 5:	Designs a new foreign policy	Create	6	1.835394852

CO-PO Mapping

7. Low, 2- Moderate, 3- High, '-' No Correlation

	PO:1 Critical Thinking	PO:2 Effective Communication	PO:3 Social Interaction	PO:4 Effective Citizenship	PO:5 Ethics	PO:6 Environment and Sustainability	PO:7 Employa-bility skills	PO:8 Entrepreneur-ship skills	PO:9 Self-directed and Life-long Learning
CO:1	2	0	2	1	2	2	2	2	2
CO:2	1	1	2	1	3	0	0	2	1
CO:3	1	1	2	3	2	1	1	0	0
CO:4	2	0	2	2	2	2	2	2	0

CO:5	1	1	2	3	2	2	0	1	0

PROGRAM OUTCOMES ATTAINMENT								
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
5.223597	0	5.223597	2.611798	5.223597	5.223597	5.2236	5.223597	5.2236
2.029496	2.029495 7	4.058991	2.029496	6.088487	0	0	4.058991	2.0295
2.223597	2.223596 6	4.447193	6.67079	4.447193	2.223597	2.2236	0	0
4.835395	0	4.835395	4.835395	4.835395	4.835395	4.8354	4.835395	0
1.835395	1.835394 9	3.67079	5.506185	3.67079	3.67079	0	1.835395	0
2.306783	**2.029495 7**	**2.223597**	**2.165366**	**2.205951**	**2.279054**	**2.4565**	**2.279054**	**2.4177**

CO-PSO Mapping

1.Low, 2- Moderate, 3- High, '-' No Correlation

	PSO:1	PSO:2	PSO:3	PSO:4	PSO:5
CO:1	3	1	1	0	2
CO:2	2	0	2	2	0
CO:3	3	1	0	3	1
CO:4	1	2	0	3	2
CO:5	2	2	0	2	2

MAPPING PROGRAM SPECIFIC OUTCOMES

PSO1	PSO2	PSO3	PSO4	PSO5
7.835395	2.611798	2.61179828	0	5.223597
4.058991	0	4.05899142	4.058991	0
6.67079	2.223597	0	6.67079	2.223597
2.417697	4.835395	0	7.253092	4.835395
3.67079	3.67079	0	3.67079	3.67079
2.241242	**2.223597**	**2.22359657**	**2.165366**	**2.279054**

CO – PO ATTAINMENT METHODOLOGY

- Step 1

Calculation of Course Outcome Weighted Average (COWA)

The performance of the students assessed by two methods

(a) Direct Assessment: The weightage for internal exams is 30% and for semester end exams is 60%
(b) Indirect assessment: 5% weightage for exit survey and 5% for extracurricular activities

The performance of the student is categorised in four levels

S,No	Percentage obtained by the student in DA and IDA	Level weightage
1	Less than 35%	0
2	Between 35% and 50%	1
3	Between 51% and 70%	2
4	Above 70%	3

The average level of all students for a particular course is found. It is called as course outcome weighted average (COWA).

$$\mathbf{COWA} = \frac{\boldsymbol{some\ of\ the\ level\ weitage\ of\ all\ students\ of\ a\ course}}{\boldsymbol{total\ number\ of\ students}}$$

- Step 2:

Calculation of Course outcome level index (COLLI):

To Map the course outcomes (COs) of a course with Blooms levels (1 to 6) by using action verbs used in CO' s. A course outcome may be mapped to multiple Blooms levels; hence we need to calculate the average Blooms level weightage (ABLW).

$$\mathbf{COLLI} = \frac{\boldsymbol{Sum\ of\ the\ weigtages\ of\ \ blooms\ levels\ mapped}}{\boldsymbol{number\ of\ levels\ mapped}}$$

- Step 3:

CO-PO mapping and CO-PSO mapping

Map each course outcome with POs and PSOs in levels 0,1,2,3. A CO may be mapped to multiple POs or PSOs with different levels 1,2,3. The weighted average of each PO is to be calculated.

- Step 4:

Calculation of CO attainment:

The formula for Course Outcome Attainment (CO Attainment) can be calculated by using below formula

$$\textbf{CO attainment} = \textbf{COWA} + \left\{(3 - \boldsymbol{COWA}) \times \left(1 - \frac{\boldsymbol{COLLI}}{3.5}\right)\right\}$$

(Blooms Level Weighted Average value $= 3.5$)

- Step 5:

Calculation of PO attainment:

The formula for Programme Outcome Attainment (PO Attainment) can be calculated by using below formula

$$\textbf{PO Attainment} = \frac{\Sigma(\boldsymbol{CO\ attainment})(\boldsymbol{PO\ level\ mapped\ with\ CO})}{\boldsymbol{Sum\ of\ the\ PO\ levels\ mapped\ with\ CO}}$$

PSO attainment:

The formula for Programme Specific Outcome Attainment (PSO Attainment) can be calculated by using below formula

$$\textbf{PSO Attainment} = \frac{\Sigma(\boldsymbol{CO\ attainment})(\boldsymbol{PSO\ level\ mapped\ with\ CO})}{\boldsymbol{Sum\ of\ the\ PSO\ levels\ mapped\ with\ CO}}$$

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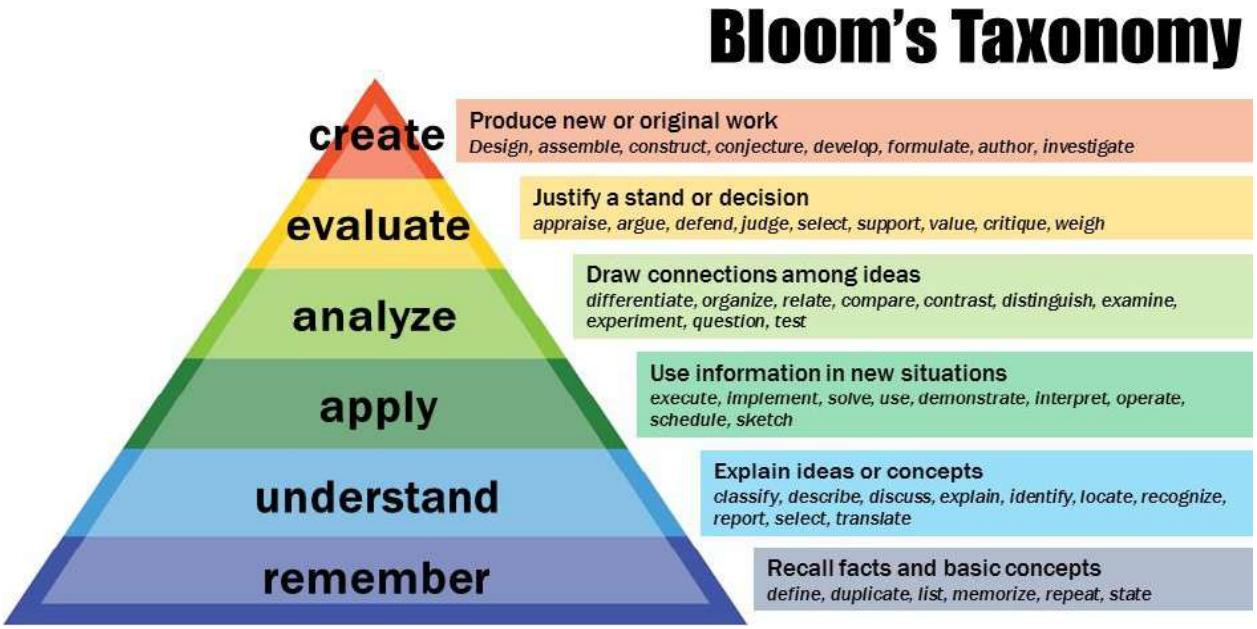
DEPARTMENT OF ZOOLOGY
2018-2019
POs & COs MAPPING

Department of Zoology
Programme Name: **BSc. CBZ**

Levels of Bloom's Taxonomoy

Level-1	**Knowlede/Remember**
Level-2	**Understand**
Level-3	**Application**
Level-4	**Analyze**
Level-5	**Evaluation**
Level-6	**Create**



POs	Programme Outcomes
PO1	**Critical Thinking:** Ability to take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid,and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
PO2	**Effective Communication:** Ability to speak, read, write, and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media, and technology.
PO3	**Social Interaction:** Ability to elicit views of others, mediate disagreements and help reach conclusions in group settings.
PO4	**Effective Citizenship:** Ability to demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.
PO5	**Ethics:** Ability to recognize different value systems includingy our own, understand the moral dimensions of your decisions, and accept responsibility for them.
PO6	**Environment and Sustainability:** Ability to understand the issues of environmental contexts and sustainable Development.
PO7	**Employabilityskills:** Equipping graduates with the essential abilities and knowledge to excel in their choosen careers.
PO8	**Entrepreneurships kills:** Seeks to empower students with the competencies needed to be successful entrepreneours, enabling themto launch, operate,and innovate in their own businesses or entrepreneurial ventures.
PO9	**Self0directed and Life0long Learning:** Acquire the ability to engage in independent and life0long learning in the broadest context socio0technological changes.

Program Specific Outcomes (PSOs)

PSOs	Program Specific Outcomes (PSOs)
PSO1	Ability to apply the knowledge of Chemistry, Botany and Zoology in addressing the real0time problems of the world
PSO2	Understanding the key aspects of structure, physiology, reproduction and developmental aspects of plant and animal communities and Show empathy towards animals and consider them as his/her fellow0beings
PSO3	A step forward for the sustainable development of the nation by understanding the values embedded in studying the environment and ecology
PSO4	Life-long learning in the broadest context of technological advancements in various fields of biology.
PSO5	Understand the concepts of biology to create start-ups and apply the knowledge to get self-employed

Dr. V.S. KRISHNA GOVERNMENT DEGREE COLLEGE (A)
(w.e.f. 2018-19)
ZOOLOGY SYLLABUS FOR I SEMESTER
ZOOLOGY - PAPER -I
ANIMAL DIVERSITY – BIOLOGY OF NON-CHORDATES
Periods: 60 **Max. Marks: 100**

COURSE OUTCOME WEIGHTED AVERAGE: 2.1833

Learning Outcomes: On Completion of the course, the students will be able to	Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO1: Understand different levels of biological diversity through the systematic classification of invertebrate fauna	Level 1 (Knowledge) Level 2 (Understanding)	1.5	**2.6500**
CO2: Familiarize the student with the distinguishing characters of various phyla of Non0chordates by type studies and the study of specialized systems like canal system, water vascular system, torsion etc.	Level 1 (Knowledge) Level 3 (Application)	2	**2.5333**
CO3: Understand the evolutionary relationships of different Invertebrate phyla with the study of connecting links like *Peripatus, Balanoglossus* and larval forms	Level 1 (Knowledge) Level 2 (Understanding) Level 4 (Analysing)	2.7	**2.3700**
CO4: Knowledge on the economic importance of sponges, corals, coral reefs, pearl oysters etc.	Level 3 (Application) Level 5 (Evaluation)	4	**2.0666**
CO5: Application of knowledge for the preservation of animals and taxa – level identification of invertebrates	Level 1 (Understanding) Level 3 (Applying) Level 4 (Analysing) Level 5 (Evaluation)	3.25	**2.2416**

CO-PO Mapping
1-Low, 2-Moderate, 3-High, ‘0‘ No Correlation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	**2**	**0**	**0**	**0**	**1**	**2**	**2**	**2**	**3**
CO2	**2**	**1**	**0**	**0**	**2**	**3**	**1**	**0**	**3**
CO3	**3**	**1**	**0**	**0**	**2**	**2**	**1**	**0**	**3**
CO4	**0**	**1**	**0**	**0**	**3**	**3**	**3**	**3**	**3**
CO5	**2**	**0**	**0**	**0**	**3**	**2**	**2**	**2**	**3**
	9	3	0	0	11	12	9	7	15

CO-PSO Mapping
1-Low, 2-Moderate, 3-High, ‘0‘ No Correlation

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	**1**	**3**	**1**	**3**	**0**
CO2	**1**	**3**	**2**	**3**	**1**
CO3	**1**	**3**	**3**	**3**	**0**
CO4	**3**	**3**	**3**	**3**	**3**
CO5	**1**	**3**	**3**	**2**	**2**
	7	15	12	14	6

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	5.3000	0.0000	0.0000	0.0000	2.6500	5.3000	5.3000	5.3000	7.9500
CO2	5.0666	2.5333	0.0000	0.0000	5.0666	7.5999	2.5333	0.0000	7.5999
CO3	7.1099	2.3700	0.0000	0.0000	4.7399	4.7399	2.3700	0.0000	7.1099
CO4	0.0000	2.0666	0.0000	0.0000	6.1999	6.1999	6.1999	6.1999	6.1999
CO 5	4.4833	0.0000	0.0000	0.0000	6.7249	4.4833	4.4833	4.4833	6.7249
FINAL ATTAINMENT	**2.4400**	**2.3233**	**O**	**0**	**2.3074**	**2.3603**	**2.3207**	**2.2833**	**2.3723**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	2.6500	7.9500	2.6500	7.9500	0.0000
CO2	2.5333	7.5999	5.0666	7.5999	2.5333
CO3	2.3700	7.1099	7.1099	7.1099	0.0000
CO4	6.1999	6.1999	6.1999	6.1999	6.1999
CO 5	2.2416	6.7249	6.7249	4.4833	4.4833
FINAL ATTAINMENT	**2.2850**	**2.3723**	**2.3126**	**2.3816**	**2.2027**

Dr. V.S. KRISHNA GOVERNMENT DEGREE COLLEGE (A)
(w.e.f. 2018-19)
ZOOLOGY SYLLABUS FOR II SEMESTER
ZOOLOGY - PAPER – II

ANIMAL DIVERSITY II – BIOLOGY OF CHORDATES

Periods:60 **Max. Marks: 100**

COURSE OUTCOME WEIGHTED AVERAGE: 2.5

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO1:	Acquire in - depth knowledge on the diversity of chordates and their systematic position.	Level 1 (Knowledge) Level 2 (Understanding)	1.5	**2.7857**
CO2:	Understand the characteristics and evolutionary importance of Prochordates	Level 1 (Knowledge) Level 2 (Understanding) Level 4 (Analyzing)	3.5	**2.5000**
CO3:	Understanding the external features, internal anatomy and physiology of various classes of chordates by type studies	Level 1 (Knowledge) Level 2 (Understanding) Level 3 (Application)	2	**2.7143**
CO4:	Study and analyze the specialized features of various chordates such as types of scales and migration in fishes, identification of snakes, flight adaptations and migration in birds, Dentition in mammals etc.	Level 3 (Understanding) Level 4 (Analyzing)	3.5	**2.5000**
CO5:	Taxonomic identification of chordates by observing preserved and taxidermic specimens of chordates	Level 2 (Understanding) Level 3 (Applying) Level 5 (Evaluation)	**3.3**	**2.5286**

CO-PO Mapping
1-Low, 2-Moderate, 3-High, ‘0‘ No Correlation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	**2**	**0**	**0**	**0**	**1**	**2**	**2**	**2**	**3**
CO2	**3**	**1**	**0**	**0**	**2**	**2**	**1**	**0**	**3**
CO3	**2**	**1**	**0**	**0**	**2**	**3**	**1**	**0**	**3**
CO4	**3**	**3**	**0**	**2**	**3**	**1**	**1**	**1**	**3**
CO5	**2**	**0**	**0**	**0**	**3**	**2**	**2**	**2**	**3**
	2	**0**	**0**	**0**	**1**	**2**	**2**	**2**	**3**

CO-PSO Mapping
1-Low, 2-Moderate, 3-High, ‘0‘ No Correlation

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	**1**	**2**	**3**	**0**	**0**
CO2	**1**	**2**	**3**	**0**	**0**
CO3	**1**	**2**	**3**	**0**	**1**
CO4	**3**	**3**	**3**	**0**	**1**
CO5	**1**	**3**	**3**	**0**	**2**
	7	12	15	11	0

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	**0**	0.0000	0.0000	0.0000	2.7857	5.5714	5.5714	5.5714	8.3571
CO2	**0**	2.5000	0.0000	0.0000	5.0000	5.0000	2.5000	0.0000	7.5000
CO3	**1**	2.7143	0.0000	0.0000	5.4286	8.1429	2.7143	0.0000	8.1429
CO4	**1**	7.5000	0.0000	5.0000	7.5000	2.5000	2.5000	2.5000	7.5000
CO 5	**2**	0.0000	0.0000	0.0000	7.5857	5.0571	5.0571	5.0571	7.5857
FINAL ATTAINMENT	**0.3333**	**2.5429**	**O**	**0.0000**	**2.5727**	**2.6271**	**2.6204**	**2.6257**	**2.6057**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	2.7857	5.5714	8.3571	2.7857	0.0000
CO2	2.5000	5.0000	7.5000	7.5000	0.0000
CO3	2.7143	5.4286	8.1429	5.4286	0.0000
CO4	7.5000	7.5000	7.5000	5.0000	0.0000
CO 5	2.5286	7.5857	7.5857	7.5857	0.0000
FINAL ATTAINMENT	**2.5755**	**2.5905**	**2.6057**	**2.5727**	**#DIV/0!**

Dr. V.S. KRISHNA GOVERNMENT DEGREE COLLEGE (A)

(w.e.f. 2018-19)

ZOOLOGY SYLLABUS FOR III SEMESTER

ZOOLOGY - PAPER -III

CYTOLOGY, GENETICS AND EVOLUTION

Periods:60 **Max. Marks:100**

COURSE OUTCOME WEIGHTED AVERAGE: 2.4047

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO1:	Understand the importance of cell as a structural and functional unit of life, differences between prokaryotic and eukaryotic cells and Viruses as connecting links between life and non0life	Level 1 (Knowledge) Level 2 (Understanding)	1.5	**2.7449**
CO2:	Thorough understanding of the structure and functions of various cell organelles and the role of nucleus and chromosomes in heredity	Level 1 (Knowledge) Level 2 (Understanding)	1.5	**2.7449**
CO3:	Understanding the origin and evolution of the concept of heredity & variations by Mendelian experiments and Non0Mendelian principles of gene interactions	Level 1 (Knowledge), Level 2 (Understanding) Level 3 (Application)	2	**2.6598**
CO4:	Study and analyze the importance of linkage and crossing over in bringing about variations and the role of cytoplasm and sex in inheritance	Level 3 (Application), Level 4 (Analysing)	3.5	**2.4047**
CO5:	Understand and acquire knowledge on the origin of life and critical evaluation of various theories of evolution, forces of evolution and Origin of new species	Level 2 (Understanding) Level 4 (Analysing) Level 5 (Evaluation)	**3.7**	**2.3707**

CO-PO Mapping
1-Low, 2-Moderate, 3-High, ‘0‘ No Correlation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	**3**	**3**	**0**	**0**	**1**	**1**	**2**	**0**	**3**
CO2	**3**	**3**	**0**	**0**	**1**	**0**	**2**	**0**	**3**
CO3	**3**	**3**	**2**	**1**	**2**	**1**	**2**	**2**	**3**
CO4	**3**	**3**	**2**	**1**	**3**	**1**	**3**	**1**	**3**
CO5	**3**	**3**	**2**	**1**	**3**	**3**	**3**	**1**	**3**
	15	15	6	3	10	6	12	4	15

CO-PSO Mapping
1-Low, 2-Moderate, 3-High, ‘0‘ No Correlation

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	**3**	**3**	**3**	**0**	**3**
CO2	**3**	**3**	**3**	**1**	**3**
CO3	**3**	**3**	**3**	**1**	**3**
CO4	**3**	**3**	**3**	**1**	**3**
CO5	**3**	**3**	**3**	**1**	**3**
	15	15	15	4	15

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	8.2346	8.2346	0.0000	0.0000	2.7449	2.7449	5.4897	0.0000	8.2346
CO2	8.2346	8.2346	0.0000	0.0000	2.7449	0.0000	5.4897	0.0000	8.2346
CO3	7.9795	7.9795	5.3197	2.6598	5.3197	2.6598	5.3197	5.3197	7.9795
CO4	7.2141	7.2141	4.8094	2.4047	7.2141	2.4047	7.2141	2.4047	7.2141
CO 5	7.1120	7.1120	4.7414	2.3707	7.1120	7.1120	7.1120	2.3707	7.1120
FINAL ATTAINMENT	**2.5850**	**2.5850**	**O.000**	**0.000**	**2.5136**	**2.4869**	**2.5521**	**2.5238**	**2.5850**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	8.2346	8.2346	8.2346	0.0000	8.2346
CO2	8.2346	8.2346	8.2346	2.7449	8.2346
CO3	7.9795	7.9795	7.9795	2.6598	7.9795
CO4	7.2141	7.2141	7.2141	2.4047	7.2141
CO 5	7.1120	7.1120	7.1120	2.3707	7.1120
FINAL ATTAINMENT	**2.5850**	**2.5850**	**2.5850**	**2.5450**	**2.5850**

Dr. V.S. KRISHNA GOVERNMENT DEGREE COLLEGE (A)

(w.e.f. 2018-19)

ZOOLOGY SYLLABUS FOR IV SEMESTER

ZOOLOGY – PAPER – IV

EMBRYOLOGY, PHYSIOLOGY AND ECOLOGY

Periods: 60 **Max. Marks: 100**

COURSE OUTCOME WEIGHTED AVERAGE: 2.1694

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO1:	Understanding the key events in embryonic development from gametes to gastrulation	Level 1 (Knowledge) Level 2 (Understanding) Level 4 (Analyzing)	**3.5**	**2.1694**
CO2:	Acquisition of knowledge on functioning of various physiological aspects of the body	Level 1 (Knowledge) Level 2 (Understanding) Level 3 (Application)	**2**	**2.5254**
CO3:	Critical analysis of various endocrine glands and associated disorders and role of hormones in controlling the reproduction in mammals	Level 1 (Knowledge) Level 2 (Understanding) Level 4 (Analysing)	**2.3**	**2.4542**
CO4:	Understand and evaluate the key concepts in ecology with emphasis on role of biotic and abiotic factors, interactions among different species, concept of ecosystem, food chain and food web and community interactions and application of the concepts for a sustainable environment	Level 1 (Knowledge) Level 4 (Analysing) Level 5 (Evaluation)	**3.3**	**2.2169**
CO5:	Critical study and evaluation of the underlying concept of distribution of animals on earth	Level 1 (Knowledge) Level 4 (Analysing) Level 5 (Evaluation)	3.3	**2.2169**

CO-PO Mapping
1-Low, 2-Moderate, 3-High, ‘0‘ No Correlation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	**3**	**3**	**0**	**0**	**3**	**1**	**2**	**0**	**3**
CO2	**3**	**1**	**0**	**0**	**2**	**3**	**1**	**0**	**3**
CO3	**3**	**3**	**2**	**0**	**3**	**1**	**3**	**2**	**3**
CO4	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**
CO5	**3**	**0**	**0**	**0**	**2**	**3**	**3**	**3**	**3**
	15	10	5	3	13	11	12	8	15

CO-PSO Mapping
1-Low, 2-Moderate, 3-High, ‘0‘ No Correlation

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	**3**	**3**	**3**	**0**	**2**
CO2	**2**	**2**	**3**	**0**	**3**
CO3	**3**	**3**	**3**	**1**	**3**
CO4	**3**	**3**	**3**	**3**	**3**
CO5	**3**	**3**	**3**	**0**	**2**
	14	14	15	4	13

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	6.5082	6.5082	0.0000	0.0000	6.5082	2.1694	4.3388	0.0000	6.5082
CO2	7.5761	2.5254	0.0000	0.0000	5.0507	7.5761	2.5254	0.0000	7.5761
CO3	7.3625	7.3625	4.9084	0.0000	7.3625	2.4542	7.3625	4.9084	7.3625
CO4	6.6506	6.6506	6.6506	6.6506	6.6506	6.6506	6.6506	6.6506	6.6506
CO 5	6.6506	0.0000	0.0000	0.0000	4.4337	6.6506	6.6506	6.6506	6.6506
FINAL ATTAINMENT	**2.3165**	**2.3047**	**O**	**0.0000**	**2.3081**	**2.3183**	**2.2940**	**2.2762**	**2.3165**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	6.5082	6.5082	6.5082	0.0000	4.3388
CO2	5.0507	5.0507	7.5761	0.0000	7.5761
CO3	7.3625	7.3625	7.3625	2.4542	7.3625
CO4	6.6506	6.6506	6.6506	6.6506	6.6506
CO 5	6.6506	6.6506	6.6506	0.0000	4.4337
FINAL ATTAINMENT	**2.3016**	**2.3016**	**2.3165**	**2.2762**	**2.3355**

Dr. V.S. KRISHNA GOVERNMENT DEGREE COLLEGE (A)
ZOOLOGY SYLLABUS FOR V SEMESTER
(w.e.f. 2018-19)

ZOOLOGY - PAPER - V

ANIMAL BIOTECHNOLOGY

Periods:60 **Max. Marks:100**

COURSE OUTCOME WEIGHTED AVERAGE: 2.208

Learning Outcomes: On Completion of the course, the students will be able to	Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO1: Understand the Principles of Cloning strategies, gain knowledge on enzymes and cloning vectors and their uses in gene cloning technologies	Level 1 (Knowledge) Level 2 (Understanding)	1.5	**2.6606**
CO2: Understand the gene delivery mechanisms, to acquire skills in PCR, Sanger's sequencing methods, blotting techniques	Level 1 (Knowledge) Level 2 (Understanding) Level 4 (Analysing)	2.3	**2.4795**
CO3: To acquaint students with latest biotechnology techniques like cell culture, tissue culture, stem cell technology and hyridoma technology to foster a spirit of inquiry and orientation to research	Level 1 (Knowledge) Level 2 (Understanding) Level 4 (Analysing)	2.3	**2.4795**
CO4: Understanding the assistive reproductive technologies and production of transgenic animals	Level 3 (Application) Level 4 (Analysing) Level 5 (Evaluation)	4	**2.0949**
CO5: Understanding the applications of bio0technology in fields of Industry and Agriculture including animal cell and tissue culture.	Level 2 (Knowledge) Level 3 (Application) Level 4 (Analysing) Level 5 (Evaluation)	**3.5**	**2.2080**

CO-PO Mapping
1-Low, 2-Moderate, 3-High, ‘0‘ No Correlation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	**3**	**3**	**1**	**1**	**3**	**2**	**3**	**2**	**3**
CO2	**3**	**3**	**1**	**1**	**3**	**2**	**3**	**2**	**3**
CO3	**3**	**3**	**1**	**1**	**3**	**2**	**3**	**2**	**3**
CO4	**3**	**3**	**1**	**1**	**3**	**2**	**3**	**2**	**3**
CO5	**3**	**3**	**1**	**1**	**3**	**2**	**3**	**2**	**3**
	15	15	5	5	15	10	15	10	15

CO-PSO Mapping
1-Low, 2-Moderate, 3-High, ‘0‘ No Correlation

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	**3**	**3**	**2**	**1**	**3**
CO2	**3**	**3**	**0**	**1**	**3**
CO3	**3**	**3**	**3**	**1**	**3**
CO4	**3**	**3**	**3**	**1**	**3**
CO5	**3**	**3**	**3**	**1**	**3**
	15	15	11	5	15

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	7.9817	7.9817	2.6606	2.6606	7.9817	5.3211	7.9817	5.3211	7.9817
CO2	7.4386	7.4386	2.4795	2.4795	7.4386	4.9591	7.4386	4.9591	7.4386
CO3	7.4386	7.4386	2.4795	2.4795	7.4386	4.9591	7.4386	4.9591	7.4386
CO4	6.2846	6.2846	2.0949	2.0949	6.2846	4.1897	6.2846	4.1897	6.2846
CO 5	6.6240	6.6240	2.2080	2.2080	6.6240	4.4160	6.6240	4.4160	6.6240
FINAL ATTAINMENT	**2.3845**	**2.3845**	**O**	**0.0000**	**2.3845**	**2.3845**	**2.3845**	**2.3845**	**2.3845**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	7.9817	7.9817	5.3211	2.6606	7.9817
CO2	7.4386	7.4386	0.0000	2.4795	7.4386
CO3	7.4386	7.4386	7.4386	2.4795	7.4386
CO4	6.2846	6.2846	6.2846	2.0949	6.2846
CO 5	6.6240	6.6240	6.6240	2.2080	6.6240
FINAL ATTAINMENT	**2.3845**	**2.3845**	**2.3335**	**2.3845**	**2.3845**

Dr. V.S. KRISHNA GOVERNMENT DEGREE COLLEGE (A)
ZOOLOGY SYLLABUS FOR V SEMESTER
(w.e.f. 2018-19)

ZOOLOGY - PAPER - VI

ANIMAL HUSBANDRY

COURSE OUTCOME WEIGHTED AVERAGE: 2.568

Learning Outcomes: On Completion of the course, the students will be able to	Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO1: Understanding the key concepts of poultry farming with reference to poultry housing and management of poultry chicken which makes the student self0employable	Level 1 (Knowledge) Level 2 (Understanding)	1.5	**2.8149**
CO2: Knowledge on poultry feed and poultry diseases which helps the student to take up a start0up with a minimum investment for producing and supplying poultry feed	Level 1 (Knowledge) Level 2 (Understanding) Level 3 (Application) Level 4 (Analysing)	2.5	**2.6914**
CO3: Knowledge on hatching, selection, testing of poultry eggs and sexing of chicken	Level 1 (Knowledge) Level 2 (Understanding)	2.3	**2.7161**
CO4: Empower the student with the principles of dairy farming in terms of selection of site, dairy housing, identification of breeds and techniques involved in breeding so that he/she can get an employment in dairy industry	Level 4 (Analysing) Level 5 (Evaluation)	4.5	**2.4446**
CO5: Understand and acquire knowledge on the care and management of dairy animals	Level 2 (Understanding) Level 3 (Application) Level 4 (Analysing) **Level 5 (Evaluation)**	**3.5**	**2.5680**

CO-PO Mapping
1-Low, 2-Moderate, 3-High, ‘0‘ No Correlation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	**3**	**2**	**2**	**2**	**3**	**1**	**3**	**3**	**3**
CO2	**3**	**2**	**2**	**2**	**3**	**1**	**3**	**3**	**3**
CO3	**3**	**2**	**2**	**2**	**3**	**1**	**3**	**3**	**3**
CO4	**3**	**2**	**2**	**2**	**3**	**1**	**3**	**3**	**3**
CO5	**3**	**2**	**2**	**2**	**3**	**1**	**3**	**3**	**3**
	15	10	10	10	15	5	15	15	15

CO-PSO Mapping
1-Low, 2-Moderate, 3-High, ‘0‘ No Correlation

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	**3**	**2**	**1**	**3**	**3**
CO2	**3**	**2**	**1**	**3**	**3**
CO3	**3**	**2**	**1**	**3**	**3**
CO4	**3**	**2**	**1**	**3**	**3**
CO5	**3**	**2**	**1**	**3**	**3**
	15	10	5	15	15

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	8.4446	5.6297	5.6297	5.6297	8.4446	2.8149	8.4446	8.4446	8.4446
CO2	8.0743	5.3829	5.3829	5.3829	8.0743	2.6914	8.0743	8.0743	8.0743
CO3	8.1483	5.4322	5.4322	5.4322	8.1483	2.7161	8.1483	8.1483	8.1483
CO4	7.3337	4.8891	4.8891	4.8891	7.3337	2.4446	7.3337	7.3337	7.3337
CO 5	7.7040	5.1360	5.1360	5.1360	7.7040	2.5680	7.7040	7.7040	7.7040
FINAL ATTAINMENT	**2.6470**	**2.6470**	**O**	**0.0000**	**2.6470**	**2.6470**	**2.6470**	**2.6470**	**2.6470**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	5.6297	2.8149	8.4446	8.4446	5.6297
CO2	5.3829	2.6914	8.0743	8.0743	5.3829
CO3	5.4322	2.7161	8.1483	8.1483	5.4322
CO4	4.8891	2.4446	7.3337	7.3337	4.8891
CO 5	5.1360	2.5680	7.7040	7.7040	5.1360
FINAL ATTAINMENT	**2.6470**	**2.6470**	**2.6470**	**2.6470**	**2.6470**

Dr. V.S. KRISHNA GOVERNMENT DEGREE COLLEGE (A)
ZOOLOGY SYLLABUS FOR VI SEMESTER
(w.e.f. 2018-19)
ZOOLOGY –ELECTIVE PAPER:VII-(A)

IMMUNOLOGY

Periods: 60 **Max. Marks: 100**

COURSE OUTCOME WEIGHTED AVERAGE: 2.352

Learning Outcomes: On Completion of the course, the students will be able to	Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO1: Overview of the immune system including organs, cells and types of Immunity	Level 1 (Knowledge) Level 2 (Understanding)	1.5	**2.7223**
CO2: Understand the concept of foreignness of antigen and receptors and factors associated with immunogenicity	Level 1 (Knowledge) Level 2 (Understanding) Level 3 (Application)	1.5	**2.7223**
CO3: Understanding the role of antibodies (immunoglobulins) in immunity and applications of monoclonal antibodies	Level 1 (Knowledge) Level 2 (Understanding) Level 3 (Application)	2.0	**2.6297**
CO4: Understand and analyze the role of Major histocompatibility complexes and cytokines in controlling the growth and activity of other immune system cells and blood cells	Level 2 (Understanding) Level 4 (Analyzing)	3.0	**2.4446**
CO5: Knowledge on the key concepts of immune disorders associated with autoimmunity and hypersensitivity, apply the knowledge in combating various diseases through vaccines and evaluate the health benefits thereof	**Level 1 (Knowledge)** Level 3 (Application) Level 5 (Evaluation)	**3.0**	**2.4446**

CO-PO Mapping
1-Low, 2-Moderate, 3-High, ‘0‘ No Correlation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	**3**	**2**	**0**	**1**	**2**	**1**	**0**	**0**	**3**
CO2	**3**	**2**	**0**	**0**	**2**	**1**	**0**	**0**	**3**
CO3	**3**	**2**	**0**	**0**	**2**	**1**	**0**	**0**	**3**
CO4	**3**	**2**	**0**	**0**	**2**	**1**	**0**	**0**	**3**
CO5	**3**	**2**	**3**	**1**	**2**	**1**	**1**	**1**	**3**
	15	10	3	2	10	5	1	1	15

CO-PSO Mapping
1-Low, 2-Moderate, 3-High, ‘0‘ No Correlation

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	**3**	**3**	**1**	**1**	**3**
CO2	**3**	**3**	**1**	**1**	**3**
CO3	**3**	**3**	**1**	**1**	**3**
CO4	**3**	**3**	**0**	**1**	**3**
CO5	**3**	**3**	**1**	**1**	**3**
	15	15	4	5	15

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	8.1669	5.4446	0.0000	2.7223	5.4446	2.7223	0.0000	0.0000	8.1669
CO2	8.1669	5.4446	0.0000	0.0000	5.4446	2.7223	0.0000	0.0000	8.1669
CO3	7.8891	5.2594	0.0000	0.0000	5.2594	2.6297	0.0000	0.0000	7.8891
CO4	7.3337	4.8891	0.0000	0.0000	4.8891	2.4446	0.0000	0.0000	7.3337
CO 5	7.3337	4.8891	7.3337	2.4446	4.8891	2.4446	2.4446	2.4446	7.3337
FINAL ATTAINMENT	**2.5927**	**2.5927**	**O**	**0.0000**	**2.5927**	**2.5927**	**2.4446**	**2.4446**	**2.5927**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	8.1669	8.1669	2.7223	2.7223	8.1669
CO2	8.1669	8.1669	2.7223	2.7223	8.1669
CO3	7.8891	7.8891	2.6297	2.6297	7.8891
CO4	7.3337	7.3337	0.0000	2.4446	7.3337
CO 5	7.3337	7.3337	2.4446	2.4446	7.3337
FINAL ATTAINMENT	**2.5927**	**2.5927**	**2.6297**	**2.5927**	**2.5927**

Dr. V.S. KRISHNA GOVERNMENT DEGREE COLLEGE (A)

ZOOLOGY SYLLABUS FOR CLUSTER ELECTIVE VIII-B: VI SEMESTER

(w.e.f. 2018-19)

AQUACULTURE

Cluster Elective Paper: VIII-B-1

PRINCIPLES OF AQUACULTURE

Periods: 60 **Max. Marks: 100**

COURSE OUTCOME WEIGHTED AVERAGE: 2.4875

Learning Outcomes:On Completion of the course, the students will be able to	Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO1: Understanding the basics and history of aquaculture, identification of cultivable species and selection of site for aquaculture practices	Level 1 (Knowledge) Level 2 (Understanding) Level 3 (Application)	2.0	**2.7071**
CO2: Application of the knowledge of different types of aquaculture in various culture systems and practices	Level 1 (Knowledge) Level 2 (Understanding) Level 3 (Application)	2.0	**2.7071**
CO3: Create knowledge ecosystem in designing, construction and maintenance of aquafarms and appreciate the seed resources and nutritional requirements	Level 2 (Understanding) Level 3 (Application)	2.5	**2.6339**
CO4: Understand the culture of carps and shrimps and application of the knowledge in starting bio start0ups and make students self0employable	Level 1 (Knowledge) Level 2 (Understanding) Level 3 (Application) Level 6 (Create)	3.0	**2.5607**
CO5: Application of culture aspects in cultivating sea weeds, shrimps, pearl oysters and ornamental fishes for aesthetic and economical purposes	Level 1 (Knowledge) Level 2 (Understanding) Level 3 (Application) Level 6 (Create)	3.0	**2.5607**

CO-PO Mapping
1-Low, 2-Moderate, 3-High, ‘0‘ No Correlation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	**3**	**1**	**0**	**0**	**1**	**3**	**3**	**3**	**3**
CO2	**3**	**1**	**0**	**0**	**1**	**3**	**3**	**3**	**3**
CO3	**3**	**1**	**0**	**0**	**1**	**3**	**3**	**3**	**3**
CO4	**3**	**1**	**0**	**0**	**1**	**3**	**3**	**3**	**3**
CO5	**3**	**1**	**0**	**0**	**1**	**3**	**3**	**3**	**3**
	15	5	0	0	5	15	15	15	15

CO-PSO Mapping
1-Low, 2-Moderate, 3-High, ‘0‘ No Correlation

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	**3**	**1**	**1**	**0**	**3**
CO2	**3**	**1**	**0**	**0**	**3**
CO3	**3**	**1**	**0**	**2**	**3**
CO4	**3**	**1**	**1**	**0**	**3**
CO5	**3**	**1**	**1**	**0**	**3**
	15	5	3	2	15

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	8.1214	2.7071	0.0000	0.0000	2.7071	8.1214	8.1214	8.1214	8.1214
CO2	8.1214	2.7071	0.0000	0.0000	2.7071	8.1214	8.1214	8.1214	8.1214
CO3	7.9018	2.6339	0.0000	0.0000	2.6339	7.9018	7.9018	7.9018	7.9018
CO4	7.6821	2.5607	0.0000	0.0000	2.5607	7.6821	7.6821	7.6821	7.6821
CO 5	7.6821	2.5607	0.0000	0.0000	2.5607	7.6821	7.6821	7.6821	7.6821
FINAL ATTAINMENT	**2.6339**	**2.6339**	**O**	**0.0000**	**2.6339**	**2.6339**	**2.6339**	**2.6339**	**2.6339**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	8.1214	2.7071	2.7071	0.0000	8.1214
CO2	8.1214	2.7071	0.0000	0.0000	8.1214
CO3	7.9018	2.6339	0.0000	5.2679	7.9018
CO4	7.6821	2.5607	2.5607	0.0000	7.6821
CO 5	7.6821	2.5607	2.5607	0.0000	7.6821
FINAL ATTAINMENT	**2.6339**	**2.6339**	**2.6095**	**2.6339**	**2.6339**

Dr. V.S. KRISHNA GOVERNMENT DEGREE COLLEGE (A)

ZOOLOGY SYLLABUS FOR CLUSTER ELECTIVE VIII-B: VI SEMESTER

(w.e.f. 2018-19)

AQUACULTURE

Cluster Elective Paper: VIII-B-2

AQUACULTURE MANAGEMENT

Periods: 60 **Max. Marks: 100**

COURSE OUTCOME WEIGHTED AVERAGE: 2.475

Learning Outcomes:On Completion of the course, the students will be able to	Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO1: Understanding the concept of breeding of shrimps and management of shrimp hatchery	Level 1 (Knowledge) Level 2 (Understanding)	1.5	**2.7750**
CO2: Understanding the importance of water quality and soil quality in culture ponds and application of aeration and liming principles for improving the quality respectively	Level 1 (Knowledge) Level 2 (Understanding) Level 3 (Application)	2.0	**2.7000**
CO3: Knowledge on Live feeds used in aquafarms and application of the knowledge in feed formulation and preparation	Level 2 (Understanding) Level 3 (Application)	2.5	**2.6250**
CO4: Understanding the health management of aqua farms, immunization and vaccination	Level 1 (Knowledge) Level 2 (Understanding) Level 3 (Application)	2.0	**2.7000**
CO5: Understanding economics, extension and marketing aspects of aquaculture application of genetics to fish reproduction and preservation of gametes	Level 1 (Knowledge) Level 2 (Understanding) Level 3 (Application)	**2.0**	**2.7000**

CO-PO Mapping
1-Low, 2-Moderate, 3-High, ‘0‘ No Correlation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	**3**	**2**	**1**	**3**	**3**	**3**	**3**	**3**	**3**
CO2	**3**	**1**	**1**	**2**	**2**	**3**	**3**	**3**	**3**
CO3	**3**	**1**	**1**	**0**	**2**	**2**	**3**	**3**	**3**
CO4	**3**	**1**	**1**	**1**	**2**	**2**	**3**	**3**	**3**
CO5	**3**	**1**	**1**	**1**	**1**	**1**	**3**	**3**	**3**
	15	6	5	7	10	11	15	15	15

CO-PSO Mapping
1-Low, 2-Moderate, 3-High, ‘0‘ No Correlation

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	**3**	**2**	**1**	**3**	**3**
CO2	**3**	**2**	**1**	**3**	**3**
CO3	**3**	**2**	**1**	**3**	**3**
CO4	**3**	**2**	**1**	**3**	**3**
CO5	**3**	**2**	**1**	**3**	**3**
	15	10	5	15	15

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	8.3250	5.5500	2.7750	8.3250	8.3250	8.3250	8.3250	8.3250	8.3250
CO2	8.1000	2.7000	2.7000	5.4000	5.4000	8.1000	8.1000	8.1000	8.1000
CO3	7.8750	2.6250	2.6250	0.0000	5.2500	5.2500	7.8750	7.8750	7.8750
CO4	8.1000	2.7000	2.7000	2.7000	5.4000	5.4000	8.1000	8.1000	8.1000
CO 5	8.1000	2.7000	2.7000	2.7000	2.7000	2.7000	8.1000	8.1000	8.1000
FINAL ATTAINMENT	**2.7000**	**2.7125**	**O**	**0.0000**	**2.7075**	**2.7068**	**2.7000**	**2.7000**	**2.7000**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	8.3250	5.5500	2.7750	8.3250	8.3250
CO2	8.1000	5.4000	2.7000	8.1000	8.1000
CO3	7.8750	5.2500	2.6250	7.8750	7.8750
CO4	8.1000	5.4000	2.7000	8.1000	8.1000
CO 5	8.1000	5.4000	2.7000	8.1000	8.1000
FINAL ATTAINMENT	**2.7000**	**2.7000**	**2.7000**	**2.7000**	**2.7000**

Dr. V.S. KRISHNA GOVERNMENT DEGREE COLLEGE (A)

ZOOLOGY SYLLABUS FOR CLUSTER ELECTIVE VIII-B: VI SEMESTER

(w.e.f. 2018-19)

AQUACULTURE

Cluster Elective Paper: VIII-B-3

POST HARVEST TECHNOLOGY

Periods: 60 **Max. Marks: 100**

COURSE OUTCOME WEIGHTED AVERAGE: 2.3142

Learning Outcomes: On Completion of the course, the students will be able to	Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO1: Understanding the importance of handling, temperature, radiation and spoilage in fish preservation	Level 1 (Knowledge) Level 2 (Understanding)	1.5	**2.7061**
CO2: Understanding the different types of traditional and advanced methods of fish preservation and application of the technology for self0employment	Level 1 (Knowledge) Level 2 (Understanding) Level 3 (Application)	2.0	**2.6081**
CO3: Application of the knowledge on the consumptive, economic and therapeutic value of fish products, fish byproducts and sea weed products	Level 2 (Understanding) Level 3 (Application) Level 5 (Evaluation)	3.3	**2.3534**
CO4: Understanding the significance of sanitation at personal and industry level and quality control of fishery products	Level 1 (Knowledge) Level 2 (Understanding) Level 5 (Evaluation)	2.7	**2.4710**
CO5: Evaluation of processing industries based on national and international standards and understanding the maintenance of quality in industries	Level 1 (Knowledge) Level 2 (Understanding) Level 5 (Evaluation)	**2.7**	**2.4710**

CO-PO Mapping
1-Low, 2-Moderate, 3-High, ‘0‘ No Correlation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	**3**	**1**	**1**	**0**	**3**	**3**	**3**	**3**	**3**
CO2	**3**	**1**	**1**	**0**	**3**	**3**	**3**	**3**	**3**
CO3	**3**	**1**	**1**	**0**	**3**	**3**	**3**	**3**	**3**
CO4	**3**	**1**	**1**	**0**	**3**	**3**	**3**	**3**	**3**
CO5	**3**	**1**	**1**	**0**	**3**	**3**	**3**	**3**	**3**
	3	**1**	**1**	**0**	**3**	**3**	**3**	**3**	**3**

CO-PSO Mapping
1-Low, 2-Moderate, 3-High, ‘0‘ No Correlation

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	**3**	**1**	**1**	**0**	**2**
CO2	**3**	**1**	**2**	**1**	**2**
CO3	**3**	**1**	**1**	**0**	**2**
CO4	**3**	**1**	**0**	**1**	**2**
CO5	**3**	**1**	**0**	**1**	**2**
	15	5	4	3	10

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	8.1183	2.7061	2.7061	0.0000	8.1183	8.1183	8.1183	8.1183	8.1183
CO2	7.8243	2.6081	2.6081	0.0000	7.8243	7.8243	7.8243	7.8243	7.8243
CO3	7.0602	2.3534	2.3534	0.0000	7.0602	7.0602	7.0602	7.0602	7.0602
CO4	7.4129	2.4710	2.4710	0.0000	7.4129	7.4129	7.4129	7.4129	7.4129
CO 5	7.4129	2.4710	2.4710	0.0000	7.4129	7.4129	7.4129	7.4129	7.4129
FINAL ATTAINMENT	**2.5219**	**2.5219**	**O**	**0.0000**	**2.5219**	**2.5219**	**2.5219**	**2.5219**	**2.5219**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	8.1183	2.7061	2.7061	0.0000	8.1183
CO2	7.8243	2.6081	2.6081	0.0000	7.8243
CO3	7.0602	2.3534	2.3534	0.0000	7.0602
CO4	7.4129	2.4710	2.4710	0.0000	7.4129
CO 5	7.4129	2.4710	2.4710	0.0000	7.4129
FINAL ATTAINMENT	**2.5219**	**2.5219**	**O**	**0.0000**	**2.5219**

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DEPARTMENT OF SANSKRIT

CO & PO ATTAINMENT

2018 – 2019

CO – PO ATTAINMENT METHODOLOGY

- Step 1

Calculation of Course Outcome Weighted Average (COWA)

The performance of the students assessed by two methods

(a) Direct Assessment: The weightage for internal exams is 30% and for semester end exams is 60%

(b) Indirect assessment: 5% weightage for exit survey and 5% for extracurricular activities

The performance of the student is categorised in four levels

S,No	Percentage obtained by the student in DA and IDA	Level weightage
1	Less than 35%	0
2	Between 35% and 50%	1
3	Between 51% and 70%	2
4	Above 70%	3

The average level of all students for a particular course is found. It is called as course outcome weighted average (COWA).

$$\mathbf{COWA} = \frac{\boldsymbol{some\ of\ the\ level\ weitage\ of\ all\ students\ of\ a\ course}}{\boldsymbol{total\ number\ of\ students}}$$

- Step 2:

Calculation of Course outcome level index (COLLI):

To Map the course outcomes (COs) of a course with Blooms levels (1 to 6) by using action verbs used in CO' s. A course outcome may be mapped to multiple Blooms levels; hence we need to calculate the average Blooms level weightage (ABLW).

$$\mathbf{COLLI} = \frac{\boldsymbol{Sum\ of\ the\ weigtages\ of\ \ blooms\ levels\ mapped}}{\boldsymbol{number\ of\ levels\ mapped}}$$

- Step 3:

CO-PO mapping and CO-PSO mapping

Map each course outcome with POs and PSOs in levels 0,1,2,3. A CO may be mapped to multiple POs or PSOs with different levels 1,2,3. The weighted average of each PO is to be calculated.

- Step 4:

Calculation of CO attainment:

The formula for Course Outcome Attainment (CO Attainment) can be calculated by using below formula

$$\textbf{CO attainment} = \textbf{COWA} + \left\{(3 - \boldsymbol{COWA}) \times \left(1 - \frac{\boldsymbol{COLLI}}{3.5}\right)\right\}$$

(Blooms Level Weighted Average value = 3.5)

- Step 5:

Calculation of PO attainment:

The formula for Programme Outcome Attainment (PO Attainment) can be calculated by using below formula

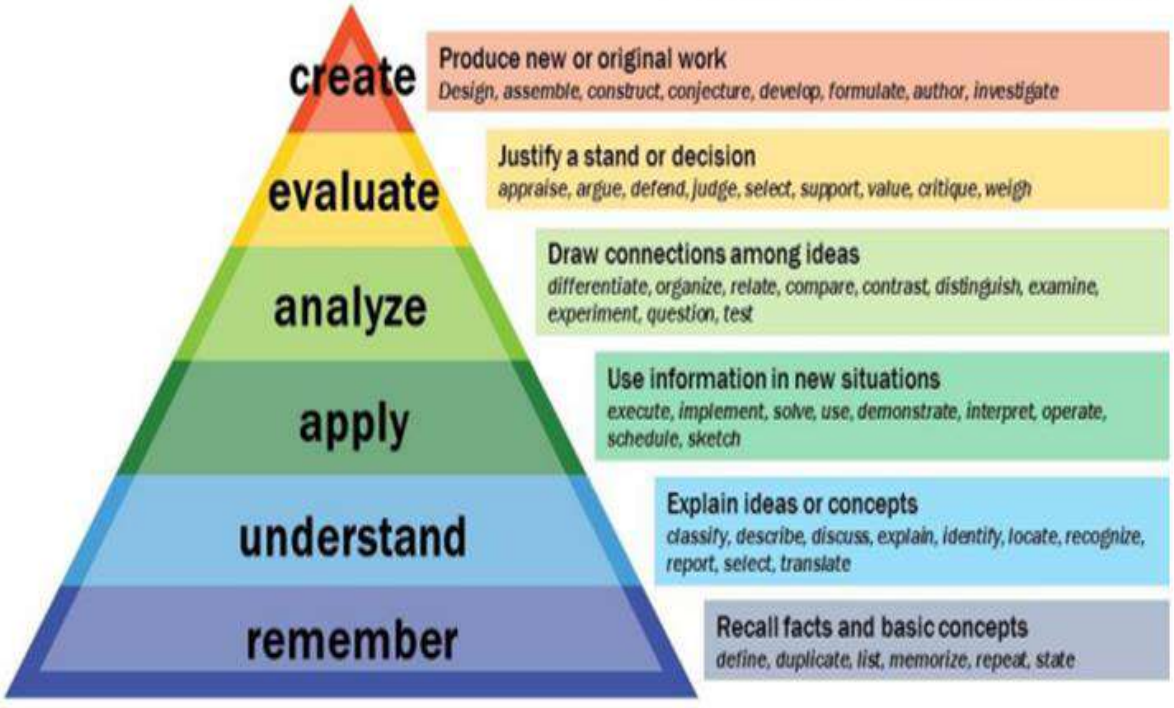
$$\textbf{PO Attainment} = \frac{\Sigma(\boldsymbol{CO\ attainment})(\boldsymbol{PO\ level\ mapped\ with\ CO})}{\boldsymbol{Sum\ of\ the\ PO\ levels\ mapped\ with\ CO}}$$

PSO attainment:

The formula for Programme Specific Outcome Attainment (PSO Attainment) can be calculated by using below formula

$$\textbf{PSO Attainment} = \frac{\Sigma(\boldsymbol{CO\ attainment})(\boldsymbol{PSO\ level\ mapped\ with\ CO})}{\boldsymbol{Sum\ of\ the\ PSO\ levels\ mapped\ with\ CO}}$$

Levels of Bloom's Taxonomoy	
Level-1	Knowlede/Remember
Level-2	Understand
Level-3	Application
Level-4	Analyze
Level-5	Evaluation
Level-6	Create



PROGRAMME OUTCOMES

POs	Programme Outcomes
PO1	Critical Thinking: Ability to take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid,and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
PO2	Effective Communication: Ability to speak, read, write, and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media, and technology
PO3	Social Interaction: Ability to elicit views of others, mediate disagreements and help reach conclusions in group settings.
PO4	Effective Citizenship: Ability to demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.
PO5	Ethics: Ability to recognize different value systems including our own, understand the moral dimensions of your decisions, and accept responsibility for them.
PO6	Environment and Sustainability: Ability to understand the issues of environmental contexts and sustainable Development.
PO7	Employability skills: Equipping graduates with the essential abilities and knowledge to excel in their choosen careers.
PO8	Entrepreneurship skills: Seeks to empower students with the competencies needed to be successful entrepreneurs, enabling them to launch, operate, and innovate in their own businesses or entrepreneurial ventures.
PO9	Self-directed and Life-long Learning: Acquire the ability to engage in independent and life-long learning in the broadest

PROGRAMME SPECIFIC OUTCOMES:

PSOs	Program Specific Outcomes (PSOs)
PSO1	Learn basic concepts, principles, and theories in Sanskri.
PSO2	Analyzes contemporary issues with background of Sanskrit.
PSO3	Acquire employability and research skills in the field of Sanskrit Language Literature.
PSO4	Gain knowledge to understand the society around.
PSO5	Learn soft and life skills for effective communication and personality development.

SEMESTER- 1

PAPER-1:SANSKRIT

COURSE OUTCOME WEIGHTED AVERAGE: 2.5401

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Learn about the Languages and importance of Sanskrit Literature.	L1(REMEMBER)	1	2.8686
CO2	Understand the Emergence of Culture and moral values and Ethics.	L2(UNDERTSAND)& L5(EVALUATE)	3.5	2.5401
CO3	Know the psychological aspects of social behavior	L3(APPLICATION)& L4(ANALYZE)	3.5	2.5401
CO4	Comprehend the Literature	L4(ANALYZE)& L5(EVALUATE)	4.5	2.4087
CO5	Knowledge on writing skills, research Skills and Translation Skills	L4(ANALYZE)& L6(CREATE)	5	2.3430

CO- PO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	1	1	0	0	1	0	1	1	2
C02	2	2	1	0	2	0	1	1	1
CO3	1	2	1	1	2	0	2	1	1
CO4	2	1	1	1	1	3	1	1	1
CO5	2	1	1	2	1	2	2	1	1
TOTAL	8	7	4	4	7	5	7	5	6

CO- PSO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	2	3	1	0
C02	3	3	2	1	0
CO3	3	2	2	1	1
CO4	3	3	1	1	1
CO5	0	0	2	3	2
TOTAL	11	10	10	7	4

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	2.8686	2.8686	0.0000	0.0000	2.8686	0.0000	2.8686	2.8686	5.7372
CO2	5.0802	5.0802	2.5401	0.0000	5.0802	0.0000	2.5401	2.5401	2.5401
CO3	2.5401	5.0802	2.5401	2.5401	5.0802	0.0000	5.0802	2.5401	2.5401
CO4	4.8174	2.4087	2.4087	2.4087	2.4087	7.2261	2.4087	2.4087	2.4087
CO 5	4.6860	2.3430	2.3430	4.6860	2.3430	4.6860	4.6860	2.3430	2.3430
FINAL ATTAINMENT	**2.4990**	**2.5401**	**2.4580**	**2.4087**	**2.5401**	**2.3824**	**2.5119**	**2.5401**	**2.5949**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	5.7372	5.7372	8.6058	2.8686	0.0000
CO2	7.6203	7.6203	5.0802	2.5401	0.0000
CO3	7.6203	5.0802	5.0802	2.5401	2.5401
CO4	7.2261	7.2261	2.4087	2.4087	2.4087
CO 5	0.0000	0.0000	4.6860	7.0290	4.6860
FINAL ATTAINMENT	**2.5640**	**2.5664**	**2.5861**	**2.4838**	**2.4087**

SEMESTER- 2

PAPER-1: SANSKRIT

COURSE OUTCOME WEIGHTED AVERAGE: 2.4329

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Learn about the Languages and importance of Sanskrit Literature.	L1(REMEMBER)	1	2.8380
CO2	Understand the Emergence of Culture and moral values and Ethics.	L2(UNDERTSAND)& L5(EVALUATE)	3.5	2.4330
CO3	Know the psychological aspects of social behavior	L3(APPLICATION)& L4(ANALYZE)	3.5	2.4330
CO4	Comprehend the Literature	L4(ANALYZE)& L5(EVALUATE)	4.5	2.2710
CO5	Knowledge on writing skills, research Skills and Translation Skills	L4(ANALYZE)& L6(CREATE)	5	2.1899

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	5.6760	8.5140	2.8380	0.0000	8.5140	2.8380	0.0000	0.0000	2.8380
CO2	7.2989	7.2989	4.8659	4.8659	7.2989	7.2989	2.4330	2.4330	4.8659
CO3	4.8659	4.8659	7.2989	4.8659	4.8659	4.8659	7.2989	4.8659	4.8659
CO4	4.5419	4.5419	6.8129	4.5419	4.5419	4.5419	4.5419	2.2710	4.5419
CO 5	4.3799	2.1899	2.1899	4.3799	2.1899	4.3799	4.3799	2.1899	2.1899
FINAL ATTAINMENT	**2.4330**	**2.4919**	**2.4006**	**2.3317**	**2.4919**	**2.3925**	**2.3317**	**2.3520**	**2.4127**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	5.6760	8.5140	8.5140	5.6760	5.6760
CO2	7.2989	4.8659	7.2989	2.4330	7.2989
CO3	7.2989	4.8659	4.8659	7.2989	7.2989
CO4	6.8129	6.8129	4.5419	2.2710	6.8129
CO 5	0.0000	0.0000	4.3799	6.5698	4.3799
FINAL ATTAINMENT	**2.4624**	**2.5059**	**2.4667**	**2.4249**	**2.4205**

CO- PO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	3	1	0	3	1	0	0	1
C02	3	3	2	2	3	3	1	1	2
CO3	2	2	3	2	2	2	3	2	2
CO4	2	2	3	2	2	2	2	1	2
CO5	2	1	1	2	1	2	2	1	1
TOTAL	11	11	10	8	11	10	8	5	8

CO- PSO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	3	3	2	2
C02	3	2	3	1	3
CO3	3	2	2	3	3
CO4	3	3	2	1	3
CO5	0	0	2	3	2
TOTAL	11	10	12	10	13

SEMESTER- 3

PAPER-1: SANSKRIT

COURSE OUTCOME WEIGHTED AVERAGE: 2.5203

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Learn about the Languages and importance of Sanskrit Literature.	L1(REMEMBER)	1	2.8630
CO2	Understand the Emergence of Culture and moral values and Ethics.	L2(UNDERTSAND)& L5(EVALUATE)	3.5	2.5203
CO3	Know the psychological aspects of social behavior	L3(APPLICATION)& L4(ANALYZE)	3.5	2.5203
CO4	Comprehend the Literature	L4(ANALYZE)& L5(EVALUATE)	4.5	2.3833
CO5	Knowledge on writing skills, research Skills and Translation Skills	L4(ANALYZE)& L6(CREATE)	5	2.3148

CO- PO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	2	1	2	1	0	1	1	2
C02	1	1	1	2	2	0	0	0	1
CO3	2	3	3	2	2	2	1	1	2
CO4	2	3	2	0	0	2	1	1	1
CO5	2	1	1	2	1	2	2	1	1
TOTAL	9	10	8	8	6	6	5	4	7

CO- PSO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	2	3	2	2
C02	3	3	3	1	2
CO3	3	2	2	2	2
CO4	0	1	2	2	2
CO5	0	0	2	3	2
TOTAL	8	8	12	10	10

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	5.7259	5.7259	2.8630	5.7259	2.8630	0.0000	2.8630	2.8630	5.7259
CO2	2.5203	2.5203	2.5203	5.0407	5.0407	0.0000	0.0000	0.0000	2.5203
CO3	5.0407	7.5610	7.5610	5.0407	5.0407	5.0407	2.5203	2.5203	5.0407
CO4	4.7666	7.1498	4.7666	0.0000	0.0000	4.7666	2.3833	2.3833	2.3833
CO 5	4.6295	2.3148	2.3148	4.6295	2.3148	4.6295	4.6295	2.3148	2.3148
FINAL ATTAINMENT	**2.5203**	**2.5272**	**2.5032**	**2.5546**	**2.5432**	**2.4061**	**2.4792**	**2.5203**	**2.5693**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	5.7259	5.7259	8.5889	5.7259	5.7259
CO2	7.5610	7.5610	7.5610	2.5203	5.0407
CO3	7.5610	5.0407	5.0407	5.0407	5.0407
CO4	0.0000	2.3833	4.7666	4.7666	4.7666
CO 5	0.0000	0.0000	4.6295	6.9443	4.6295
FINAL ATTAINMENT	**2.6060**	**2.5889**	**2.5489**	**2.4998**	**2.5203**

SEMESTER- 4

PAPER-1: SANSKRIT

COURSE OUTCOME WEIGHTED AVERAGE: 2.4214

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Learn about the Languages and importance of Sanskrit Literature.	L1(REMEMBER)	1	2.8347
CO2	Understand the Emergence of Culture and moral values and Ethics.	L2(UNDERTSAND)& L5(EVALUATE)	3.5	2.4214
CO3	Know the psychological aspects of social behavior	L3(APPLICATION)& L4(ANALYZE)	3.5	2.4214
CO4	Comprehend the Literature	L4(ANALYZE)& L5(EVALUATE)	4.5	2.2561
CO5	Knowledge on writing skills, research Skills and Translation Skills	L4(ANALYZE)& L6(CREATE)	5	2.1735

CO- PO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	2	2	3	3	1	1	1	2
C02	2	2	2	2	3	2	1	2	2
CO3	2	3	3	2	2	1	2	2	2
CO4	2	3	2	2	3	2	2	2	2
CO5	2	1	1	2	1	2	2	1	1
TOTAL	10	11	10	11	12	8	8	8	9

CO- PSO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	2	2	2	2
C02	3	2	1	1	2
CO3	2	2	2	2	1
CO4	2	2	2	2	2
CO5	0	0	2	3	2
TOTAL	9	8	9	10	9

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	5.6694	5.6694	5.6694	8.5041	8.5041	2.8347	2.8347	2.8347	5.6694
CO2	4.8428	4.8428	4.8428	4.8428	7.2643	4.8428	2.4214	4.8428	4.8428
CO3	4.8428	7.2643	7.2643	4.8428	4.8428	2.4214	4.8428	4.8428	4.8428
CO4	4.5122	6.7684	4.5122	4.5122	6.7684	4.5122	4.5122	4.5122	4.5122
CO 5	4.3469	2.1735	2.1735	4.3469	2.1735	4.3469	4.3469	2.1735	2.1735
FINAL ATTAINMENT	**2.4214**	**2.4289**	**2.4462**	**2.4590**	**2.4628**	**2.3698**	**2.3698**	**2.4008**	**2.4490**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	5.6694	5.6694	5.6694	5.6694	5.6694
CO2	7.2643	4.8428	2.4214	2.4214	4.8428
CO3	4.8428	4.8428	4.8428	4.8428	2.4214
CO4	4.5122	4.5122	4.5122	4.5122	4.5122
CO 5	0.0000	0.0000	4.3469	6.5204	4.3469
FINAL ATTAINMENT	**2.4765**	**2.4834**	**2.4214**	**2.3966**	**2.4214**

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DEPARTMENT OF MICROBIOLOGY

CO & PO ATTAINMENT

2018 – 2019

CO – PO ATTAINMENT METHODOLOGY

- Step 1

Calculation of Course Outcome Weighted Average (COWA)

The performance of the students assessed by two methods

(a) Direct Assessment: The weightage for internal exams is 30% and for semester end exams is 60%
(b) Indirect assessment: 5% weightage for exit survey and 5% for extracurricular activities

The performance of the student is categorised in four levels

S,No	Percentage obtained by the student in DA and IDA	Level weightage
1	Less than 35%	0
2	Between 35% and 50%	1
3	Between 51% and 70%	2
4	Above 70%	3

The average level of all students for a particular course is found. It is called as course outcome weighted average (COWA).

$$\mathbf{COWA} = \frac{\boldsymbol{some\ of\ the\ level\ weitage\ of\ all\ students\ of\ a\ course}}{\boldsymbol{total\ number\ of\ students}}$$

- Step 2:

Calculation of Course outcome level index (COLLI):

To Map the course outcomes (COs) of a course with Blooms levels (1 to 6) by using action verbs used in CO' s. A course outcome may be mapped to multiple Blooms levels; hence we need to calculate the average Blooms level weightage (ABLW).

$$\textbf{COLLI} = \frac{\textbf{\textit{Sum of the weigtages of blooms levels mapped}}}{\textbf{\textit{number of levels mapped}}}$$

- Step 3:

CO-PO mapping and CO-PSO mapping

Map each course outcome with POs and PSOs in levels 0,1,2,3. A CO may be mapped to multiple POs or PSOs with different levels 1,2,3. The weighted average of each PO is to be calculated.

- Step 4:

Calculation of CO attainment:

The formula for Course Outcome Attainment (CO Attainment) can be calculated by using below formula

$$\textbf{CO attainment} = \textbf{COWA} + \left\{(\mathbf{3} - \boldsymbol{COWA}) \times \left(\mathbf{1} - \frac{\boldsymbol{COLLI}}{\mathbf{3.5}}\right)\right\}$$

(Blooms Level Weighted Average value = 3.5)

- Step 5:

Calculation of PO attainment:

The formula for Programme Outcome Attainment (PO Attainment) can be calculated by using below formula

$$\textbf{PO Attainment} = \frac{\boldsymbol{\Sigma(CO\ attainment)(PO\ level\ mapped\ with\ CO)}}{\boldsymbol{Sum\ of\ the\ PO\ levels\ mapped\ with\ CO}}$$

PSO attainment:

The formula for Programme Specific Outcome Attainment (PSO Attainment) can be calculated by using below formula

$$\textbf{PSO Attainment} = \frac{\boldsymbol{\Sigma(CO\ attainment)(PSO\ level\ mapped\ with\ CO)}}{\boldsymbol{Sum\ of\ the\ PSO\ levels\ mapped\ with\ CO}}$$

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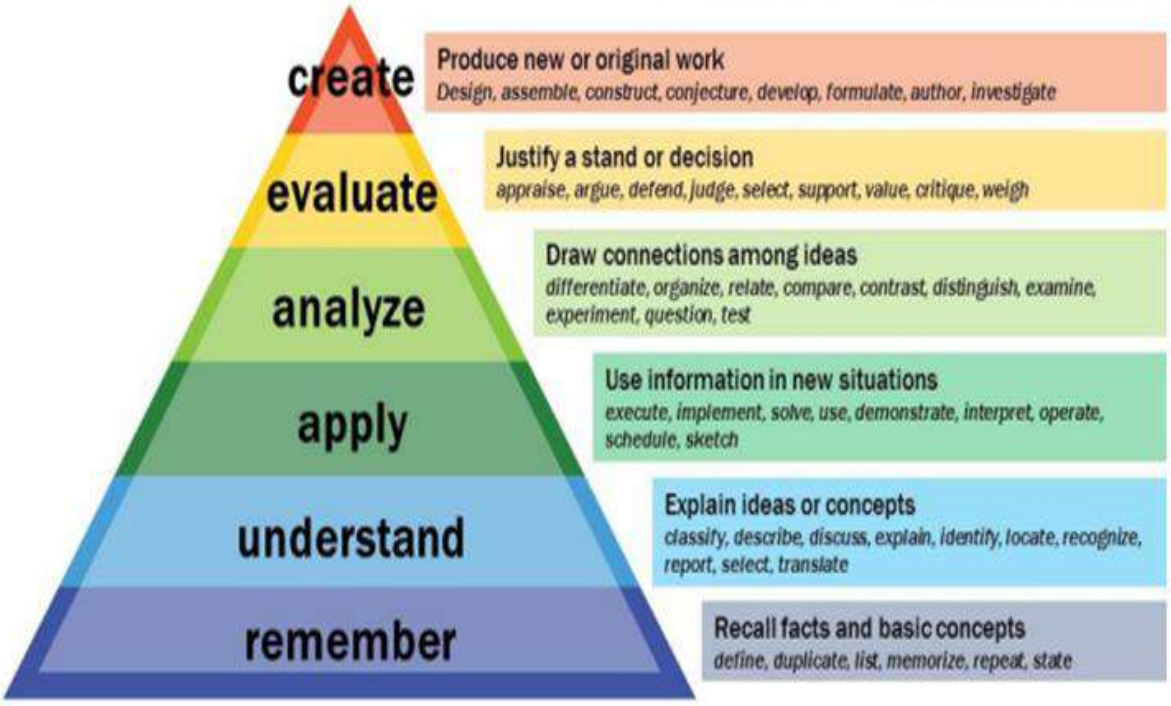
Levels of Bloom's Taxonomoy

Level-1	Knowlede/Remember
Level-2	Understand
Level-3	Application
Level-4	Analyze
Level-5	Evaluation
Level-6	Create

Bloom's Taxonomy



POs	Programme Outcomes
PO1	Critical Thinking: Ability to take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid,and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
PO2	Effective Communication: Ability to speak, read, write, and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media, and technology
PO3	Social Interaction: Ability to elicit views of others, mediate disagreements and help reach conclusions in group settings.
PO4	Effective Citizenship: Ability to demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.
PO5	Ethics: Ability to recognize different value systems including our own, understand the moral dimensions of your decisions, and accept responsibility for them.
PO6	Environment and Sustainability: Ability to understand the issues of environmental contexts and sustainable Development.
PO7	Employability skills: Equipping graduates with the essential abilities and knowledge to excel in their choosen careers.
PO8	Entrepreneurship skills: Seeks to empower students with the competencies needed to be successful entrepreneurs, enabling them to launch, operate, and innovate in their own businesses or entrepreneurial ventures.
PO9	Self-directed and Life-long Learning: Acquire the ability to engage in independent and life-long learning in the broadest

Program Specific Outcomes (PSOs)

PSOs	Program Specific Outcomes (PSOs)
PSO1	**PSO 1: Academic Proficiency** – To understand the foundations and principles of evolution, diversity, biomolecules, biochemical processes, genetics, propagation and control of microorganisms which forms the basis for microbiology discipline and its allied subdisciplines.
PSO2	**PSO 2: Technical and Skill Proficiency** – To perform a wide range of microbiological and diagnostic procedures such as handling of microscope, sterilization and disinfection, isolation, cultivation and characterization of microorganisms, blood grouping, chromatography, electrophoresis and immunological assays.
PSO3	**PSO 3: Professional and Research Proficiency** – To carry out data collection, visualization, interpretation, laboratory related numerical calculations, biochemical data interpretation, generate ideas, write scientific reports, present the ideas, apply the theoretical microbiology and interrelated subject knowledge in seeking solutions to societal problems.
PSO4	**PSO 4: Ethical and Social Proficiency** – To gain awareness about ethics in academics and research, scientific misconduct, Intellectual Property Rights (IPR) and plagiarism. To employ the skills acquired in Microbiology for industrial production, clinical research and agriculture for human welfare in the ethical manner.
PSO5	**Career Building –** Toimpart to students the knowledge of microbiology and allied applied life science courses for preparing them to have promising career options in industry, research and academic fields.

SEMESTER- 1

PAPER-1: INTRODUCTORY MICROBIOLOGY AND MICROBIAL DIVERSITY

COURSE OUTCOME WEIGHTED AVERAGE: 2.3649

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning LevelIndex	CO Attainment
CO 1	Gain knowledge about the origins of microbiology discipline, relationship between microorganisms and disease, major contributions of important microbiologists to the field of microbiology and different classification system of bacteria.	L2	2	2.6371
CO2	Understand the morphological, physiological and biochemical properties of different groups of microorganisms like bacteria, archaea, cyanobacteria and viruses.	L3	3	2.4556
CO3	Able to identify a microorganism as bacteria, fungi, algae and protozoa and operate the microscope independently.	L4	4	2.2742
CO4	Apply the principles of staining techniques to distinguish different groups of microorganisms and plan a suitable physical and chemical methods of sterilization in creating the aseptic environment.	L2	2	2.6371

CO5	Design suitable methods for isolation of microbes from different environments by applying the principles of pure culture and enrichment methods.	L2 L4	3	2.4556

CO- PO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	**3**	**1**	**1**	**0**	0	0	**1**	**1**	**1**
C02	**3**	**2**	**1**	**0**	**0**	**0**	**2**	**1**	**1**
CO3	**3**	**2**	**1**	**0**	**0**	**0**	**3**	**2**	**1**
CO4	**3**	**2**	**1**	**0**	**0**	**0**	**3**	**2**	**2**
CO5	**3**	**2**	**1**	**0**	**0**	**0**	**3**	**3**	**2**
TOTAL	15	9	5	0	0	0	12	9	7

CO- PSO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	**3**	**2**	**3**	**2**	**2**
C02	**3**	**2**	**3**	**2**	**2**
CO3	**3**	**3**	**3**	**2**	**2**
CO4	**3**	**3**	**2**	**2**	**2**
CO5	**3**	**3**	**3**	**3**	**2**
TOTAL	15	13	14	11	10

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	7.9113	2.6371	2.6371	0.0000	0.0000	0.0000	2.6371	2.6371	2.6371
CO2	7.3669	4.9113	2.4556	0.0000	0.0000	0.0000	4.9113	2.4556	2.4556
CO3	6.8225	4.5483	2.2742	0.0000	0.0000	0.0000	6.8225	4.5483	2.2742
CO4	7.9113	5.2742	2.6371	0.0000	0.0000	0.0000	7.9113	5.2742	5.2742
CO 5	7.3669	4.9113	2.4556	0.0000	0.0000	0.0000	7.3669	7.3669	4.9113
FINAL ATTAINMENT	**2.4919**	**2.4758**	**2.4919**	**0**	**0**	**0**	**2.4708**	**2.4758**	**2.5075**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	7.9113	5.2742	7.9113	5.2742	5.2742
CO2	7.3669	4.9113	7.3669	4.9113	4.9113
CO3	6.8225	6.8225	6.8225	4.5483	4.5483
CO4	7.9113	7.9113	5.2742	5.2742	5.2742
CO 5	7.3669	7.3669	7.3669	7.3669	4.9113
FINAL ATTAINMENT	**2.4919**	**2.4835**	**2.4816**	**2.4886**	**2.4919**

SEMESTER – 2

PAPER- 2 MICROBIAL BIOCHEMISTRY & METABOLISM

COURSE OUTCOME WEIGHTED AVERAGE: 2.3666

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels)	CO Learning LevelIndex	CO ATTAINMENT
CO 1	Describe different classes of macromolecules such as carbohydrates, lipids, proteins and nucleic acids, classify them and understand their functions.	L2 L3	2.5	2.5476
CO2	Understand the principles and instrumentation for colorimetry, spectrophotometry, chromatography, centrifugation and electrophoresis.	L5	5	2.0951
CO3	Explain enzyme properties and factors affecting the enzyme activity and role of cofactors in defining the enzymatic activity.	L4	4	2.2761
CO4	Illustrate different nutritional groups of microorganisms, growth requirements of microbes, different stages of microbial growth and factors affecting the microbial growth.	L3 L4	3.5	2.3666
CO5	Explain different life processes such as aerobic and anaerobic respiration, fermentation, oxygenic and anoxygenic photosynthesis.	L3 L5	3.5	2.3666

CO- PO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	1	2	O	0	2	1	1	1
C02	2	3	2	1	1	2	1	2	2
CO3	2	2	1	2	1	3	1	2	2
CO4	3	2	1	1	0	1	2	2	3
CO5	1	1	2	3	0	0	2	1	2
TOTAL	11	9	8	7	2	8	7	8	10

CO- PSO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	1	2	2	1	3
C02	3	2	2	1	1
CO3	2	1	1	2	3
CO4	3	2	2	1	1
CO5	2	1	1	3	2
TOTAL	11	8	8	8	10

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	7.6427	2.5476	5.0951	#VALUE!	0.0000	5.0951	2.5476	2.5476	2.5476
C02	4.1903	6.2854	4.1903	2.0951	2.0951	4.1903	2.0951	4.1903	4.1903
CO3	4.5522	4.5522	2.2761	4.5522	2.2761	6.8283	2.2761	4.5522	4.5522
CO4	7.0998	4.7332	2.3666	2.3666	0.0000	2.3666	4.7332	4.7332	7.0998
CO5	2.3666	2.3666	4.7332	7.0998	0.0000	0.0000	4.7332	2.3666	4.7332
FINAL ATTAINMENT	**2.3501**	**2.2761**	**2.3327**	**#VALUE!**	**2.1856**	**2.3100**	**2.3407**	**2.2987**	**2.3123**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2.5476	5.0951	5.0951	2.5476	7.6427
C02	6.2854	4.1903	4.1903	2.0951	2.0951
CO3	4.5522	2.2761	2.2761	4.5522	6.8283
CO4	7.0998	4.7332	4.7332	2.3666	2.3666
CO5	4.7332	2.3666	2.3666	7.0998	4.7332
FINAL ATTAINMENT	**2.2926**	**2.3327**	**2.3327**	**2.3327**	**2.3666**

SEMESTER- 3

PAPER-3 : MICROBIAL GENETICS AND MOLECULAR BIOLOGY

COURSE OUTCOME WEIGHTED AVERAGE: 2.1834

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning LevelIndex	CO Attainment
CO 1	Understand the importance of DNA and RNA in inheritance, DNA organization, replication and extrachromosomal elements. Understand the importance of DNA and RNA in inheritance, DNA organization, replication and extrachromosomal elements.	L2	2	2.5334
CO2	Explain mutations, mutation types, different types of mutagens and list out different DNA repair mechanisms. Explain mutations, mutation types, different types of mutagens and list out different DNA repair mechanisms.	L2 L3	2.5	2.4167
CO3	Compare and contrast concepts such as gene, cistron, muton, recon, enzyme, polypeptide etc. one gene – enzyme vs one gene – one polypeptide hypothesis.	L3	3	2.3001
CO4	Illustrate different classes of genes, outline the steps involved in transcription and translation mechanisms and gene regulatory mechanisms.	L6	6	1.6001
CO5	Examine the applications of vectors, DNA modifying enzymes, polymerase chain reaction and creating of genomic and cDNA libraries in gene cloning.	L4	4	2.0667

CO- PO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	**3**	**1**	**1**	**0**	0	0	**1**	**1**	**1**
C02	**3**	**2**	**1**	**0**	**0**	**0**	**2**	**1**	**1**
CO3	**3**	**2**	**1**	**0**	**0**	**0**	**3**	**2**	**1**
CO4	**3**	**2**	**1**	**0**	**0**	**0**	**3**	**2**	**2**
CO5	**3**	**2**	**1**	**0**	**0**	**0**	**3**	**3**	**2**
TOTAL	15	9	5	0	0	0	12	9	7

CO- PSO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	**3**	**2**	**3**	**2**	**2**
C02	**3**	**2**	**3**	**2**	**2**
CO3	**3**	**3**	**3**	**2**	**2**
CO4	12	10	11	8	8
CO5	0	0	0	0	0
TOTAL	12	10	11	8	8

PROGRAM OUTCOMES ATTAINMENT

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	7.6001	2.5334	2.5334	0.0000	0.0000	0.0000	2.5334	2.5334	2.5334
CO2	7.2501	4.8334	2.4167	0.0000	0.0000	0.0000	4.8334	2.4167	2.4167
CO3	6.9002	4.6001	2.3001	0.0000	0.0000	0.0000	6.9002	4.6001	2.3001
CO4	4.8003	3.2002	1.6001	0.0000	0.0000	0.0000	4.8003	3.2002	3.2002
CO5	6.2002	4.1335	2.0667	0.0000	0.0000	0.0000	6.2002	6.2002	4.1335
FINAL ATTAINMENT	7.6001	2.5334	2.5334	0.0000	0.0000	0.0000	2.5334	2.5334	2.5334

PROGRAM SPECIFIC OUTCOMES ATTAINMENT

	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	7.6001	5.0667	7.6001	5.0667	5.0667
CO2	7.2501	4.8334	7.2501	4.8334	4.8334
CO3	6.9002	6.9002	6.9002	4.6001	4.6001
CO4	4.8003	4.8003	3.2002	3.2002	3.2002
CO5	0.0000	0.0000	0.0000	0.0000	0.0000
FINAL ATTAINMENT	**2.2126**	**2.1601**	**2.2682**	**2.2126**	**2.2126**

SEMESTER- 4

PAPER-4: IMMUNOLOGY AND MEDICAL MICROBIOLOGY

COURSE OUTCOME WEIGHTED AVERAGE: 2.3286

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning LevelIndex	CO Attainment
CO 1	Acquire knowledge about immune system, types of immunity, cells of immune system and role of lymphoid organs in immunity.	L2	2	2.6163
CO2	Understand the concepts of antigen, antibody, haptens, and different types of antigen – antibody reactions.	L2	2	2.6163
CO3	Explain the concepts in clinical microbiology and use procedures such as sample collection, storage, processing and apply culture based, biochemical, molecular tools for disease diagnosis.	L4	4	2.2327
CO4	Apply the principles of antimicrobial resistance and use suitable methods to detect the antimicrobial resistance in microorganisms.	L4	4	2.2327

CO5	Describe the epidemiological principles and pathogenesis, symptoms, diagnosis and treatment of various infectious diseases.	L3 L4	3.5	2.3286

CO- PO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	1	0	3	1	2	1	1	2
C02	1	2	1	1	1	2	3	0	2
CO3	2	2	1	1	0	2	1	2	1
CO4	0	2	1	3	1	1	3	2	2
CO5	2	1	1	2	1	1	1	2	2
TOTAL	7	8	4	10	4	8	9	7	9

CO- PSO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	2	1	1	3
C02	1	2	1	2	2
CO3	2	2	3	1	2
CO4	1	2	2	3	1
CO5	1	2	2	2	3
TOTAL	7	10	9	9	11

ATTAINMENT OF POs

PROGRAMOUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	5.2327	2.6163	0.0000	7.8490	2.6163	5.2327	2.6163	2.6163	5.2327
CO2	2.6163	5.2327	2.6163	2.6163	2.6163	5.2327	7.8490	0.0000	5.2327
CO3	4.4654	4.4654	2.2327	2.2327	0.0000	4.4654	2.2327	4.4654	2.2327
CO4	0.0000	4.4654	2.2327	6.6981	2.2327	2.2327	6.6981	4.4654	4.4654
CO5	4.6572	2.3286	2.3286	4.6572	2.3286	2.3286	2.3286	4.6572	4.6572
FINAL ATTAINMENT	**2.4245**	**2.3885**	**2.3526**	**2.4053**	**2.4485**	**2.4365**	**2.4139**	**2.3149**	**2.4245**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	5.2327	5.2327	2.6163	2.6163	7.8490
CO2	2.6163	5.2327	2.6163	5.2327	5.2327
CO3	4.4654	4.4654	6.6981	2.2327	4.4654
CO4	2.2327	4.4654	4.4654	6.6981	2.2327
CO5	2.3286	4.6572	4.6572	4.6572	6.9858
FINAL ATTAINMENT	**2.405796**	**2.384405**	**2.380707**	**2.371464**	**2.402555**

SEMESTER- 5

PAPER-5 : ENVIRONMENTAL & AGRICULTURAL MICROBIOLOGY

COURSE OUTCOME WEIGHTED AVERAGE: 3

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning LevelIndex	CO Attainment
CO 1	Understand the dynamics between microorganisms and soil, water, air environments and special adaptations of extremophiles.	L2	2	3.0000
CO2	Gain knowledge on the role of microorganisms in nutrient recycling, methods of determining the water potability and microbial interactions.	L4	4	3.0000
CO3	Explain the methods of solid and liquid waste management and different levels of sewage treatment methods.	L2 L4	3	3.0000
CO4	Identify the plant growth promoting and nitrogen fixing microbes and their utility in agriculture and biofertilizers.	L2 L6	4	3.0000
CO5	Categorize various plant diseases based on symptoms and list out methods for controlling plant diseases.	L4	4	3.0000

CO- PO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	1	0	3	0	2	1	1	2
C02	1	2	2	1	1	2	2	1	1
CO3	2	1	2	1	1	3	0	1	2
CO4	2	2	1	1	0	1	3	1	0
CO5	1	2	1	1	0	2	3	0	1
TOTAL	8	8	6	7	2	10	9	4	6

CO- PSO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	3	1	2	2
C02	1	2	2	3	1
CO3	2	2	1	1	2
CO4	1	1	2	2	1
CO5	2	2	1	2	1
TOTAL	8	10	7	10	7

ATTAINMENT OF POs

PROGRAMOUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	6.0000	3.0000	0.0000	9.0000	0.0000	6.0000	3.0000	3.0000	6.0000
C02	3.0000	6.0000	6.0000	3.0000	3.0000	6.0000	6.0000	3.0000	3.0000
CO3	6.0000	3.0000	6.0000	3.0000	3.0000	9.0000	0.0000	3.0000	6.0000
CO4	6.0000	6.0000	3.0000	3.0000	0.0000	3.0000	9.0000	3.0000	0.0000
CO5	3.0000	6.0000	3.0000	3.0000	0.0000	6.0000	9.0000	0.0000	3.0000
FINAL ATTAINMENT	**3.0000**	**3.0000**	**3.0000**	**3.0000**	**3.0000**	**3.0000**	**3.0000**	**3.0000**	**3.0000**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	6.0000	9.0000	3.0000	6.0000	6.0000
C02	3.0000	6.0000	6.0000	9.0000	3.0000
CO3	6.0000	6.0000	3.0000	3.0000	6.0000
CO4	3.0000	3.0000	6.0000	6.0000	3.0000
CO5	6.0000	6.0000	3.0000	6.0000	3.0000
FINAL ATTAINMENT	**3.0000**	**3.0000**	**3.0000**	**3.0000**	**3.0000**

SEMESTER- 5

PAPER-6 : DIAGNOSTIC MICROBIOLOGY

COURSE OUTCOME WEIGHTED AVERAGE: 3

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning LevelIndex	CO Attainment
CO 1	Acquire knowledge about causative agents and the pathogenesis of various bacterial, fungal, viral and protozoan diseases.	L2	2	3.0000
CO2	Understand the procedures used for collection and transport of various clinical samples such as sputum, urine, blood, CSF and stool.	L2	2	3.0000
CO3	Analyze the pathogens from clinical samples by staining and their isolation of selective or enrichment medium.	L2 L3	2.5	3.0000
CO4	Categorize a diagnostic procedure as serological, molecular or biochemical test. List out the symptoms of endemic diseases.	L4	4	3.0000
CO5	Learn the principles of antibiotic-resistance mechanisms and methods of assessing the resistance or susceptibility of a pathogen to a given antibiotic.	L4	4	3.0000

CO- PO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	1	2	1	1	2	2	1	1
C02	3	2	2	1	1	2	2	1	2
CO3	0	2	1	1	0	2	1	2	2
CO4	1	1	2	2	1	1	2	1	0
CO5	1	2	2	1	0	2	1	0	1
TOTAL	7	8	9	6	3	9	8	5	6

CO- PSO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	1	2	3	1
C02	1	3	2	2	1
CO3	2	1	2	2	1
CO4	1	2	2	1	2
CO5	2	2	1	3	1
TOTAL	8	9	9	11	6

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	6.0000	3.0000	6.0000	3.0000	3.0000	6.0000	6.0000	3.0000	3.0000
C02	9.0000	6.0000	6.0000	3.0000	3.0000	6.0000	6.0000	3.0000	6.0000
CO3	0.0000	6.0000	3.0000	3.0000	0.0000	6.0000	3.0000	6.0000	6.0000
CO4	3.0000	3.0000	6.0000	6.0000	3.0000	3.0000	6.0000	3.0000	0.0000
CO5	3.0000	6.0000	6.0000	3.0000	0.0000	6.0000	3.0000	0.0000	3.0000
FINAL ATTAINMENT	**3.0000**	**3.0000**	**3.0000**	**3.0000**	**3.0000**	**3.0000**	**3.0000**	**3.0000**	**3.0000**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	6.0000	3.0000	6.0000	9.0000	3.0000
C02	3.0000	9.0000	6.0000	6.0000	3.0000
CO3	6.0000	3.0000	6.0000	6.0000	3.0000
CO4	3.0000	6.0000	6.0000	3.0000	6.0000
CO5	6.0000	6.0000	3.0000	9.0000	3.0000
FINAL ATTAINMENT	**3.0000**	**3.0000**	**3.0000**	**3.0000**	**3.0000**

SEMESTER- 6

PAPER-7A : FOOD AND INDUSTRIAL MICROBIOLOGY

COURSE OUTCOME WEIGHTED AVERAGE: 2.1947

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning LevelIndex	CO Attainment
CO 1	Gain an understanding of the intrinsic and extrinsic factors that influence microbial growth in food, recognize the microbial spoilage of various food items, and comprehend the concepts of food intoxication (botulism) and foodborne diseases (salmonellosis) along with their detection methods.	L4	4	2.0797
CO2	Develop knowledge about the principles of food preservation, including physical and chemical methods, and explore the production processes and benefits of fermented dairy foods (cheese and yogurt). Additionally, understand the potential of microorganisms as food sources, such as single-cell proteins (SCP), edible mushrooms (white button, oyster, and paddy straw), and probiotics.	L5	5	1.8496
CO3	Familiarize oneself with the microorganisms of industrial importance, including yeasts (*Saccharomyces cerevisiae*), molds (*Aspergillus niger*), bacteria (*E. coli*), and actinomycetes (*Streptomyces griseus*). Additionally, gain an outline of the procedures for isolating, screening, and improving industrially significant microorganisms.	L4	4	2.0797

CO4	Acquire knowledge about different types of fermentation processes (solid state, liquid state, batch, fed-batch, continuous), understand the basic concepts of fermenter design, identify the ingredients of fermentation media, and explore the techniques involved in downstream processing, such as filtration, centrifugation, cell disruption, and solvent extraction.	L4	4	2.0797
CO5	Develop an understanding of the microbial production of industrial products, including citric acid, ethanol, amylase, penicillin, glutamic acid, and vitamin B12, focusing on their production processes and applications.	L5	5	1.8496

CO- PO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	1	0	3	1	2	1	1	2
C02	1	2	1	1	1	2	3	0	2
CO3	2	2	1	1	0	2	1	2	1
CO4	0	2	1	3	1	1	3	2	2
CO5	2	1	1	2	1	1	1	2	2
TOTAL	7	8	4	10	4	8	9	7	9

CO- PSO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	2	1	1	3
C02	1	2	1	2	2
CO3	2	2	3	1	2
CO4	1	2	2	3	1
CO5	1	2	2	2	3
TOTAL	7	10	9	9	11

PROGRAM OUTCOMES ATTAINMENT

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	4.1593	2.0797	0.0000	6.2390	2.0797	4.1593	2.0797	2.0797	4.1593
C02	1.8496	3.6991	1.8496	1.8496	1.8496	3.6991	5.5487	0.0000	3.6991
CO3	4.1593	4.1593	2.0797	2.0797	0.0000	4.1593	2.0797	4.1593	2.0797
CO4	0.0000	4.1593	2.0797	6.2390	2.0797	2.0797	6.2390	4.1593	4.1593
CO5	3.6991	1.8496	1.8496	3.6991	1.8496	1.8496	1.8496	3.6991	3.6991
FINAL ATTAINMENT	**1.9810**	**1.9934**	**1.9646**	**2.0106**	**1.9646**	**1.9934**	**1.9774**	**2.0139**	**1.9774**

PROGRAM SPECIFIC OUTCOMES ATTAINMENT

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	4.1593	4.1593	2.0797	2.0797	6.2390
C02	1.8496	3.6991	1.8496	3.6991	3.6991
CO3	4.1593	4.1593	6.2390	2.0797	4.1593
CO4	2.0797	4.1593	4.1593	6.2390	2.0797
CO5	1.8496	3.6991	3.6991	3.6991	5.5487
FINAL ATTAINMENT	**2.0139**	**1.9876**	**2.0030**	**1.9774**	**1.9751**

SEMESTER- 6

PAPER-8:8A1 - INDUSTRIAL MICROBIOLOGY

COURSE OUTCOME WEIGHTED AVERAGE: 1.8157

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning LevelIndex	CO Attainment
CO 1	Students will be able to understand the different types of microorganisms used in industry such as yeasts, molds, bacteria, and actinomycetes. They will also learn about primary and secondary microbial metabolites and the techniques involved in screening and selecting industrially important metabolites from microbes.	L4	4	1.6465
CO2	Students will have a clear understanding of fermentation and fermenters. They will learn about the concept and discovery of fermentation, the parts and functions of a fermenter, and the different types of fermenters including batch, continuous, and fed batch.	L4	4	1.6465
CO3	Students will be familiar with pharmaceutical and therapeutic enzymes. They will learn about the various enzymes used in industries such as detergents, textiles, and leather. Additionally, they will gain knowledge on	L5	5	1.3081

	the production of amylases, therapeutic enzymes, and the role of microorganisms in bioleaching and the textile industry. Students will be familiar with pharmaceutical and therapeutic enzymes. They will learn about the various enzymes used in industries such as detergents, textiles, and leather. Additionally, they will gain knowledge on the production of amylases, therapeutic enzymes, and the role of microorganisms in bioleaching and the textile industry.			
CO4	Students will have a good understanding of industrial microorganisms. They will learn about cell growth, microbial growth kinetics, factors affecting growth, basic nutrition, principles of production media, and the chemical composition of media.	L6	6	0.9698
CO5	Students will be able to comprehend the basic structure of a bioreactor and the different types of bioreactors. They will also learn about the kinetics and methodology of batch and continuous bioreactors. Additionally, they will gain knowledge on the sterilization of bioreactors using fibrous filters and the concepts of aeration and agitation in shake flasks and tube rollers.	L6	6	0.9698

CO- PO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	0	3	1	0	0	2	2	1
C02	1	2	0	2	1	1	2	0	1
CO3	2	3	1	0	0	1	3	2	1
CO4	1	2	1	1	1	3	1	2	1
CO5	0	2	3	1	0	1	1	2	2
TOTAL	6	9	8	5	2	6	9	8	6

CO- PSO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	2	1	2	2
C02	2	3	2	2	1
CO3	1	3	1	2	2
CO4	1	1	2	2	3
CO5	2	2	3	3	1
TOTAL	9	11	9	11	9

PROGRAM OUTCOMES ATTAINMENT

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3.2930	0.0000	4.9395	1.6465	0.0000	0.0000	3.2930	3.2930	1.6465
C02	1.6465	3.2930	0.0000	3.2930	1.6465	1.6465	3.2930	0.0000	1.6465
CO3	2.6163	3.9244	1.3081	0.0000	0.0000	1.3081	3.9244	2.6163	1.3081
CO4	0.9698	1.9395	0.9698	0.9698	0.9698	2.9093	0.9698	1.9395	0.9698
CO5	0.0000	1.9395	2.9093	0.9698	0.0000	0.9698	0.9698	1.9395	1.9395
FINAL ATTAINMENT	**1.4209**	**1.2329**	**1.2658**	**1.3758**	**1.3081**	**1.1390**	**1.3833**	**1.2236**	**1.2517**

PROGRAM SPECIFIC OUTCOMES ATTAINMENT

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	4.9395	3.2930	1.6465	3.2930	3.2930
C02	3.2930	4.9395	3.2930	3.2930	1.6465
CO3	1.3081	3.9244	1.3081	2.6163	2.6163
CO4	0.9698	0.9698	1.9395	1.9395	2.9093
CO5	1.9395	1.9395	2.9093	2.9093	0.9698
FINAL ATTAINMENT	**1.3833**	**1.3697**	**1.2329**	**1.2774**	**1.2705**

SEMESTER- 6

PAPER-8:8A2 - FOOD MICROBIOLOGY

COURSE OUTCOME WEIGHTED AVERAGE: 2.8941

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning LevelIndex	CO Attainment
CO 1	Understand the sources of microorganisms causing food spoilage and their detection methods.	L4	4	2.8790
CO2	Gain knowledge about the microbiological production of fermented foods and the biochemical activities of microbes in milk.	L4	4	2.8790
CO3	Comprehend the processes involved in the microbial production of distilled beverages, vinegar, yogurt, and cheese.	L5	5	2.8487
CO4	Familiarize with various methods of food preservation and their application,including aseptic handling, pasteurization, refrigeration, dehydration, and radiation.	L5L6	5.6	2.8306

CO5	Course Outcome: Develop an understanding of probiotics, their common properties, and examples of probiotic microorganisms, as well as the production processes and uses of vitamins B12 and C.	L6	6	2.8185

CO- PO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	0	3	1	0	0	2	2	1
C02	1	2	0	2	1	1	2	0	1
CO3	2	3	1	0	0	1	3	2	1
CO4	1	2	1	1	1	3	1	2	1
CO5	0	2	3	1	0	1	1	2	2
TOTAL	6	9	8	5	2	6	9	8	6

CO- PSO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	2	1	2	2
C02	2	3	2	2	1
CO3	1	3	1	2	2
CO4	1	1	2	2	3
CO5	2	2	3	3	1
TOTAL	9	11	9	11	9

PROGRAM OUTCOMES ATTAINMENT

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	5.7579	0.0000	8.6369	2.8790	0.0000	0.0000	5.7579	5.7579	2.8790
C02	2.8790	5.7579	0.0000	5.7579	2.8790	2.8790	5.7579	0.0000	2.8790
CO3	5.6974	8.5461	2.8487	0.0000	0.0000	2.8487	8.5461	5.6974	2.8487
CO4	2.8306	5.6611	2.8306	2.8306	2.8306	8.4917	2.8306	5.6611	2.8306
CO5	0.0000	5.6369	8.4554	2.8185	0.0000	2.8185	2.8185	5.6369	5.6369
FINAL ATTAINMENT	**2.8608**	**2.8447**	**2.8464**	**2.8572**	**2.8548**	**2.8396**	**2.8568**	**2.8442**	**2.8457**

PROGRAM SPECIFIC OUTCOMES ATTAINMENT

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	8.6369	5.7579	2.8790	5.7579	5.7579
C02	5.7579	8.6369	5.7579	5.7579	2.8790
CO3	2.8487	8.5461	2.8487	5.6974	5.6974
CO4	2.8306	2.8306	5.6611	5.6611	8.4917
CO5	5.6369	5.6369	8.4554	8.4554	2.8185
FINAL ATTAINMENT	**2.8568**	**2.8553**	**2.8447**	**2.8482**	**2.8494**

SEMESTER- 6

PAPER-8: 8A3 - MANAGEMENT OF HUMAN MICROBIAL DISEASES

COURSE OUTCOME WEIGHTED AVERAGE: 2.2464

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning LevelIndex	CO Attainment
CO 1	Students will be able to understand the definition and concept of health, disease, infection, and pathogen. They will also be able to identify different types of human microbial diseases, explain their transmission, and recognize the causative agents and symptoms associated with these diseases.	L4	4	2.1387
CO2	Students will gain an understanding of the principles of epidemiology and its significance in public health. They will be able to discuss current epidemics, such as AIDS, nosocomial infections, and acute respiratory syndromes. Furthermore, students will learn about various measures for preventing epidemics, including global health considerations, emerging and re-emerging infectious diseases, as well as the concept of biological warfare and biological weapons.	L4	4	2.1387

CO3	Students will have a comprehensive understanding of several viral diseases, including AIDS, Hepatitis, Influenza, Rabies, Chikungunya, and Polio. They will be able to describe the history, causative agents, pathogenesis, diagnosis, and available drugs and inhibitors for these diseases. This knowledge will enable students to recognize the impact of viral infections on human health.	L5	5	1.9234
CO4	Students will have a clear understanding of how bacterial pathogens enter the human host, their mechanisms of pathogenicity, colonization, growth, and virulence. They will be able to identify different types of bacterial pathogens, including their virulence factors such as exotoxins, enterotoxins, endotoxins, and neurotoxins. Additionally, students will gain insights into the avoidance of host defence mechanisms by bacterial pathogens, the damage caused to host cells, and the host factors for infection and innate resistance to infection.	L4	4	2.1387
CO5	Students will be equipped with the knowledge and skills to perform laboratory diagnosis of common infective syndromes and parasitic manifestations. They will understand the methods of transmission and the role of vectors, focusing on the biology of house flies, mosquitoes, and sand flies. Moreover, students will recognize the need and significance of epidemiological	L4 L5	4.5	2.0311

	studies, including epidemiological investigations to identify diseases, the challenges posed by drug resistance and drug sensitivity, and the emergence of antibiotic resistance in bacteria.			

CO- PO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	0	3	1	0	0	2	2	1
C02	1	2	0	2	1	1	2	0	1
CO3	2	3	1	0	0	1	3	2	1
CO4	1	2	1	1	1	3	1	2	1
CO5	0	2	3	1	0	1	1	2	2
TOTAL	6	9	8	5	2	6	9	8	6

CO- PSO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	2	1	2	2
C02	2	3	2	2	1
CO3	1	3	1	2	2
CO4	1	1	2	2	3
CO5	2	2	3	3	1
TOTAL	9	11	9	11	9

PROGRAM OUTCOMES ATTAINMENT

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	4.2775	0.0000	6.4162	2.1387	0.0000	0.0000	4.2775	4.2775	2.1387
C02	2.1387	4.2775	0.0000	4.2775	2.1387	2.1387	4.2775	0.0000	2.1387
CO3	3.8469	5.7703	1.9234	0.0000	0.0000	1.9234	5.7703	3.8469	1.9234
CO4	2.1387	4.2775	2.1387	2.1387	2.1387	6.4162	2.1387	4.2775	2.1387
CO5	0.0000	4.0622	6.0933	2.0311	0.0000	2.0311	2.0311	4.0622	4.0622
FINAL ATTAINMENT	**2.0670**	**2.0430**	**2.0715**	**2.1172**	**2.1387**	**2.0849**	**2.0550**	**2.0580**	**2.0670**

PROGRAM SPECIFIC OUTCOMES ATTAINMENT

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	6.4162	4.2775	2.1387	4.2775	4.2775
C02	4.2775	6.4162	4.2775	4.2775	2.1387
CO3	1.9234	5.7703	1.9234	3.8469	3.8469
CO4	2.1387	2.1387	4.2775	4.2775	6.4162
CO5	4.0622	4.0622	6.0933	6.0933	2.0311
FINAL ATTAINMENT	**2.0909**	**2.0604**	**2.0789**	**2.0702**	**2.0789**

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CO & PO ATTAINMENT

2018– 2019

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(AUTONOMOUS)

NODAL RESOURCE CENTRE & AU CENTRE FOR RESEARCH

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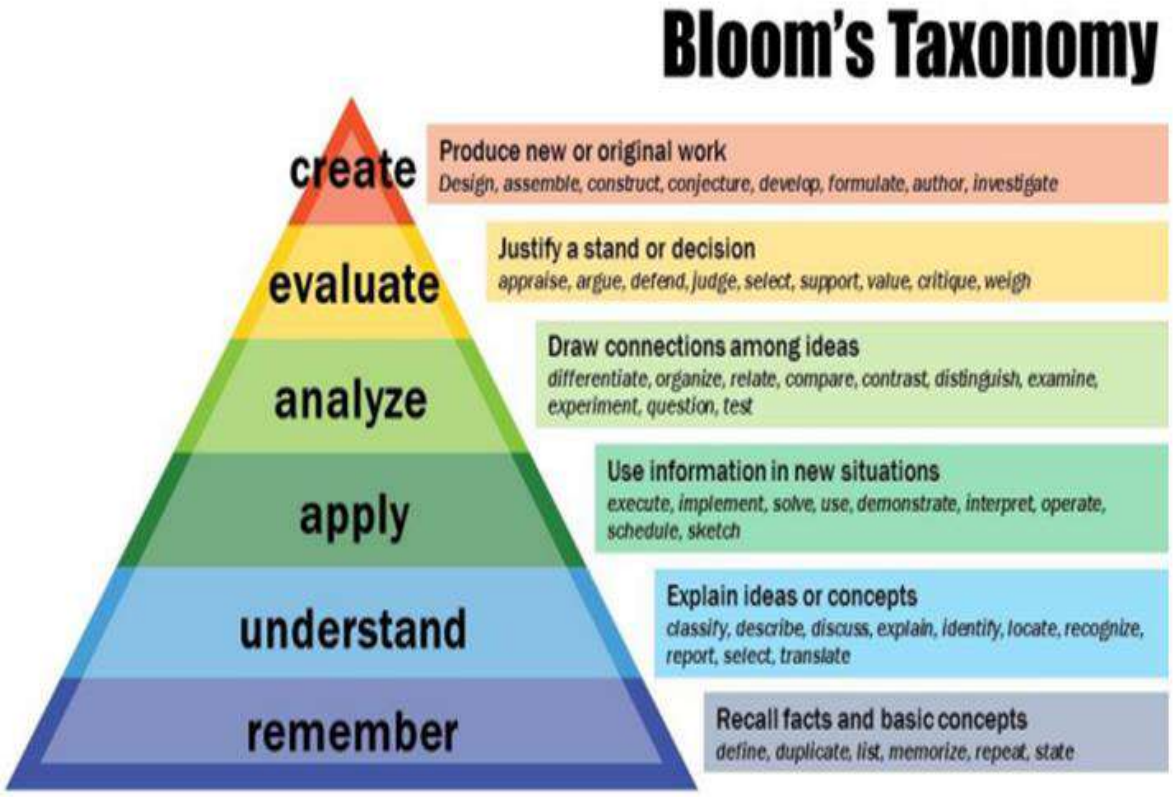
Levels of Bloom's Taxonomoy

Level-1	Knowlede/Remember
Level-2	Understand
Level-3	Application
Level-4	Analyze
Level-5	Evaluation
Level-6	Create



POs	Programme Outcomes
PO1	Critical Thinking: Ability to take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid,and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
PO2	Effective Communication: Ability to speak, read, write, and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media, and technology
PO3	Social Interaction: Ability to elicit views of others, mediate disagreements and help reach conclusions in group settings.
PO4	Effective Citizenship: Ability to demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.
PO5	Ethics: Ability to recognize different value systems including our own, understand the moral dimensions of your decisions, and accept responsibility for them.
PO6	Environment and Sustainability: Ability to understand the issues of environmental contexts and sustainable Development.
PO7	Employability skills: Equipping graduates with the essential abilities and knowledge to excel in their choosen careers.
PO8	Entrepreneurship skills: Seeks to empower students with the competencies needed to be successful entrepreneurs, enabling them to launch, operate, and innovate in their own businesses or entrepreneurial ventures.
PO9	Self-directed and Life-long Learning: Acquire the ability to engage in independent and life-long learning in the broadest

Program Specific Outcomes (PSOs)

PSOs	Program Specific Outcomes (PSOs)
PSO1	A student should be able to recall basic facts about mathematics and should be able to display knowledge of conventions such as notations , terminology.
PSO2	A student should get adequate exposure to global and local concerns that explore them many aspects of mathematical sciences.
PSO3	Student is equipped with mathematical modeling ability, problem solving skills, creative talent and power of communication necessary for various kinds of employment.
PSO4	Student should be able to apply their skills and knowledge that is translate information presented verbally into mathematical form, select and use appropriate mathematical formulae or techniques in order to process the information and draw the relevant conclusion.
PSO5	Enabling students to develop a positive attitude towards mathematics as an interesting and valuable subject of study.

CO – PO ATTAINMENT METHODOLOGY

- Step 1

Calculation of Course Outcome Weighted Average (COWA)

The performance of the students assessed by two methods

(a) Direct Assessment: The weightage for internal exams is 30% and for semester end exams is 60%
(b) Indirect assessment: 5% weightage for exit survey and 5% for extracurricular activities

The performance of the student is categorised in four levels

S,No	Percentage obtained by the student in DA and IDA	Level weightage
1	Less than 35%	0
2	Between 35% and 50%	1
3	Between 51% and 70%	2
4	Above 70%	3

The average level of all students for a particular course is found. It is called as course outcome weighted average (COWA).

$$\mathbf{COWA} = \frac{\boldsymbol{some\ of\ the\ level\ weitage\ of\ all\ students\ of\ a\ course}}{\boldsymbol{total\ number\ of\ students}}$$

- Step 2:

Calculation of Course outcome level index (COLLI):

To Map the course outcomes (COs) of a course with Blooms levels (1 to 6) by using action verbs used in CO' s. A course outcome may be mapped to multiple Blooms levels; hence we need to calculate the average Blooms level weightage (ABLW).

$$\mathbf{COLLI} = \frac{\boldsymbol{Sum\ of\ the\ weigtages\ of\ \ blooms\ levels\ mapped}}{\boldsymbol{number\ of\ levels\ mapped}}$$

- Step 3:

CO-PO mapping and CO-PSO mapping

Map each course outcome with POs and PSOs in levels 0,1,2,3. A CO may be mapped to multiple POs or PSOs with different levels 1,2,3. The weighted average of each PO is to be calculated.

- Step 4:

Calculation of CO attainment:

The formula for Course Outcome Attainment (CO Attainment) can be calculated by using below formula

$$\textbf{CO attainment} = \textbf{COWA} + \left\{(\mathbf{3} - \boldsymbol{COWA}) \times \left(\mathbf{1} - \frac{\boldsymbol{COLLI}}{\mathbf{3.5}}\right)\right\}$$

(Blooms Level Weighted Average value $= 3.5$)

- Step 5:

Calculation of PO attainment:

The formula for Programme Outcome Attainment (PO Attainment) can be calculated by using below formula

$$\textbf{PO Attainment} = \frac{\boldsymbol{\Sigma(CO\ attainment)(PO\ level\ mapped\ with\ CO)}}{\boldsymbol{Sum\ of\ the\ PO\ levels\ mapped\ with\ CO}}$$

PSO attainment:

The formula for Programme Specific Outcome Attainment (PSO Attainment) can be calculated by using below formula

$$\textbf{PSO Attainment} = \frac{\boldsymbol{\Sigma(CO\ attainment)(PSO\ level\ mapped\ with\ CO)}}{\boldsymbol{Sum\ of\ the\ PSO\ levels\ mapped\ with\ CO}}$$

SEMESTER- 1

PAPER-1: Differential Equations

COURSE OUTCOME WEIGHTED AVERAGE : 2.7158

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Solve first order first degree linear differential equations	Level-4 (Analyze), Level-5 (Evaluation), Level-6 (Create)	5	2.5940
CO2	Convert a non-exact homogeneous equation to exact differential equation by using an integrating factor	Level-1 (Knowledge/Remember), Level-6 (Create)	3.5	2.7158
CO3	Know the methods of finding solution of a differential equation of first order but not of first Degree	Level-2 (Understand), Level-3 (Application), Level-6 (Create)	3.67	2.7020
CO4	Solve higher-order linear differential equations for both homogeneous and non-homogeneous, with constant coefficients	Level-2 (Understand), Level-3 (Application), Level-4 (Analyze), Level-6 (Create)	3.75	2.6955
CO5	Understand and apply the appropriate methods for solving higher order differential equations	Level-2 (Understand), Level-4 (Analyze), Level-5 (Evaluation), Level-6 (Create)	4.25	2.6549

CO- PO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	4	3	1	3	3	4	4	3	1
C02	3	1	4	4	2	2	2	1	4
CO3	1	3	3	2	3	1	2	4	3
CO4	2	3	3	1	3	1	3	4	3
CO5	1	2	2	2	3	2	2	1	3
TOTAL	11	12	13	12	14	10	13	13	14

CO- PSO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	3	2	4	1
C02	2	3	4	2	3
CO3	2	4	2	1	1
CO4	4	4	3	4	4
CO5	1	2	1	4	4
TOTAL	11	16	12	15	13

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	10.3761	7.7821	2.5940	7.7821	7.7821	10.3761	10.3761	7.7821	2.5940
CO2	8.1475	2.7158	10.8633	10.8633	5.4316	5.4316	5.4316	2.7158	10.8633
CO3	2.7020	8.1061	8.1061	5.4040	8.1061	2.7020	5.4040	10.8081	8.1061
CO4	5.3910	8.0866	8.0866	2.6955	8.0866	2.6955	8.0866	10.7821	8.0866
CO 5	2.6549	5.3099	5.3099	5.3099	7.9648	5.3099	5.3099	2.6549	7.9648
FINAL ATTAINMENT	2.6611	2.6667	2.6892	2.6712	2.6694	2.6515	2.6622	2.6725	2.6868

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	5.1881	7.7821	5.1881	10.3761	2.5940
CO2	5.4316	8.1475	10.8633	5.4316	8.1475
CO3	5.4040	10.8081	5.4040	2.7020	2.7020
CO4	10.7821	10.7821	8.0866	10.7821	10.7821
CO 5	2.6549	5.3099	2.6549	10.6197	10.6197
FINAL ATTAINMENT	2.6783	2.6768	2.6831	2.6608	2.6804

SEMESTER – 2

PAPER- 2 Three Dimensional Analytical Solid Geometry

COURSE OUTCOME WEIGHTED AVERAGE 2.3637

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels)	CO Learning Level Index	CO ATTAINMENT
CO 1	Get the knowledge of planes	Level-1 (Knowledge/Remember), Level-2 (Understand), Level-3 (Application), Level-5 (Evaluation)	2.75	2.5000
CO2	Basic idea of lines, sphere and cones	Level-1 (Knowledge/Remember), Level-2 (Understand), Level-4 (Analyze), Level-6 (Create)	3.25	2.4091
CO3	Understand the properties of planes, lines, spheres and cones	Level-5 (Evaluation), Level-6 (Create)	5.5	2.0000
CO4	Express the problems geometrically and then to get the solution	Level-2 (Understand), Level-5 (Evaluation), Level-6 (Create)	4.33	2.2127

CO- PO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	4	3	3	3	3	4	3	3
C02	2	1	1	3	1	1	4	2	3
CO3	2	2	2	2	3	2	3	2	4
CO4	2	1	2	1	2	2	2	1	4
TOTAL	9	8	8	9	9	8	13	8	14

CO- PSO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	4	4	3	4	1
C02	1	2	4	2	4
CO3	2	2	4	4	4
CO4	2	1	2	2	4
TOTAL	9	9	13	12	13

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	7.5000	10.0000	7.5000	7.5000	7.5000	7.5000	10.0000	7.5000	7.5000
C02	4.8182	2.4091	2.4091	7.2273	2.4091	2.4091	9.6364	4.8182	7.2273
CO3	4.0000	4.0000	4.0000	4.0000	6.0000	4.0000	6.0000	4.0000	8.0000
CO4	4.4255	2.2127	4.4255	2.2127	4.4255	4.4255	4.4255	2.2127	8.8509
FINAL ATTAINMENT	2.3048	2.3277	2.2918	2.3267	2.2594	2.2918	2.3124	2.3164	2.2556

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	10.0000	10.0000	7.5000	10.0000	2.5000
C02	2.4091	4.8182	9.6364	4.8182	9.6364
CO3	4.0000	4.0000	8.0000	8.0000	8.0000
CO4	4.4255	2.2127	4.4255	4.4255	8.8509
FINAL ATTAINMENT	2.3149	2.3368	2.2740	2.2703	2.2298

SEMESTER- 3

PAPER-3: Abstract Algebra

COURSE OUTCOME WEIGHTED AVERAGE: 2.8234

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Acquire the basic knowledge and structure of groups, subgroups and cyclic groups	Level-4 (Analyze), Level-6 (Create)	5	2.7478
CO2	Get the significance of the notation of a normal subgroups	Level-4 (Analyze), Level-5 (Evaluation)	4.5	2.7730
CO3	Get the behavior of permutations and operations on them	Level-2 (Understand), Level-3 (Application), Level-4 (Analyze)	3	2.8487
CO4	Study the homomorphisms and isomorphisms with applications	Level-1 (Knowledge/Remember), Level-3 (Application), Level-5 (Evaluation)	3	2.8487
CO5	Understand the concepts cyclic groups and prove the theorems	Level-4 (Analyze), Level-5 (Evaluation)	4.5	2.7730
CO6	Understand the concept of regular	Level-1	2	2.8991

	permutation groups using Cayley theorem	(Knowledge/Remember), Level-3 (Application)		

CO- PO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	2	3	3	3	2	4	1	2
C02	3	2	1	1	2	1	3	2	4
CO3	4	2	1	2	4	1	1	1	2
CO4	2	2	1	4	2	4	2	3	1
CO5	2	2	4	3	1	4	1	2	4
CO6	1	4	3	2	3	4	2	1	1
TOTAL	14	14	13	15	15	16	13	10	14

CO- PSO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	2	3	1	2
C02	4	2	3	2	3
CO3	4	1	1	1	4
CO4	1	1	4	1	1
CO5	1	4	4	1	4
CO6	1	4	2	1	3

TOTAL	14	14	17	7	17

PROGRAM OUTCOMES ATTAINMENT

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	5.4956	5.4956	8.2434	8.2434	8.2434	5.4956	10.992	2.7478	5.4956
CO2	8.3191	5.5461	2.7730	2.7730	5.5461	2.7730	8.3191	5.5461	11.0921
CO3	11.3947	5.6974	2.8487	5.6974	11.397	2.8487	2.8487	2.8487	5.6974
CO4	5.6974	5.6974	2.8487	11.397	5.6974	11.397	5.6974	8.5461	2.8487
CO5	5.5461	5.5461	11.0921	8.3191	2.7730	11.091	2.7730	5.5461	11.0921
CO6	2.8991	11.5965	8.6974	5.7982	8.6974	11.595	5.7982	2.8991	2.8991
FINAL ATTAINMENT	2.8109	2.8271	2.8079	2.8151	2.8235	2.8250	2.8021	2.8134	2.7946

PROGRAM SPECIFIC OUTCOMES ATTAINMENT

	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	8.2434	5.4956	8.2434	2.7478	5.4956
CO2	11.0921	5.5461	8.3191	5.5461	8.3191
CO3	11.3947	2.8487	2.8487	2.8487	11.3947
CO4	2.8487	2.8487	11.3947	2.8487	2.8487
CO5	2.7730	11.0921	11.0921	2.7730	11.0921

CO6	2.8991	11.5965	5.7982	2.8991	8.6974
FINAL ATTAINMENT	2.8037	2.8163	2.8057	2.8091	2.8146

SEMESTER- 4

PAPER-4: Real Analysis

COURSE OUTCOME WEIGHTED AVERAGE: 2.7038

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Get clear idea about the real numbers and real valued functions	Level-1 (Knowledge/Remember), Level-2 (Understand), Level-3 (Application), Level-6 (Create)	3	2.7462
CO2	Obtain the skills of analyzing the concepts and applying appropriate methods for testing convergence of a sequence/ series	Level-4 (Analyze), Level-6 (Create)	5	2.5770
CO3	Test the continuity and differentiability and Riemann integration of a function	Level-1 (Knowledge/Remember), Level-2 (Understand), Level-6 (Create)	3	2.7462
CO4	Know the geometrical interpretation of mean value theorems	Level-3 (Application), Level-5 (Evaluation)	4	2.6616

CO- PO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	2	3	1	3	2	1	1	4
C02	2	1	4	3	1	4	4	4	3
CO3	4	3	3	2	2	2	2	3	1
CO4	4	2	4	1	2	4	4	1	1
TOTAL	12	8	14	7	8	12	11	9	9

CO- PSO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	1	4	1	3
C02	1	1	4	2	1
CO3	3	2	3	3	3
CO4	3	4	3	1	1
TOTAL	10	8	14	7	8

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	5.4924	5.4924	8.2385	2.7462	8.2385	5.4924	2.7462	2.7462	10.9847
CO2	5.1539	2.5770	10.3079	7.7309	2.5770	10.3079	10.3079	10.309	7.7309
CO3	10.9847	8.2385	8.2385	5.4924	5.4924	5.4924	5.4924	8.2385	2.7462
CO4	10.6463	5.3231	10.6463	2.6616	5.3231	10.6463	10.6463	2.6616	2.6616
FINAL ATTAINMENT	2.6898	2.7039	2.6737	2.6616	2.7039	2.6616	2.6539	2.6616	2.6804

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	8.2385	2.7462	10.9847	2.7462	8.2385
CO2	2.5770	2.5770	10.3079	5.1539	2.5770
CO3	8.2385	5.4924	8.2385	8.2385	8.2385
CO4	7.9847	10.6463	7.9847	2.6616	2.6616
FINAL ATTAINMENT	2.7039	2.6827	2.6797	2.6857	2.7145

SEMESTER- 5

PAPER-5: Linear Algebra

COURSE OUTCOME WEIGHTED AVERAGE: 2.9642

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Understand the concepts of vector spaces, subspaces, basises, dimension and their properties	Level-4 (Analyze), Level-5 (Evaluation)	4.5	2.9541
CO2	Understand the concepts of linear transformations and their properties	Level-2 (Understand), Level-3 (Application), Level-4 (Analyze), Level-5 (Evaluation)	3.5	2.9643
CO3	Apply Cayley- Hamilton theorem to problems for finding the inverse of a matrix and higher powers of matrices without using routine methods	Level-3 (Application), Level-6 (Create)	4.5	2.9541
CO4	Learn the properties of inner product spaces and determine orthogonality in inner product spaces	Level-1 (Knowledge/Remember), Level-5 (Evaluation), Level-6 (Create)	4	2.9592

CO- PO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	4	4	3	4	4	1	1	3
C02	1	3	2	3	1	4	1	1	3
CO3	3	1	1	1	4	1	2	1	1
CO4	4	3	1	2	1	2	1	3	1
TOTAL	10	11	8	9	10	11	5	6	8

CO- PSO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	2	4	3
C02	4	2	4	3	3
CO3	3	2	4	3	4
CO4	3	3	1	2	4
TOTAL	13	10	11	12	14

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	5.9082	11.8163	11.8163	8.8622	11.8163	11.8163	2.9541	2.9541	8.8622
C02	2.9643	8.8929	5.9286	8.8929	2.9643	11.8571	2.9643	2.9643	8.8929
CO3	8.8622	2.9541	2.9541	2.9541	11.8163	2.9541	5.9082	2.9541	2.9541
CO4	11.8367	8.8776	2.9592	5.9184	2.9592	5.9184	2.9592	8.8776	2.9592
FINAL ATTAINMENT	2.9571	2.9583	2.9573	2.9586	2.9556	2.9587	2.9571	2.9583	2.9585

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	8.8622	8.8622	5.9082	11.8163	8.8622
C02	11.8571	5.9286	11.8571	8.8929	8.8929
CO3	8.8622	5.9082	11.8163	8.8622	11.8163
CO4	8.8776	8.8776	2.9592	5.9184	11.8367
FINAL ATTAINMENT	2.9584	2.9577	2.9583	2.9575	2.9577

SEMESTER- 5

PAPER-6 : Ring Theory and Vector Calculus

COURSE OUTCOME WEIGHTED AVERAGE : 2.9659

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Acquire the basic knowledge and structure of groups, subgroups, cyclic groups, and the significance of the notation of a normal subgroups	Level-2 (Understand), Level-3 (Application)	2.5	2.9756
CO2	Study the homomorphisms and isomorphisms with applications	Level-4 (Analyze), Level-6 (Create)	5	2.9513
CO3	Understand the concept of regular permutation groups using Cayley theorem	Level-2 (Understand), Level-3 (Application), Level-4 (Analyze), Level-5 (Evaluation)	3.5	2.9659
CO4	Determine the gradient, divergence and curl of a vector and vector identities	Level-1 (Knowledge/Remember), Level-5 (Evaluation), Level-6 (Create)	4	2.9610

CO5	Understand relation between surface and volume integrals (Gauss divergence theorem), relation between line integral and volume integral (Green's theorem), relation between line and surface integral (Stokes theorem)	Level-2 (Understand), Level-3 (Application), Level-5 (Evaluation), Level-6 (Create)	4	2.9610

CO- PO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	3	4	1	4	3	1	2	1
C02	1	3	4	4	4	3	3	3	4
CO3	1	1	1	4	2	3	4	4	2
CO4	1	3	3	1	3	3	2	1	4
CO5	1	1	1	2	3	2	1	4	3
TOTAL	6	11	13	12	16	14	11	14	14

CO- PSO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	1	1	2	3	3
C02	2	4	4	4	1
CO3	4	2	4	3	2
CO4	4	2	4	4	3

CO5	4	1	3	3	4
TOTAL	15	10	17	17	13

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	5.9513	8.9269	11.9026	2.9756	11.9026	8.9269	2.9756	5.9513	2.9756
C02	2.9513	8.8539	11.8052	11.8052	11.8052	8.8539	8.8539	8.8539	11.8052
CO3	2.9659	2.9659	2.9659	11.8636	5.9318	8.8977	11.8636	11.8636	5.9318
CO4	2.9610	8.8831	8.8831	2.9610	8.8831	8.8831	5.9221	2.9610	11.8442

ATTAINMENT OF POs

ATTAINMENT OF PSOs

CO5	2.9610	2.9610	2.9610	5.9221	8.8831	5.9221	2.9610	11.8442	8.8831
FINAL ATTAINMENT	2.9651	2.9628	2.9629	2.9606	2.9629	2.9631	2.9615	2.9624	2.9600

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2.9756	2.9756	5.9513	8.9269	8.9269
C02	5.9026	11.8052	11.8052	11.8052	2.9513
CO3	11.8636	5.9318	11.8636	8.8977	5.9318
CO4	11.8442	5.9221	11.8442	11.8442	8.8831
CO5	11.8442	2.9610	8.8831	8.8831	11.8442
FINAL ATTAINMENT	2.9620	2.9596	2.9616	2.9622	2.9644

SEMESTER- 6

PAPER-7 : Numerical Analysis

COURSE OUTCOME WEIGHTED AVERAGE:2.7750

Learning Outcomes: On Completion of the course, the students will be able to	Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment

CO 1	Analyze and quantify errors in numerical computations to ensure accuracy and reliability in mathematical solutions	Level-2 (Understand), Level-3 (Application), Level-5 (Evaluation), Level-6 (Create)	4	2.7426
CO2	Solve algebraic and transcendental equations using various numerical methods such as bisection, iteration, and Newton-Raphson methods	Level-2 (Understand), Level-3 (Application), Level-6 (Create)	3.67	2.7638
CO3	Apply interpolation techniques and finite differences to approximate functions and detect errors in polynomial interpolation	Level-2 (Understand), Level-3 (Application)	2.5	2.8391
CO4	Utilize Newton's and central difference interpolation formulae, including Gauss's, Stirling's, Bessel's, and Everett's formulas for precise data interpolation	Level-2 (Understand), Level-4 (Analyze), Level-5 (Evaluation), Level-6 (Create)	4.25	2.7265

CO- PO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	2	4	2	3	3	3	1	2
C02	3	4	3	4	2	2	3	1	1
CO3	3	3	1	3	4	2	1	4	1

CO4	1	4	1	4	1	3	3	4	3
TOTAL	10	13	9	13	10	10	10	10	7

CO- PSO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	4	4	4	1
C02	2	4	2	4	2
CO3	3	4	3	1	1
CO4	2	2	4	2	1
TOTAL	10	14	13	11	5

PROGRAM OUTCOMES ATTAINMENT

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	8.2278	5.4852	10.9704	5.4852	8.2278	8.2278	8.2278	2.7426	5.4852
C02	8.2915	11.0553	8.2915	11.0553	5.5277	5.5277	8.2915	2.7638	2.7638
CO3	8.5174	8.5174	2.8391	8.5174	11.3565	5.6782	2.8391	11.3565	2.8391

CO4	2.7265	10.9060	2.7265	10.9060	2.7265	8.1795	8.1795	10.9060	8.1795
FINAL ATTAINMENT	2.7763	2.7665	2.7586	2.7665	2.7838	2.7613	2.7538	2.7769	2.7525

PROGRAM SPECIFIC OUTCOMES ATTAINMENT

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	8.2278	10.9704	10.9704	10.9704	2.7426
C02	5.5277	11.0553	5.5277	11.0553	5.5277
CO3	8.5174	11.3565	8.5174	2.8391	2.8391
CO4	5.4530	5.4530	10.9060	5.4530	2.7265
FINAL ATTAINMENT	2.7726	2.7739	2.7632	2.7562	2.7672

SEMESTER- 6

PAPER-8: Advanced Numerical Analysis

COURSE OUTCOME WEIGHTED AVERAGE: 2.8571

Learning Outcomes: On Completion of the course, the students will be able to	Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level	CO Attainment

			Index	
CO 1	Apply least-squares procedures for curve fitting, including linear and nonlinear models, and curve fitting by sums of exponentials	Level-4 (Analyze), Level-5 (Evaluation), Level-6 (Create)	5	2.7959
CO2	Utilize various numerical differentiation techniques, including Newton's forward, backward, and central difference formulas, to find derivatives and extremum points of tabulated functions	Level-4 (Analyze), Level-5 (Evaluation), Level-6 (Create)	3.25	2.8673
CO3	Implement numerical integration methods such as the trapezoidal rule, Simpson's rules, Weddle's rule, and the Euler-Maclaurin formula to approximate definite integrals	Level-1 (Knowledge/Remember), Level-3 (Application), Level-4 (Analyze), Level-5 (Evaluation)	4.5	2.8163
CO4	Solve linear systems of equations using direct methods like Gaussian elimination, Gauss-Jordan, and iterative methods such as Jacobi and Gauss-Seidel	Level-4 (Analyze), Level-5 (Evaluation)	4.33	2.8233
CO5	Employ numerical methods for solving ordinary differential equations, including Taylor's series, Picard's method, Euler's methods, and Runge-Kutta methods	Level-2 (Understand), Level-5 (Evaluation), Level-6 (Create)	4.33	2.8233

CO- PO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	2	2	3	2	4	1	1	2

C02	3	2	4	4	1	1	3	1	2
CO3	4	2	4	4	4	4	4	2	4
CO4	2	3	4	4	2	1	3	3	1
CO5	1	3	2	1	2	1	3	2	4
TOTAL	12	12	16	16	11	11	14	9	13

CO- PSO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	3	2	1	3
C02	4	1	1	2	3
CO3	4	3	2	1	1
CO4	3	1	1	1	1
CO5	3	4	3	3	1
TOTAL	16	12	9	8	9

PROGRAM OUTCOMES ATTAINMENT

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9

CO1	5.5918	5.5918	5.5918	8.3878	5.5918	11.1837	2.7959	2.7959	5.5918
C02	8.6020	5.7347	11.4694	11.4694	2.8673	2.8673	8.6020	2.8673	5.7347
CO3	11.2653	5.6327	11.2653	11.2653	11.2653	11.2653	11.2653	5.6327	11.2653
CO4	5.6465	8.4698	11.2931	11.2931	5.6465	2.8233	8.4698	8.4698	2.8233
CO5	2.8233	8.4698	5.6465	2.8233	5.6465	2.8233	8.4698	5.6465	11.2931
FINAL ATTAINMENT	2.8274	2.8249	2.8291	2.8274	2.8198	2.8148	2.8288	2.8236	2.8237

PROGRAM SPECIFIC OUTCOMES ATTAINMENT

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	5.5918	8.3878	5.5918	2.7959	8.3878
C02	11.4694	2.8673	2.8673	5.7347	8.6020
CO3	11.2653	8.4490	5.6327	2.8163	2.8163
CO4	8.4698	2.8233	2.8233	2.8233	2.8233
CO5	8.4698	11.2931	8.4698	8.4698	2.8233
FINAL ATTAINMENT	2.8291	2.8184	2.8205	2.8300	2.8281

SEMESTER- 6

PAPER-9: Graph Theory

COURSE OUTCOME WEIGHTED AVERAGE: 2.9584

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Understand the fundamental concepts of graphs, including simple graphs, graph isomorphism, and various types of matrices and subgraphs	Level-2 (Understand), Level-3 (Application)	2.5	2.9702
CO2	Apply graph theory to solve practical problems like the shortest path problem and understand the properties and applications of trees	Level-1 (Knowledge/Remember), Level-3 (Application), Level-4 (Analyze), Level-5 (Evaluation)	3.25	2.9613
CO3	Utilize trees in solving problems such as the connector problem and understand concepts of connectivity, blocks, and network reliability	Level-1 (Knowledge/Remember), Level-3 (Application), Level-5 (Evaluation), Level-6 (Create)	3.75	2.9554
CO4	Analyze Euler tours, Hamilton cycles, and their properties in various graphs, including the dodecahedron and Petersen graphs	Level-2 (Understand), Level-4 (Analyze)	3	2.9643
CO5	Implement algorithms and solve real-world problems involving Eulerian graphs, such as the Chinese postman problem and the travelling salesman problem	Level-2 (Understand), Level-3 (Application)	2.5	2.9702

CO- PO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	2	2	4	4	2	2	4	4
C02	1	2	2	2	3	1	4	4	2
CO3	2	3	4	3	3	1	4	1	4
CO4	4	2	2	3	4	3	4	2	2
CO5	3	3	3	2	2	3	2	3	1
TOTAL	12	12	13	14	16	10	16	14	13

CO- PSO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	4	3	4	3	3
C02	1	3	2	4	1
CO3	1	2	1	3	4
CO4	4	2	4	1	3
CO5	3	1	1	4	2
TOTAL	13	11	12	15	13

PROGRAM OUTCOMES ATTAINMENT

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9

CO1	5.9405	5.9405	5.9405	11.8810	11.8810	5.9405	5.9405	11.8810	11.8810
C02	2.9613	5.9226	5.9226	5.9226	8.8839	2.9613	11.8452	11.8452	5.9226
CO3	5.9107	8.8661	11.8214	8.8661	8.8661	2.9554	11.8214	2.9554	11.8214
CO4	11.8571	5.9286	5.9286	8.8929	11.8571	8.8929	11.8571	5.9286	5.9286
CO5	8.9107	8.9107	8.9107	5.9405	5.9405	8.9107	5.9405	8.9107	2.9702
FINAL ATTAINMENT	2.9650	2.9640	2.9634	2.9645	2.9643	2.9661	2.9628	2.9658	2.9634

PROGRAM SPECIFIC OUTCOMES ATTAINMENT

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	11.8810	8.9107	11.8810	8.9107	8.9107
C02	2.9613	8.8839	5.9226	11.8452	2.9613
CO3	2.9554	5.9107	2.9554	8.8661	11.8214
CO4	11.8571	5.9286	11.8571	2.9643	8.8929
CO5	8.9107	2.9702	2.9702	11.8810	5.9405
FINAL ATTAINMENT	2.9666	2.9640	2.9655	2.9645	2.9636

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DEPARTMENT OF TELUGU

CO & PO ATTAINMENT

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(AUTONOMOUS)

DEPARTMENT OF TELUGU

CO & PO ATTAINMENT

2018 – 2019

CO – PO ATTAINMENT METHODOLOGY

- Step 1

Calculation of Course Outcome Weighted Average (COWA)

The performance of the students assessed by two methods

(a) Direct Assessment: The weightage for internal exams is 30% and for semester end exams is 60%

(b) Indirect assessment: 5% weightage for exit survey and 5% for extracurricular activities

The performance of the student is categorised in four levels

S,No	Percentage obtained by the student in DA and IDA	Level weightage
1	Less than 35%	0
2	Between 35% and 50%	1
3	Between 51% and 70%	2
4	Above 70%	3

The average level of all students for a particular course is found. It is called as course outcome weighted average (COWA).

$$\mathbf{COWA} = \frac{\boldsymbol{some\ of\ the\ level\ weitage\ of\ all\ students\ of\ a\ course}}{\boldsymbol{total\ number\ of\ students}}$$

- Step 2:

Calculation of Course outcome level index (COLLI):

To Map the course outcomes (COs) of a course with Blooms levels (1 to 6) by using action verbs used in CO' s. A course outcome may be mapped to multiple Blooms levels; hence we need to calculate the average Blooms level weightage (ABLW).

$$\mathbf{COLLI} = \frac{\boldsymbol{Sum\ of\ the\ weigtages\ of\ \ blooms\ levels\ mapped}}{\boldsymbol{number\ of\ levels\ mapped}}$$

- Step 3:

CO-PO mapping and CO-PSO mapping

Map each course outcome with POs and PSOs in levels 0,1,2,3. A CO may be mapped to multiple POs or PSOs with different levels 1,2,3. The weighted average of each PO is to be calculated.

- Step 4:

Calculation of CO attainment:

The formula for Course Outcome Attainment (CO Attainment) can be calculated by using below formula

$$\mathbf{CO\ attainment} = \mathbf{COWA} + \left\{(\mathbf{3} - \boldsymbol{COWA}) \times \left(\mathbf{1} - \frac{\boldsymbol{COLLI}}{\mathbf{3.5}}\right)\right\}$$

(Blooms Level Weighted Average value $= 3.5$)

- Step 5:

Calculation of PO attainment:

The formula for Programme Outcome Attainment (PO Attainment) can be calculated by using below formula

$$\mathbf{PO\ Attainment} = \frac{\boldsymbol{\Sigma(CO\ attainment)(PO\ level\ mapped\ with\ CO)}}{\boldsymbol{Sum\ of\ the\ PO\ levels\ mapped\ with\ CO}}$$

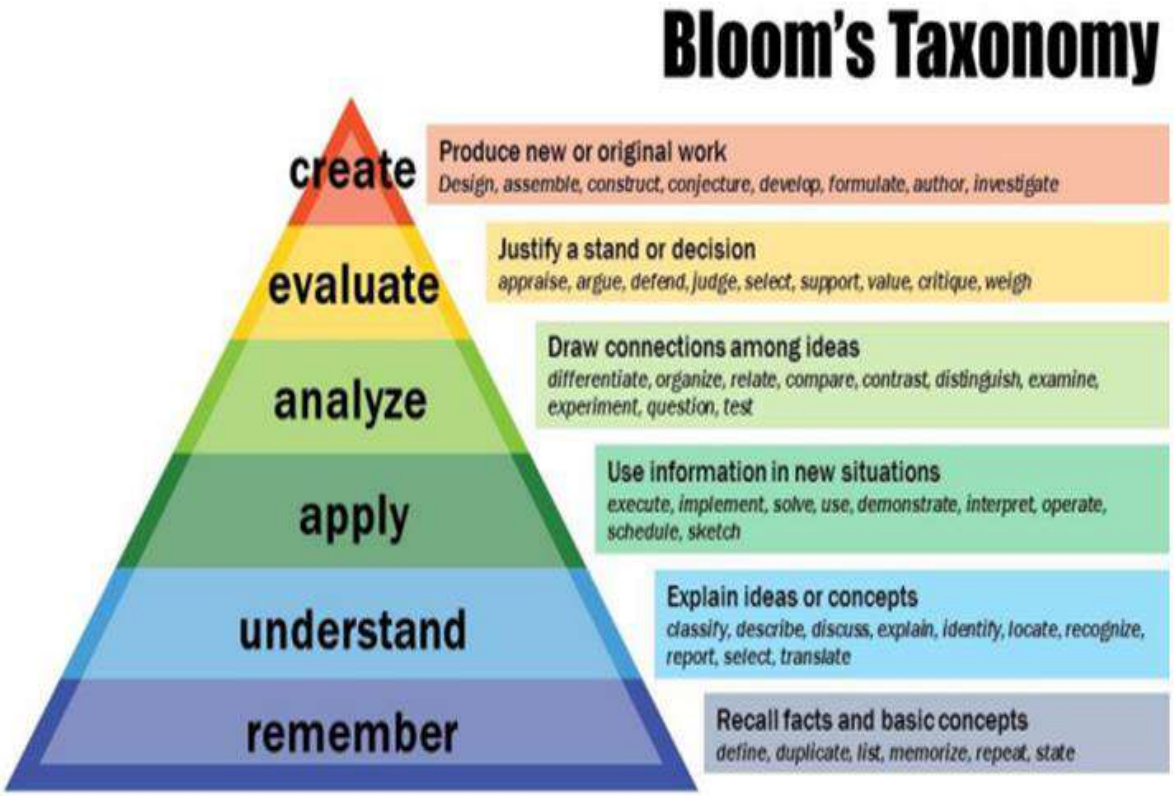
PSO attainment:

The formula for Programme Specific Outcome Attainment (PSO Attainment) can be calculated by using below formula

$$\mathbf{PSO\ Attainment} = \frac{\boldsymbol{\Sigma(CO\ attainment)(PSO\ level\ mapped\ with\ CO)}}{\boldsymbol{Sum\ of\ the\ PSO\ levels\ mapped\ with\ CO}}$$

Levels of Bloom's Taxonomoy

Level-1	Knowlede/Remember
Level-2	Understand
Level-3	Application
Level-4	Analyze
Level-5	Evaluation
Level-6	Create



PROGRAMME OUTCOMES

POs	Programme Outcomes
PO1	Critical Thinking: Ability to take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid,and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
PO2	Effective Communication: Ability to speak, read, write, and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media, and technology
PO3	Social Interaction: Ability to elicit views of others, mediate disagreements and help reach conclusions in group settings.
PO4	Effective Citizenship: Ability to demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.
PO5	Ethics: Ability to recognize different value systems including our own, understand the moral dimensions of your decisions, and accept responsibility for them.
PO6	Environment and Sustainability: Ability to understand the issues of environmental contexts and sustainable Development.
PO7	Employability skills: Equipping graduates with the essential abilities and knowledge to excel in their choosen careers.
PO8	Entrepreneurship skills: Seeks to empower students with the competencies needed to be successful entrepreneurs, enabling them to launch, operate, and innovate in their own businesses or entrepreneurial ventures.
PO9	Self-directed and Life-long Learning: Acquire the ability to engage in independent and life-long learning in the broadest

PROGRAMME SPECIFIC OUTCOMES:

PSOs	Program Specific Outcomes (PSOs)
PSO1	Learn basic concepts, principles, and theories in Telugu.
PSO2	Analyzes contemporary issues with background of Telugu.
PSO3	Acquire employability and research skills in the field of Telugu Language Literature.
PSO4	Gain knowledge to understand the society around.
PSO5	Learn soft and life skills for effective communication and personality development.

SEMESTER- 1

PAPER-1: GENERAL TELUGU

COURSE OUTCOME WEIGHTED AVERAGE: 2.5401

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Learn about the Languages and importance of Telugu Literature.	L1(REMEMBER)	1	2.8686
CO2	Understand the Emergence of Culture and moral values and Ethics.	L2(UNDERTSAND)& L5(EVALUATE)	3.5	2.5401
CO3	Know the psychological aspects of social behavior	L3(APPLICATION)& L4(ANALYZE)	3.5	2.5401
CO4	Comprehend the Literature	L4(ANALYZE)& L5(EVALUATE)	4.5	2.4087
CO5	Knowledge on writing skills, research Skills and Translation Skills	L4(ANALYZE)& L6(CREATE)	5	2.3430

CO- PO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	1	1	0	0	1	0	1	1	2
C02	2	2	1	0	2	0	1	1	1
CO3	1	2	1	1	2	0	2	1	1
CO4	2	1	1	1	1	3	1	1	1
CO5	2	1	1	2	1	2	2	1	1
TOTAL	8	7	4	4	7	5	7	5	6

CO- PSO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	2	3	1	0
C02	3	3	2	1	0
CO3	3	2	2	1	1
CO4	3	3	1	1	1
CO5	0	0	2	3	2
TOTAL	11	10	10	7	4

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	2.8686	2.8686	0.0000	0.0000	2.8686	0.0000	2.8686	2.8686	5.7372
CO2	5.0802	5.0802	2.5401	0.0000	5.0802	0.0000	2.5401	2.5401	2.5401
CO3	2.5401	5.0802	2.5401	2.5401	5.0802	0.0000	5.0802	2.5401	2.5401
CO4	4.8174	2.4087	2.4087	2.4087	2.4087	7.2261	2.4087	2.4087	2.4087
CO 5	4.6860	2.3430	2.3430	4.6860	2.3430	4.6860	4.6860	2.3430	2.3430
FINAL ATTAINMENT	**2.4990**	**2.5401**	**2.4580**	**2.4087**	**2.5401**	**2.3824**	**2.5119**	**2.5401**	**2.5949**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	5.7372	5.7372	8.6058	2.8686	0.0000
CO2	7.6203	7.6203	5.0802	2.5401	0.0000
CO3	7.6203	5.0802	5.0802	2.5401	2.5401
CO4	7.2261	7.2261	2.4087	2.4087	2.4087
CO 5	0.0000	0.0000	4.6860	7.0290	4.6860
FINAL ATTAINMENT	**2.5640**	**2.5664**	**2.5861**	**2.4838**	**2.4087**

SEMESTER- 2

PAPER-1: GENERAL TELUGU

COURSE OUTCOME WEIGHTED AVERAGE: 2.4329

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Learn about the Languages and importance of Telugu Literature.	L1(REMEMBER)	1	2.8380
CO2	Understand the Emergence of Culture and moral values and Ethics.	L2(UNDERTSAND)& L5(EVALUATE)	3.5	2.4330
CO3	Know the psychological aspects of social behavior	L3(APPLICATION)& L4(ANALYZE)	3.5	2.4330
CO4	Comprehend the Literature	L4(ANALYZE)& L5(EVALUATE)	4.5	2.2710
CO5	Knowledge on writing skills, research Skills and Translation Skills	L4(ANALYZE)& L6(CREATE)	5	2.1899

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	5.6760	8.5140	2.8380	0.0000	8.5140	2.8380	0.0000	0.0000	2.8380
CO2	7.2989	7.2989	4.8659	4.8659	7.2989	7.2989	2.4330	2.4330	4.8659
CO3	4.8659	4.8659	7.2989	4.8659	4.8659	4.8659	7.2989	4.8659	4.8659
CO4	4.5419	4.5419	6.8129	4.5419	4.5419	4.5419	4.5419	2.2710	4.5419
CO 5	4.3799	2.1899	2.1899	4.3799	2.1899	4.3799	4.3799	2.1899	2.1899
FINAL ATTAINMENT	**2.4330**	**2.4919**	**2.4006**	**2.3317**	**2.4919**	**2.3925**	**2.3317**	**2.3520**	**2.4127**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	5.6760	8.5140	8.5140	5.6760	5.6760
CO2	7.2989	4.8659	7.2989	2.4330	7.2989
CO3	7.2989	4.8659	4.8659	7.2989	7.2989
CO4	6.8129	6.8129	4.5419	2.2710	6.8129
CO 5	0.0000	0.0000	4.3799	6.5698	4.3799
FINAL ATTAINMENT	**2.4624**	**2.5059**	**2.4667**	**2.4249**	**2.4205**

CO- PO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	3	1	0	3	1	0	0	1
C02	3	3	2	2	3	3	1	1	2
CO3	2	2	3	2	2	2	3	2	2
CO4	2	2	3	2	2	2	2	1	2
CO5	2	1	1	2	1	2	2	1	1
TOTAL	11	11	10	8	11	10	8	5	8

CO- PSO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	3	3	2	2
C02	3	2	3	1	3
CO3	3	2	2	3	3
CO4	3	3	2	1	3
CO5	0	0	2	3	2
TOTAL	11	10	12	10	13

SEMESTER- 3

PAPER-1: GENERAL TELUGU

COURSE OUTCOME WEIGHTED AVERAGE: 2.5203

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Learn about the Languages and importance of Telugu Literature.	L1(REMEMBER)	1	2.8630
CO2	Understand the Emergence of Culture and moral values and Ethics.	L2(UNDERTSAND)& L5(EVALUATE)	3.5	2.5203
CO3	Know the psychological aspects of social behavior	L3(APPLICATION)& L4(ANALYZE)	3.5	2.5203
CO4	Comprehend the Literature	L4(ANALYZE)& L5(EVALUATE)	4.5	2.3833
CO5	Knowledge on writing skills, research Skills and Translation Skills	L4(ANALYZE)& L6(CREATE)	5	2.3148

CO- PO MAPPING 1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	2	1	2	1	0	1	1	2
C02	1	1	1	2	2	0	0	0	1
CO3	2	3	3	2	2	2	1	1	2
CO4	2	3	2	0	0	2	1	1	1
CO5	2	1	1	2	1	2	2	1	1
TOTAL	9	10	8	8	6	6	5	4	7

CO- PSO MAPPING 1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	2	3	2	2
C02	3	3	3	1	2
CO3	3	2	2	2	2
CO4	0	1	2	2	2
CO5	0	0	2	3	2
TOTAL	8	8	12	10	10

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	5.7259	5.7259	2.8630	5.7259	2.8630	0.0000	2.8630	2.8630	5.7259
CO2	2.5203	2.5203	2.5203	5.0407	5.0407	0.0000	0.0000	0.0000	2.5203
CO3	5.0407	7.5610	7.5610	5.0407	5.0407	5.0407	2.5203	2.5203	5.0407
CO4	4.7666	7.1498	4.7666	0.0000	0.0000	4.7666	2.3833	2.3833	2.3833
CO 5	4.6295	2.3148	2.3148	4.6295	2.3148	4.6295	4.6295	2.3148	2.3148
FINAL ATTAINMENT	**2.5203**	**2.5272**	**2.5032**	**2.5546**	**2.5432**	**2.4061**	**2.4792**	**2.5203**	**2.5693**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	5.7259	5.7259	8.5889	5.7259	5.7259
CO2	7.5610	7.5610	7.5610	2.5203	5.0407
CO3	7.5610	5.0407	5.0407	5.0407	5.0407
CO4	0.0000	2.3833	4.7666	4.7666	4.7666
CO 5	0.0000	0.0000	4.6295	6.9443	4.6295
FINAL ATTAINMENT	**2.6060**	**2.5889**	**2.5489**	**2.4998**	**2.5203**

SEMESTER- 4

PAPER-1: GENERAL TELUGU

COURSE OUTCOME WEIGHTED AVERAGE: 2.4214

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Learn about the Languages and importance of Telugu Literature.	L1(REMEMBER)	1	2.8347
CO2	Understand the Emergence of Culture and moral values and Ethics.	L2(UNDERTSAND)& L5(EVALUATE)	3.5	2.4214
CO3	Know the psychological aspects of social behavior	L3(APPLICATION)& L4(ANALYZE)	3.5	2.4214
CO4	Comprehend the Literature	L4(ANALYZE)& L5(EVALUATE)	4.5	2.2561
CO5	Knowledge on writing skills, research Skills and Translation Skills	L4(ANALYZE)& L6(CREATE)	5	2.1735

CO- PO MAPPING 1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	2	2	3	3	1	1	1	2
C02	2	2	2	2	3	2	1	2	2
CO3	2	3	3	2	2	1	2	2	2
CO4	2	3	2	2	3	2	2	2	2
CO5	2	1	1	2	1	2	2	1	1
TOTAL	10	11	10	11	12	8	8	8	9

CO- PSO MAPPING 1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	2	2	2	2
C02	3	2	1	1	2
CO3	2	2	2	2	1
CO4	2	2	2	2	2
CO5	0	0	2	3	2
TOTAL	9	8	9	10	9

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	5.6694	5.6694	5.6694	8.5041	8.5041	2.8347	2.8347	2.8347	5.6694
CO2	4.8428	4.8428	4.8428	4.8428	7.2643	4.8428	2.4214	4.8428	4.8428
CO3	4.8428	7.2643	7.2643	4.8428	4.8428	2.4214	4.8428	4.8428	4.8428
CO4	4.5122	6.7684	4.5122	4.5122	6.7684	4.5122	4.5122	4.5122	4.5122
CO 5	4.3469	2.1735	2.1735	4.3469	2.1735	4.3469	4.3469	2.1735	2.1735
FINAL ATTAINMENT	**2.4214**	**2.4289**	**2.4462**	**2.4590**	**2.4628**	**2.3698**	**2.3698**	**2.4008**	**2.4490**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	5.6694	5.6694	5.6694	5.6694	5.6694
CO2	7.2643	4.8428	2.4214	2.4214	4.8428
CO3	4.8428	4.8428	4.8428	4.8428	2.4214
CO4	4.5122	4.5122	4.5122	4.5122	4.5122
CO 5	0.0000	0.0000	4.3469	6.5204	4.3469
FINAL ATTAINMENT	**2.4765**	**2.4834**	**2.4214**	**2.3966**	**2.4214**

DR. V. S. KRISHNA GOVT. DEGREE COLLEGE (A)

VISAKHAPATNAM

DEPARTMENT OF INDUSTRIAL CHEMISTRY

CO & PO ATTAINMENT

2018 – 2019

CO – PO ATTAINMENT METHODOLOGY

- Step 1

Calculation of Course Outcome Weighted Average (COWA)

The performance of the students assessed by two methods

(a) Direct Assessment: The weightage for internal exams is 30% and for semester end exams is 60%
(b) Indirect assessment: 5% weightage for exit survey and 5% for extracurricular activities

The performance of the student is categorised in four levels

S,No	Percentage obtained by the student in DA and IDA	Level weightage
1	Less than 35%	0
2	Between 35% and 50%	1
3	Between 51% and 70%	2
4	Above 70%	3

The average level of all students for a particular course is found. It is called as course outcome weighted average (COWA).

$$\mathbf{COWA} = \frac{\boldsymbol{some\ of\ the\ level\ weitage\ of\ all\ students\ of\ a\ course}}{\boldsymbol{total\ number\ of\ students}}$$

- Step 2:

Calculation of Course outcome level index (COLLI):

To Map the course outcomes (COs) of a course with Blooms levels (1 to 6) by using action verbs used in CO' s. A course outcome may be mapped to multiple Blooms levels; hence we need to calculate the average Blooms level weightage (ABLW).

$$\mathbf{COLLI} = \frac{\boldsymbol{Sum\ of\ the\ weigtages\ of\ \ blooms\ levels\ mapped}}{\boldsymbol{number\ of\ levels\ mapped}}$$

- Step 3:

CO-PO mapping and CO-PSO mapping

Map each course outcome with POs and PSOs in levels 0,1,2,3. A CO may be mapped to multiple POs or PSOs with different levels 1,2,3. The weighted average of each PO is to be calculated.

- Step 4:

Calculation of CO attainment:

The formula for Course Outcome Attainment (CO Attainment) can be calculated by using below formula

$$\textbf{CO attainment} = \textbf{COWA} + \left\{(\mathbf{3} - \boldsymbol{COWA}) \times \left(\mathbf{1} - \frac{\boldsymbol{COLLI}}{\mathbf{3.5}}\right)\right\}$$

(Blooms Level Weighted Average value $= 3.5$)

- Step 5:

Calculation of PO attainment:

The formula for Programme Outcome Attainment (PO Attainment) can be calculated by using below formula

$$\textbf{PO Attainment} = \frac{\boldsymbol{\Sigma(CO\ attainment)(PO\ level\ mapped\ with\ CO)}}{\boldsymbol{Sum\ of\ the\ PO\ levels\ mapped\ with\ CO}}$$

PSO attainment:

The formula for Programme Specific Outcome Attainment (PSO Attainment) can be calculated by using below formula

$$\textbf{PSO Attainment} = \frac{\boldsymbol{\Sigma(CO\ attainment)(PSO\ level\ mapped\ with\ CO)}}{\boldsymbol{Sum\ of\ the\ PSO\ levels\ mapped\ with\ CO}}$$

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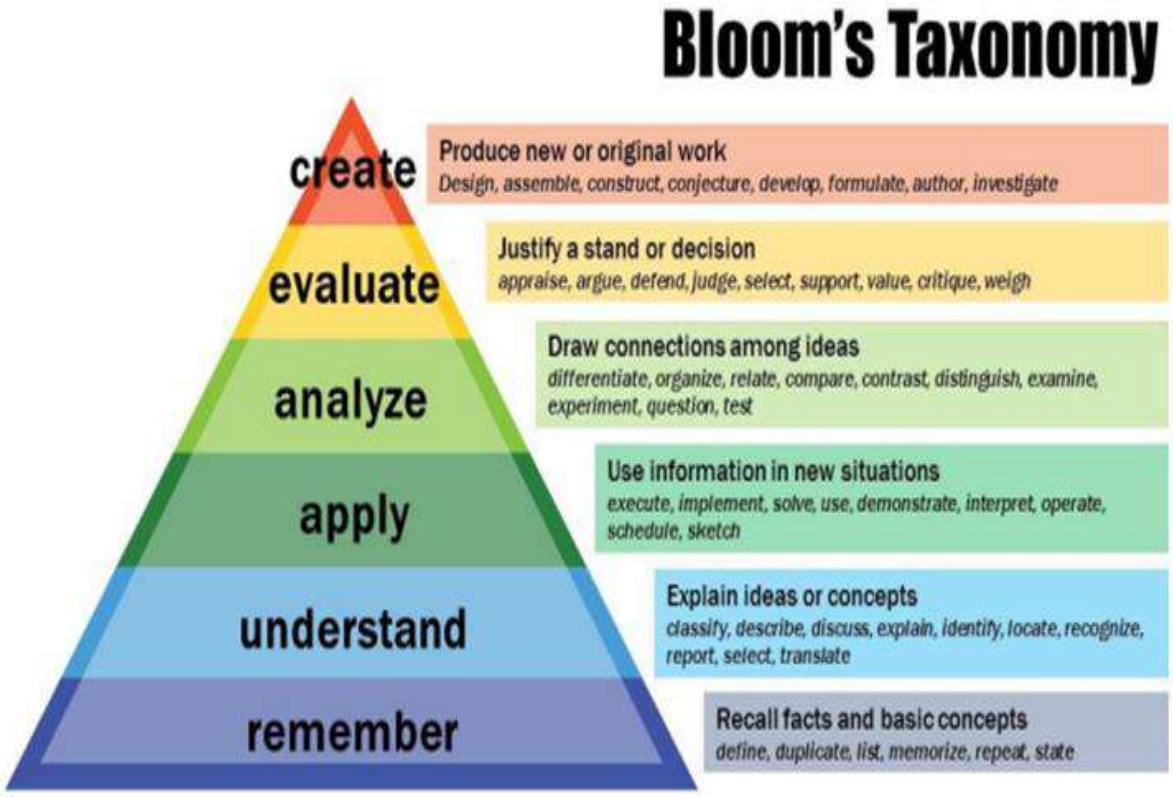
Levels of Bloom's Taxonomoy

Level-1	Knowlede/Remember
Level-2	Understand
Level-3	Application
Level-4	Analyze
Level-5	Evaluation
Level-6	Create



POs	Programme Outcomes
PO1	Critical Thinking: Ability to take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid,and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
PO2	Effective Communication: Ability to speak, read, write, and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media, and technology
PO3	Social Interaction: Ability to elicit views of others, mediate disagreements and help reach conclusions in group settings.
PO4	Effective Citizenship: Ability to demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.
PO5	Ethics: Ability to recognize different value systems including our own, understand the moral dimensions of your decisions, and accept responsibility for them.
PO6	Environment and Sustainability: Ability to understand the issues of environmental contexts and sustainable Development.
PO7	Employability skills: Equipping graduates with the essential abilities and knowledge to excel in their choosen careers.
PO8	Entrepreneurship skills: Seeks to empower students with the competencies needed to be successful entrepreneurs, enabling them to launch, operate, and innovate in their own businesses or entrepreneurial ventures.
PO9	Self-directed and Life-long Learning: Acquire the ability to engage in independent and life-long learning in the broadest

Program Specific Outcomes (PSOs)

PSOs	Program Specific Outcomes (PSOs)
PSO1	Demonstrate, solve and an understanding of major concepts in all disciplines of industrial chemistry
PSO2	Enhance the students ability to create the industrial perception.
PSO3	Develop research oriented skills
PSO4	To create awareness to the students regarding pollution and environment.
PSO5	To demonstrate the experimental setup for future goal of Industry.

SEMESTER- 1

COURSE I: Material and energy balances and utilities in chemical industry

COURSE OUTCOME WEIGHTED AVERAGE: 2.6247

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Analyze the distinction between Atomic weight, Molecular weight and Equivalent Weight	Level 1,Level 4	2.5	2.7319
CO2	Apply the flow diagrams for chemical engineering operations	Level 3, Level 6	4.5	2.5175
CO3	Define and evaluate heat capacities of gases and gaseous mixtures and enthalpy changes	Level 1, Level 5	3.0	2.6783
CO4	To explain the utilities in chemical industry: boiler, water, stream and air	Level 2, Level 4	3.0	2.6783
CO5	To understand the concept of fluid flow and types of pumps	Level 1, Level 3	2.0	2.7855

CO- PO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	3	1	3	2	2	2	3	3
CO2	2	2	1	2	2	2	3	2	3
CO3	2	2	1	3	3	3	2	2	3
CO4	3	2	2	2	3	2	3	3	2
CO5	3	3	2	2	2	3	2	3	2
TOTAL	12	12	7	12	12	12	12	13	13

CO- PSO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	2	1	1	2
CO2	3	2	3	2	2
CO3	3	2	2	1	2
CO4	3	3	2	2	2
CO5	2	3	2	1	2
TOTAL	14	12	10	7	10

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	5.4639	8.1959	2.7319	8.1959	5.4639	5.4639	5.4639	8.1959	8.1959
CO2	5.0351	5.0351	2.5175	5.0351	5.0351	5.0351	7.5526	5.0351	7.552653
CO3	5.3567	5.3567	2.6783	8.0351	8.0351	8.0351	5.3567	5.3567	8.0351
CO4	8.0351	5.3567	5.3567	5.3567	8.0351	5.3567	8.0351	8.0351	5.3567
CO 5	8.3567	8.3567	5.5711	5.5711	5.5711	8.3567	5.5711	8.3567	5.5711
FINAL ATTAINMENT	**2.6873**	**2.6917**	**2.6936**	**2.6828**	**2.6783**	**2.6873**	**2.6649**	**2.6907**	**2.6701**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	8.1959	5.4639	2.7319	2.7319	5.4639
CO2	7.5526	5.0351	7.5526	5.0351	5.0351
CO3	8.0351	5.3567	5.3567	2.6783	5.3567
CO4	8.0351	8.0351	5.3567	5.3567	5.3567
CO 5	5.5711	8.3567	5.5711	2.7855	5.5711
FINAL ATTAINMENT	**2.6707**	**2.6873**	**2.6569**	**2.6553**	**2.6783**

SEMESTER- II

Course II: Inorganic Materials

COURSE OUTCOME WEIGHTED AVERAGE: 2.3846

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels)	CO Learning Level Index	CO ATTAINMENT
CO 1	To understand and apply the manufacturing and physical properties of glass	Level 2,Level 3	2.5	2.5604
CO2	To understand classification of cement, and analyze ingredients and their applications	Level 2, Level 4	3.0	2.4725
CO3	Evaluate different types of fertilizers	Level 2, Level 5	3.5	2.3846
CO4	To understand and evaluate Classification of alloys	Level 1, Level 5	3.0	2.4725
CO5	To study the concept of manufacturing of paints, and create awareness on types and different types of pigments	Level 2, Level 6	4.0	2.2967

2.4474	2.4285	2.4474	2.4285	2.4373

CO- PO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	2	2	3	3	3	3	2	2
CO2	2	1	2	2	2	2	3	2	3
CO3	2	2	2	3	3	3	2	3	3
CO4	3	2	3	2	3	1	3	3	2
CO5	3	2	3	3	2	3	3	3	2
TOTAL	12	9	12	13	13	12	14	13	12

CO- PSO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	2	2	2
CO2	3	2	2	2	2
CO3	3	2	2	1	2
CO4	3	2	2	1	2
CO5	2	3	2	2	2
TOTAL	14	12	10	8	10

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	5.1208	5.1208	5.1208	7.6813	7.6813	7.6813	7.6813	5.1208	5.1208
CO2	4.9451	2.4725	4.9451	4.9451	4.9451	4.9451	7.4175	4.9451	7.4175
CO3	4.7692	4.7692	4.7692	7.1538	7.1538	7.1538	4.7692	7.1538	7.1538
CO4	7.4175	4.9451	7.4175	4.9451	7.4175	2.4725	7.4175	7.4175	4.9451
CO5	6.8901	4.5934	6.8901	6.8901	4.5934	6.8901	6.8901	6.8901	4.59341
FINAL ATTAINMENT	**2.4285**	**2.4334**	**2.4285**	**2.4319**	**2.4454**	**2.4285**	**2.4411**	**2.4251**	**2.4358**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	7.6813	7.6813	5.1208	5.1208	5.1208
CO2	7.4175	4.9451	4.9451	4.9451	4.9451
CO3	7.1538	4.7692	4.7692	2.3846	4.7692
CO4	7.4175	4.9451	4.9451	2.4725	4.9451
CO5	4.5934	6.8901	4.5934	4.5934	4.5934
FINAL ATTAINMENT	**2.4474**	**2.4358**	**2.4373**	**2.4393**	**2.4373**

Semester III

COURSE III: Cosmetics, fermentation, paints and pigments, sugar chemistry and industrial pollution

Course Outcome Weighted Average: 2.4762

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	To understand the classification and apply industrial preparation of cosmetics	Level 2,Level 3	2.5	2.6258
CO2	To explain the general principle of fermentation process, and analyze manufacturing of antibiotics and synthesis of vitamins	Level 1, Level 4	2.5	2.6258
CO3	To apply the concept of manufacturing of paints, and evaluate their types	Level 3, Level 5	4.0	2.4013
CO4	To understand and create awareness on the concept of industrial manufacturing of sugar	Level 2, Level 6	4.0	2.4013
CO5	To describe and analyze the concept of air pollution	Level 2, Level 4	3.0	2.5514

CO- PO MAPPING 1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	2	3	2	2	2	3	1	3
CO2	3	2	2	2	3	2	3	2	3
CO3	3	2	3	3	3	3	2	2	3
CO4	3	2	3	2	3	2	3	2	3
CO5	3	2	3	3	3	3	3	3	2
TOTAL	15	10	14	12	14	12	14	10	14

CO- PSO MAPPING 1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	2	3	2	2
CO2	3	2	3	2	2
CO3	3	2	3	2	2
CO4	3	3	3	3	2
CO5	2	3	2	3	2
TOTAL	14	12	14	12	10

PROGRAM OUTCOMES ATTAINMENT

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	7.6813	5.1208	7.6813	5.1208	5.1208	5.1208	7.6813	2.5601	7.6813
CO2	7.4175	4.9451	4.9451	4.9451	7.4175	4.9450	7.4175	4.9451	7.4175
CO3	7.1536	4.7691	7.1538	7.1536	7.1536	7.1536	4.7691	4.7691	7.1538
CO4	7.4175	4.9451	7.4175	4.9451	7.4175	4.9451	7.4175	4.9451	7.4175
CO5	6.8901	4.5934	6.8901	6.8901	6.8901	6.8901	6.8901	6.8901	4.5934
FINAL ATTAINMENT	**2.4373**	**2.4373**	**2.4348**	**2.4212**	**2.4285**	**2.4212**	**2.4411**	**2.4109**	**2.4474**

PROGRAM SPECIFIC OUTCOMES ATTAINMENT

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	7.6813	5.1208	7.6813	5.1208	5.1208
CO2	7.4175	4.9451	7.4175	4.9451	4.9451
CO3	7.1538	4.7692	7.1538	4.7692	4.7692
CO4	7.4175	7.4175	7.4175	7.4175	4.9451
CO5	4.5934	6.8901	4.5934	6.8901	4.5934
FINAL ATTAINMENT	**2.4474**	**2.4285**	**2.4474**	**2.4285**	**2.4373**

Semester IV

COURSE IV: Dyes, leather, paper, corrosion and industrial waste management

Course Outcome Weighted Average: 2.6118

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	To understand the classification and apply industrial preparation of Dyes	Level 2,Level 3	2.5	2.7227
CO2	To study the concept of leather and analyze its manufacturing process	Level 1, Level 4	2.5	2.6258
CO3	To study the manufacturing of pulp and paper and evaluate its use	Level 3, Level 5	4.0	2.5563
CO4	To explain various types of corrosion and create awareness on its prevention methods	Level 2, Level 6	4.0	2.5563
CO5	To describe and analyze the concept of solid waste management	Level 2, Level 4	3.0	2.6672

CO- PO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	2	3	2	2	2	3	1	3
CO2	3	2	2	2	3	2	3	2	3
CO3	3	2	3	3	3	3	2	2	3
CO4	3	2	3	2	3	2	3	2	3
CO5	3	2	3	3	3	3	3	3	2
TOTAL	15	10	14	12	14	12	14	10	14

CO- PSO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	2	2	2	1
CO2	3	2	2	1	2
CO3	3	2	2	1	2
CO4	3	2	2	2	2
CO5	2	3	2	1	2
TOTAL	14	11	10	7	9

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	7.6813	5.1208	7.6813	5.1208	5.1208	5.1208	7.6813	2.5604	7.6813
CO2	7.4175	4.9451	4.9451	4.9451	7.4175	4.9451	7.4175	4.9451	7.4175
CO3	7.1538	4.7692	7.1538	7.1538	7.1538	7.1538	4.7692	4.7692	7.1538
CO4	7.4175	4.9451	7.4175	4.9451	7.4175	4.9451	7.4175	4.9451	7.4175
CO5	6.8901	4.5934	6.8901	6.8901	6.8901	6.8901	6.89011	6.8901	4.5934
FINAL ATTAINMENT	**2.4373**	**2.4373**	**2.4348**	**2.4212**	**2.4285**	**2.4212**	**2.4411**	**2.4109**	**2.4474**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	7.6813	5.1208	5.1208	5.1208	2.5604
CO2	7.4175	4.9451	4.9451	2.4725	4.9451
CO3	7.1538	4.7692	4.7692	2.3846	4.7692
CO4	7.4175	4.9451	4.9451	4.9451	4.9451
CO5	4.5934	6.8901	4.5934	2.2967	4.5934
FINAL ATTAINMENT	**2.4474**	**2.4245**	**2.4373**	**2.4599**	**2.4236**

Semester V

COURSE V: Drugs and pharmaceuticals, polymers and food additives

Course Outcome Weighted Average: 2.9565

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	To understand and create awareness on the synthesis of antipyretic agents, antibacterial and antifungal drugs	Level 2,Level 6	4.0	2.9503
CO2	To study and apply the concept of polymerization and classification of polymers	Level 1, Level 3	2.0	2.9751
CO3	To comprehend and analyze the concept of polymeric materials and their physical properties	Level 2, Level 4	3.0	2.9627
CO4	To understand and create awareness on the concepts of electro analytical technique and thermo analytical technique	Level 2, Level 6	4.0	2.9503
CO5	To apply and evaluate the general concept of food additives	Level 3, Level 5	4.0	2.9503

CO- PO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	2	3	2	2	2	3	1	3
CO2	3	2	2	2	3	2	3	2	3
CO3	3	2	3	1	3	3	2	2	3
CO4	3	2	3	2	3	1	3	2	3
CO5	3	2	3	3	3	3	3	3	2
TOTAL	15	10	14	10	14	11	14	10	14

CO- PSO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	2	2	2	2
CO2	3	2	2	2	2
CO3	3	2	3	1	2
CO4	3	2	2	1	2
CO5	2	3	2	1	2
TOTAL	14	11	11	7	10

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	7.6813	5.1208	7.6813	5.1208	5.1208	5.1208	7.6813	2.5604	7.6813
CO2	7.4175	4.9451	4.9451	4.9451	7.4175	4.9451	7.4175	4.9451	7.4175
CO3	7.1538	4.7692	7.1538	2.3846	7.1538	7.1538	4.7692	4.7692	7.1538
CO4	7.4175	4.9451	7.4175	4.9451	7.4175	2.4725	7.4175	4.9451	7.4175
CO5	6.8901	4.5934	6.8901	6.8901	6.8901	6.89011	6.8901	6.8901	4.5934
FINAL ATTAINMENT	**2.4373**	**2.4373**	**2.4348**	**2.4285**	**2.4285**	**2.4165**	**2.4411**	**2.4109**	**2.4474**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	7.6813	5.1208	5.1208	5.1208	5.1208
CO2	7.4175	4.9451	4.9451	4.9451	4.9451
CO3	7.1538	4.7692	7.1538	2.3846	4.7692
CO4	7.4175	4.9451	4.9451	2.4725	4.9451
CO5	4.5934	6.8901	4.5934	2.2967	4.5934
FINAL ATTAINMENT	**2.4474**	**2.4245**	**2.4325**	**2.4599**	**2.4373**

Semester V

COURSE VI: Industrial chemical analysis and Instrumental methods of analysis

Course Outcome Weighted Average: 2.9772

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	To create awareness the concept of industrial chemical analysis with stastical calculations	Level 3,Level 6	4.5	2.9707
CO2	To study the principal and evaluate industrial applications of UV-Visible spectrophotometer, IR and NMR	Level 1, Level 5	3.0	2.9805
CO3	To understand the concept of instrumental methods and its applications in industry	Level 2, Level 4	3.0	2.9805
CO4	To understand the concept of quality control and evaluate its applications in industry	Level 2, Level 5	3.5	2.9772
CO5	To study the principle and application of spectrophotometer and atomic spectroscopy	Level 2, Level 4	3.0	2.9805

CO- PO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	2	3	2	2	2	3	1	3
CO2	3	2	2	2	3	2	3	2	3
CO3	3	2	3	3	3	3	2	2	3
CO4	3	2	3	2	3	2	3	2	3
CO5	3	2	3	3	3	3	3	3	2
TOTAL	15	10	14	12	14	12	14	10	14

CO- PSO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	1	1	2	1
CO2	3	3	3	2	2
CO3	3	2	3	2	2
CO4	3	3	3	0	3
CO5	2	3	2	2	2
TOTAL	14	12	12	8	10

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	7.6813	5.1208	7.6813	5.1208	5.1208	5.1208	7.6813	2.5604	7.6813
CO2	7.4175	4.9451	4.9451	4.9451	7.4175	4.9451	7.4175	4.9451	7.4175
CO3	7.1538	4.7692	7.1538	7.1538	7.1538	7.1538	4.7692	4.7692	7.1538
CO4	7.4175	4.9451	7.4175	4.9451	7.4175	4.9451	7.4175	4.9451	7.4175
CO5	6.8901	4.5934	6.8901	6.8901	6.8901	6.8901	6.8901	6.8901	4.5934
FINAL ATTAINMENT	**2.4373**	**2.4373**	**2.4348**	**2.4212**	**2.4285**	**2.4212**	**2.4411**	**2.4109**	**2.4474**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	7.6813	5.1208	7.6813	5.1208	5.1208
CO2	7.4175	4.9451	4.9451	4.9451	7.4175
CO3	7.1538	4.7692	7.1538	7.1538	7.1538
CO4	7.4175	4.9451	7.4175	4.9451	7.4175
CO5	6.8901	4.5934	6.8901	6.8901	6.8901
FINAL ATTAINMENT	**2.4373**	**2.4373**	**2.4348**	**2.4212**	**2.4285**

Semester VI

COURSE VII: Oils and fats, fuel chemistry, lubricants and adhesives

Course Outcome Weighted Average: 2.9772

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	To understand and analyze the concept of soap and detergents	Level 2, Level 4	3.0	2.9805
CO2	To explain and analyze classification of fuels and their calorific value	Level 3, Level 4	3.5	2.9772
CO3	To gain knowledge and create on reforming petroleum and non-petroleum fuels	Level 1, Level 6	3.5	2.9772
CO4	To attain knowledge and evaluate on lubricating materials and their classification	Level 2, Level 5	3.5	2.9772
CO5	To explain and analyze the concepts of adhesives and its limitations	Level 2, Level 4	3.0	2.9805

CO- PO MAPPING 1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	2	3	2	2	2	3	1	3
CO2	3	1	2	2	3	2	3	2	3
CO3	3	2	3	3	1	3	2	2	1
CO4	3	2	1	2	3	2	3	2	3
CO5	3	2	3	3	3	3	3	3	2
TOTAL	15	9	12	12	12	12	14	10	12

CO- PSO MAPPING 1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	1	1	2	1
CO2	3	3	3	2	2
CO3	3	2	3	2	2
CO4	3	3	3	-	3
CO5	2	3	2	2	2
TOTAL	14	12	12	8	10

PROGRAM OUTCOMES ATTAINMENT

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	7.6813	5.1208	7.6813	5.1208	5.1208	5.1208	7.6813	2.5604	7.6813
CO2	7.4175	2.4725	4.9451	4.9451	7.4175	4.9451	7.4175	4.9451	7.4175
CO3	7.1538	4.7692	7.1538	7.1538	2.3846	7.1538	4.7692	4.7692	2.3846
CO4	7.4175	4.9451	2.4725	4.9451	7.4175	4.9451	7.4175	4.9451	7.4175
CO5	6.8901	4.5934	6.8901	6.8901	6.8901	6.8901	6.8901	6.8901	4.5934
FINAL ATTAINMENT	**2.4373**	**2.4334**	**2.4285**	**2.4212**	**2.4358**	**2.4212**	**2.4411**	**2.4109**	**2.4578**

PROGRAM SPECIFIC OUTCOMES ATTAINMENT

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	7.6813	2.5604	2.5604	5.12087	2.5604
CO2	7.4175	7.4175	7.4175	4.94505	4.94505
CO3	7.1538	4.7692	7.1538	4.7692	4.7692
CO4	7.4175	7.4175	7.4175	0	7.4175
CO5	4.5934	6.8901	4.5934	4.5934	4.5934
FINAL ATTAINMENT	**2.4474**	**2.4212**	**2.4285**	**2.4285**	**2.4285**

Semester - VI

COURSE VIII-A-1: Chemical process economics, entrepreneurship and IPR

Course Outcome Weighted Average: 3.0

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	To understand and create awareness on marketing skills	Level 2,Level 6	4.0	3.0
CO2	To apply and evaluate the need and necessity of entrepreneurship and principles of products selection and developments	Level 3, Level 5	4.0	3.0
CO3	To understand and analyze the attain financial statements and funds flow analysis	Level 2, Level 4	3.0	2.5511
CO4	Apply and evaluate information on Licensing and registration and important provisions of Factory Act	Level 3, Level 5	4.0	2.4013
CO5	To analyze knowledge on industrial designs and patents	Level 1, Level 4	2.5	2.6258

CO- PO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	2	3	2	2	2	3	1	3
CO2	3	2	2	2	3	2	3	2	1
CO3	1	2	3	3	3	3	2	2	3
CO4	3	1	3	2	3	2	1	2	3
CO5	3	2	3	2	3	3	3	3	2
TOTAL	13	9	14	11	14	12	12	10	12

CO- PSO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	1	3	1	1	1
CO2	1	3	2	2	3
CO3	3	1	2	0	2
CO4	1	2	3	0	1
CO5	1	2	2	1	3
TOTAL	7	11	10	4	10

PROGRAM OUTCOMES ATTAINMENT

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	7.6813	5.1208	7.6813	5.1208	5.1208	5.1208	7.6813	2.5604	7.6813
CO2	7.4175	4.9451	4.9451	4.9451	7.4175	4.9451	7.4175	4.9451	2.4725
CO3	2.3846	4.7692	7.1538	7.1538	7.1538	7.1538	4.7692	4.7692	7.1538
CO4	7.4175	2.4725	7.4175	4.9451	7.4175	4.9451	2.4725	4.9451	7.4175
CO5	6.8901	4.5934	6.8901	4.5934	6.8901	6.8901	6.8901	6.8901	4.5934
FINAL ATTAINMENT	**2.4454**	**2.4334**	**2.4348**	**2.4325**	**2.4285**	**2.4212**	**2.4358**	**2.4109**	**2.4432**

PROGRAM SPECIFIC OUTCOMES ATTAINMENT

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2.5604	7.6813	2.5604	2.5604	2.5604
CO2	2.4725	7.4175	4.9451	4.9451	7.4175
CO3	7.1538	2.3846	4.7692	0	4.7692
CO4	2.4725	4.9451	7.4175	0	2.4725
CO5	2.2967	4.5934	4.5934	2.2967	6.8901
FINAL ATTAINMENT	**2.4222**	**2.4565**	**2.4285**	**2.4505**	**2.4109**

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DEPARTMENT OF HINDI

CO & PO ATTAINMENT

2018 – 2019

CO – PO ATTAINMENT METHODOLOGY

- Step 1

Calculation of Course Outcome Weighted Average (COWA)

The performance of the students assessed by two methods

(a) Direct Assessment: The weightage for internal exams is 30% and for semester end exams is 60%

(b) Indirect assessment: 5% weightage for exit survey and 5% for extracurricular activities

The performance of the student is categorised in four levels

S,No	Percentage obtained by the student in DA and IDA	Level weightage
1	Less than 35%	0
2	Between 35% and 50%	1
3	Between 51% and 70%	2
4	Above 70%	3

The average level of all students for a particular course is found. It is called as course outcome weighted average (COWA).

$$\mathbf{COWA} = \frac{\boldsymbol{some\ of\ the\ level\ weitage\ of\ all\ students\ of\ a\ course}}{\boldsymbol{total\ number\ of\ students}}$$

- Step 2:

Calculation of Course outcome level index (COLLI):

To Map the course outcomes (COs) of a course with Blooms levels (1 to 6) by using action verbs used in CO' s. A course outcome may be mapped to multiple Blooms levels; hence we need to calculate the average Blooms level weightage (ABLW).

$$\mathbf{COLLI} = \frac{\boldsymbol{Sum\ of\ the\ weigtages\ of\ \ blooms\ levels\ mapped}}{\boldsymbol{number\ of\ levels\ mapped}}$$

- Step 3:

CO-PO mapping and CO-PSO mapping

Map each course outcome with POs and PSOs in levels 0,1,2,3. A CO may be mapped to multiple POs or PSOs with different levels 1,2,3. The weighted average of each PO is to be calculated.

- Step 4:

Calculation of CO attainment:

The formula for Course Outcome Attainment (CO Attainment) can be calculated by using below formula

$$\mathbf{CO\ attainment} = \mathbf{COWA} + \left\{(\mathbf{3} - \boldsymbol{COWA}) \times \left(\mathbf{1} - \frac{\boldsymbol{COLLI}}{\mathbf{3.5}}\right)\right\}$$

(Blooms Level Weighted Average value = 3.5)

- Step 5:

Calculation of PO attainment:

The formula for Programme Outcome Attainment (PO Attainment) can be calculated by using below formula

$$\mathbf{PO\ Attainment} = \frac{\boldsymbol{\Sigma(CO\ attainment)(PO\ level\ mapped\ with\ CO)}}{\boldsymbol{Sum\ of\ the\ PO\ levels\ mapped\ with\ CO}}$$

PSO attainment:

The formula for Programme Specific Outcome Attainment (PSO Attainment) can be calculated by using below formula

$$\mathbf{PSO\ Attainment} = \frac{\boldsymbol{\Sigma(CO\ attainment)(PSO\ level\ mapped\ with\ CO)}}{\boldsymbol{Sum\ of\ the\ PSO\ levels\ mapped\ with\ CO}}$$

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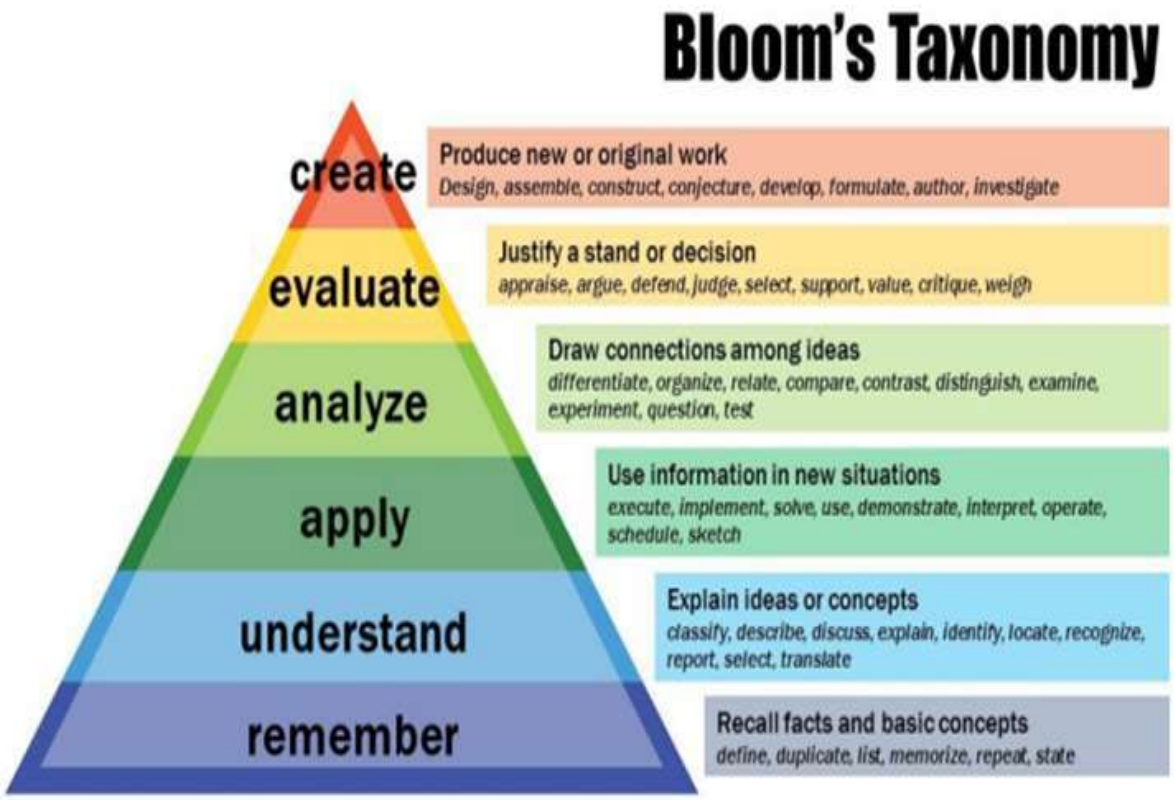
Levels of Bloom's Taxonomoy

Level-1	Knowlede/Remember
Level-2	Understand
Level-3	Application
Level-4	Analyze
Level-5	Evaluation
Level-6	Create



PROGRAMME OUTCOMES

POs	Programme Outcomes
PO1	Critical Thinking: Ability to take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid,and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
PO2	Effective Communication: Ability to speak, read, write, and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media, and technology
PO3	Social Interaction: Ability to elicit views of others, mediate disagreements and help reach conclusions in group settings.
PO4	Effective Citizenship: Ability to demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.
PO5	Ethics: Ability to recognize different value systems including our own, understand the moral dimensions of your decisions, and accept responsibility for them.
PO6	Environment and Sustainability: Ability to understand the issues of environmental contexts and sustainable Development.
PO7	Employability skills: Equipping graduates with the essential abilities and knowledge to excel in their choosen careers.
PO8	Entrepreneurship skills: Seeks to empower students with the competencies needed to be successful entrepreneurs, enabling them to launch, operate, and innovate in their own businesses or entrepreneurial ventures.
PO9	Self-directed and Life-long Learning: Acquire the ability to engage in independent and life-long learning in the broadest

PROGRAMME SPECIFIC OUTCOMES:

PSOs	Program Specific Outcomes (PSOs)
PSO1	A student should be able to recall basic facts about Hindi and should be able to display knowledge of conventions such as notations, terminology.
PSO2	A student should get adequate exposure to global and local concerns that explore them many aspects of Hindi language.
PSO3	Student is equipped with Hindi language ability, problem solving skills, relative talent and power of communication necessary for various kinds of employment.
PSO4	Student should be able to apply their skills and knowledge that is translate information resented verbally into Hindi language.
PSO5	Enabling students to develop a positive attitude towards Hindi as an interesting and valuable subject of study.

SEMESTER- 1

PAPER-1: GENERAL HINDI

COURSE OUTCOME WEIGHTED AVERAGE: 2.674267128

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Develop Hindi reading & linguistic comprehension of students	L1(REMEMBER)	1	2.9069
CO2	Inculcate moral and human values within Themselves	L2(UNDERTSAND)& L5(EVALUATE)	3.5	2.6743
CO3	Understand the types of Hindi Short Story Writing. Use their moral and social sense in life	L3(APPLICATION)& L4(ANALYZE)	3.5	2.6743
CO4	It gives knowledge of the word formation besides the knowledge in Hindi Grammar	L4(ANALYZE)& L5(EVALUATE)	4.5	2.5812
CO5	Knowledge on writing skills, research Skills and Translation Skills	L4(ANALYZE)& L6(CREATE)	5	2.5347

CO- PO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	1	1	0	0	1	0	1	1	2
C02	2	2	1	0	2	0	1	1	1
CO3	1	2	1	1	2	0	2	1	1
CO4	2	1	1	1	1	3	1	1	1
CO5	2	1	1	2	1	2	2	1	1
TOTAL	8	7	4	4	7	5	7	5	6

CO- PSO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	2	3	1	0
C02	3	3	2	1	0
CO3	3	2	2	1	1
CO4	3	3	1	1	1
CO5	0	0	2	3	2
TOTAL	11	10	10	7	4

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	2.9069	2.9069	0.0000	0.0000	2.9069	0.0000	2.9069	2.9069	5.8139
CO2	5.3485	5.3485	2.6743	0.0000	5.3485	0.0000	2.6743	2.6743	2.6743
CO3	2.6743	5.3485	2.6743	2.6743	5.3485	0.0000	5.3485	2.6743	2.6743
CO4	5.1624	2.5812	2.5812	2.5812	2.5812	7.7436	2.5812	2.5812	2.5812
CO 5	5.0693	2.5347	2.5347	5.0693	2.5347	5.0693	5.0693	2.5347	2.5347
FINAL ATTAINMENT	**2.6452**	**2.6743**	**2.6161**	**2.5812**	**2.6743**	**2.5626**	**2.6543**	**2.6743**	**2.7130**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	5.8139	5.8139	8.7208	2.9069	0.0000
CO2	8.0228	8.0228	5.3485	2.6743	0.0000
CO3	8.0228	5.3485	5.3485	2.6743	2.6743
CO4	7.7436	7.7436	2.5812	2.5812	2.5812
CO 5	0.0000	0.0000	5.0693	7.6040	5.0693
FINAL ATTAINMENT	**2.6912**	**2.6929**	**2.7068**	**2.6344**	**2.5812**

SEMESTER- 2

PAPER-1: GENERAL HINDI

COURSE OUTCOME WEIGHTED AVERAGE: 2.1906

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Develop Reading, Writing &Communication skills	L1(REMEMBER)	1	2.7688
CO2	Develop knowledge of Literary forms in Hindi Story.	L2(UNDERTSAND)& L5(EVALUATE)	3.5	2.1907
CO3	Develop the story reading skills.	L3(APPLICATION)& L4(ANALYZE)	3.5	2.1907
CO4	Know the importance of criticism. Develop knowledge of Hindi Linguistics &Grammar.	L4(ANALYZE)& L5(EVALUATE)	4.5	1.9594
CO5	Knowledge on writing skills, research Skills and Translation Skills	L4(ANALYZE)& L6(CREATE)	5	1.8438

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	5.5375	8.3063	2.7688	0.0000	8.3063	2.7688	0.0000	0.0000	2.7688
CO2	6.5720	6.5720	4.3813	4.3813	6.5720	6.5720	2.1907	2.1907	4.3813
CO3	4.3813	4.3813	6.5720	4.3813	4.3813	4.3813	6.5720	4.3813	4.3813
CO4	3.9188	3.9188	5.8782	3.9188	3.9188	3.9188	3.9188	1.9594	3.9188
CO 5	3.6876	1.8438	1.8438	3.6876	1.8438	3.6876	3.6876	1.8438	1.8438
FINAL ATTAINMENT	**2.1907**	**2.2747**	**2.1444**	**2.0461**	**2.2747**	**2.1328**	**2.0461**	**2.0750**	**2.1617**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	5.5375	8.3063	8.3063	5.5375	5.5375
CO2	6.5720	4.3813	6.5720	2.1907	6.5720
CO3	6.5720	4.3813	4.3813	6.5720	6.5720
CO4	5.8782	5.8782	3.9188	1.9594	5.8782
CO 5	0.0000	0.0000	3.6876	5.5314	3.6876
FINAL ATTAINMENT	**2.2327**	**2.2947**	**2.2388**	**2.1791**	**2.1729**

CO- PO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	3	1	0	3	1	0	0	1
C02	3	3	2	2	3	3	1	1	2
CO3	2	2	3	2	2	2	3	2	2
CO4	2	2	3	2	2	2	2	1	2
CO5	2	1	1	2	1	2	2	1	1
TOTAL	11	11	10	8	11	10	8	5	8

CO- PSO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	3	3	2	2
C02	3	2	3	1	3
CO3	3	2	2	3	3
CO4	3	3	2	1	3
CO5	0	0	2	3	2
TOTAL	11	10	12	10	13

SEMESTER- 3

PAPER-1: GENERAL HINDI

COURSE OUTCOME WEIGHTED AVERAGE: 2.2500

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Know the brief literature in Bhakti Sahitya. Use literature to develop their social and moral sense in life.	L1(REMEMBER)	1	2.7857
CO2	Get introduced to the General Essay. Gains research skills and improves critical-thinking skills.	L2(UNDERTSAND)& L5(EVALUATE)	3.5	2.2500
CO3	Identifying the eminent Hindi writers Describing the spirit of nationalism as well as nature consciousness in Makhan lal Chaturvedi's poem **चरण चले, ईमान अचल हो!**	L3(APPLICATION)& L4(ANALYZE)	3.5	2.2500
CO4	Learn values through literary works. Understanding the origin of Hindi language and its literature.	L4(ANALYZE)& L5(EVALUATE)	4.5	2.0357
CO5	Knowledge on writing skills, research Skills and Translation Skills	L4(ANALYZE)& L6(CREATE)	5	1.9286

CO- PO MAPPING 1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	2	1	2	1	0	1	1	2
C02	1	1	1	2	2	0	0	0	1
CO3	2	3	3	2	2	2	1	1	2
CO4	2	3	2	0	0	2	1	1	1
CO5	2	1	1	2	1	2	2	1	1
TOTAL	9	10	8	8	6	6	5	4	7

CO- PSO MAPPING 1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	2	3	2	2
C02	3	3	3	1	2
CO3	3	2	2	2	2
CO4	0	1	2	2	2
CO5	0	0	2	3	2
TOTAL	8	8	12	10	10

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	5.5714	5.5714	2.7857	5.5714	2.7857	0.0000	2.7857	2.7857	5.5714
CO2	2.2500	2.2500	2.2500	4.5000	4.5000	0.0000	0.0000	0.0000	2.2500
CO3	4.5000	6.7500	6.7500	4.5000	4.5000	4.5000	2.2500	2.2500	4.5000
CO4	4.0714	6.1071	4.0714	0.0000	0.0000	4.0714	2.0357	2.0357	2.0357
CO 5	3.8571	1.9286	1.9286	3.8571	1.9286	3.8571	3.8571	1.9286	1.9286
FINAL ATTAINMENT	**2.2500**	**2.2607**	**2.2232**	**2.3036**	**2.2857**	**2.0714**	**2.1857**	**2.2500**	**2.3265**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	5.5714	5.5714	8.3571	5.5714	5.5714
CO2	6.7500	6.7500	6.7500	2.2500	4.5000
CO3	6.7500	4.5000	4.5000	4.5000	4.5000
CO4	0.0000	2.0357	4.0714	4.0714	4.0714
CO 5	0.0000	0.0000	3.8571	5.7857	3.8571
FINAL ATTAINMENT	**2.3839**	**2.3571**	**2.2946**	**2.2179**	**2.2500**

SEMESTER- 4

PAPER-1: GENERAL HINDI

COURSE OUTCOME WEIGHTED AVERAGE: 2.8875

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Learn about the Languages and importance of Hindi Literature.	L1(REMEMBER)	1	2.9679
CO2	Understand the Emergence of Culture and moral values and Ethics.	L2(UNDERTSAND)& L5(EVALUATE)	3.5	2.8875
CO3	Know the psychological aspects of social behavior	L3(APPLICATION)& L4(ANALYZE)	3.5	2.8875
CO4	Comprehend the Literature	L4(ANALYZE)& L5(EVALUATE)	4.5	2.8554
CO5	Knowledge on writing skills, research Skills and Translation Skills	L4(ANALYZE)& L6(CREATE)	5	2.8393

CO- PO MAPPING 1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	2	2	3	3	1	1	1	2
C02	2	2	2	2	3	2	1	2	2
CO3	2	3	3	2	2	1	2	2	2
CO4	2	3	2	2	3	2	2	2	2
CO5	2	1	1	2	1	2	2	1	1
TOTAL	10	11	10	11	12	8	8	8	9

CO- PSO MAPPING 1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	2	2	2	2
C02	3	2	1	1	2
CO3	2	2	2	2	1
CO4	2	2	2	2	2
CO5	0	0	2	3	2
TOTAL	9	8	9	10	9

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	5.9357	5.9357	5.9357	8.9036	8.9036	2.9679	2.9679	2.9679	5.9357
CO2	5.7750	5.7750	5.7750	5.7750	8.6625	5.7750	2.8875	5.7750	5.7750
CO3	5.7750	8.6625	8.6625	5.7750	5.7750	2.8875	5.7750	5.7750	5.7750
CO4	5.7107	8.5661	5.7107	5.7107	8.5661	5.7107	5.7107	5.7107	5.7107
CO 5	5.6786	2.8393	2.8393	5.6786	2.8393	5.6786	5.6786	2.8393	2.8393
FINAL ATTAINMENT	**2.8875**	**2.8890**	**2.8923**	**2.8948**	**2.8955**	**2.8775**	**2.8775**	**2.8835**	**2.8929**

ATTAINMENT OF POs

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	5.9357	5.9357	5.9357	5.9357	5.9357
CO2	8.6625	5.7750	2.8875	2.8875	5.7750
CO3	5.7750	5.7750	5.7750	5.7750	2.8875
CO4	5.7107	5.7107	5.7107	5.7107	5.7107
CO 5	0.0000	0.0000	5.6786	8.5179	5.6786
FINAL ATTAINMENT	**2.8982**	**2.8996**	**2.8875**	**2.8827**	**2.8875**

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Department of Computer Science

CO – PO ATTAINMENT METHODOLOGY

- Step 1

Calculation of Course Outcome Weighted Average (COWA)

The performance of the students assessed by two methods

(a) Direct Assessment: The weightage for internal exams is 30% and for semester end exams is 60%
(b) Indirect assessment: 5% weightage for exit survey and 5% for extracurricular activities

The performance of the student is categorised in four levels

S,No	Percentage obtained by the student in DA and IDA	Level weightage
1	Less than 35%	0
2	Between 35% and 50%	1
3	Between 51% and 70%	2
4	Above 70%	3

The average level of all students for a particular course is found. It is called as course outcome weighted average (COWA).

$$\mathbf{COWA} = \frac{\boldsymbol{some\ of\ the\ level\ weitage\ of\ all\ students\ of\ a\ course}}{\boldsymbol{total\ number\ of\ students}}$$

- Step 2:

Calculation of Course outcome level index (COLLI):

To Map the course outcomes (COs) of a course with Blooms levels (1 to 6) by using action verbs used in CO' s. A course outcome may be mapped to multiple Blooms levels; hence we need to calculate the average Blooms level weightage (ABLW).

$$\mathbf{COLLI} = \frac{\boldsymbol{Sum\ of\ the\ weigtages\ of\ \ blooms\ levels\ mapped}}{\boldsymbol{number\ of\ levels\ mapped}}$$

- Step 3:

CO-PO mapping and CO-PSO mapping

Map each course outcome with POs and PSOs in levels 0,1,2,3. A CO may be mapped to multiple POs or PSOs with different levels 1,2,3. The weighted average of each PO is to be calculated.

- Step 4:

Calculation of CO attainment:

The formula for Course Outcome Attainment (CO Attainment) can be calculated by using below formula

$$\textbf{CO attainment} = \textbf{COWA} + \left\{(\mathbf{3} - \boldsymbol{COWA}) \times \left(\mathbf{1} - \frac{\boldsymbol{COLLI}}{\mathbf{3.5}}\right)\right\}$$

(Blooms Level Weighted Average value $= 3.5$)

- Step 5:

Calculation of PO attainment:

The formula for Programme Outcome Attainment (PO Attainment) can be calculated by using below formula

$$\textbf{PO Attainment} = \frac{\boldsymbol{\Sigma(CO\ attainment)(PO\ level\ mapped\ with\ CO)}}{\boldsymbol{Sum\ of\ the\ PO\ levels\ mapped\ with\ CO}}$$

PSO attainment:

The formula for Programme Specific Outcome Attainment (PSO Attainment) can be calculated by using below formula

$$\textbf{PSO Attainment} = \frac{\boldsymbol{\Sigma(CO\ attainment)(PSO\ level\ mapped\ with\ CO)}}{\boldsymbol{Sum\ of\ the\ PSO\ levels\ mapped\ with\ CO}}$$

Academic Year 2018-2019

Semester: I

Paper 1: Computer Fundamentals and Photoshop

CO- Bloom's Taxonomy Mapping

Course Objectives:

1. Learn to various generations of computers
2. Learn to various input and output devices.
3. Learn to Photoshop tool box.

COURSE OUTCOME WEIGHTED AVERAGE: 2.6769

Course Learning Outcomes: Upon successful completion of the course, a student will be able to:	**Knowledge level (Bloom's Taxonomy)**	**Average level weightage**	CO Attainment
CO 1: To explore basic knowledge on computers	Level 1 (Knowledge) Level 2 (Understand)	1.5	2.8615
CO 2: To acquire knowledge on working of I/O devices, memories	Level 1 (Knowledge) Level 2 (Understand)	1.5	2.8615
CO 3: To explore knowledge on Adobe Photoshop	Level 1 (Knowledge) Level 2 (Understand) Level 3 (Application)	2	2.8154
CO 4: To work with Adobe Photoshop tool box.	Level 1 (Knowledge) Level 2 (Understand) Level 3 (Application)	2	2.8154
CO 5: To create basic designs using Adobe Photoshop	Level 1 (knowledge) Level 2 (Understand) Level 3(Application) Level 6 (Create)	3	2.7231

Semester: I

Paper 1: Computer Fundamentals and Photoshop

CO – PO Mapping
1-Low, 2-Moderate, 3-High, 0- No Correlation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	2	1	1	1	2	3	2	2
CO2	3	2	0	0	1	2	3	3	3
CO3	3	2	0	0	1	1	3	3	3
CO4	3	2	0	0	1	1	2	2	2
CO5	3	2	0	0	1	1	3	2	3

CO – PSO Mapping
1-Low, 2-Moderate, 3-High, 0- No Correlation

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	1	2	2	1
CO2	3	3	2	3	3
CO3	3	2	1	2	2
CO4	2	2	2	3	3
CO5	3	2	2	2	3

Attainments of Program Outcomes

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	5.7231	5.7231	2.8615	2.8615	2.8615	5.7231	8.5846	5.7231	5.7231
CO2	8.5846	5.7231	0.0000	0.0000	2.8615	5.7231	8.5846	8.5846	8.5846
CO3	8.4461	5.6308	0.0000	0.0000	2.8154	2.8154	8.4461	8.4461	8.4461
CO4	8.4461	5.6308	0.0000	0.0000	2.8154	2.8154	5.6308	5.6308	5.6308
CO5	8.1692	5.4461	0.0000	0.0000	2.7231	2.7231	8.1692	5.4461	8.1692
FINAL PROGRAM ATTAINMENT	**2.8121**	**2.8154**	**2.8615**	**2.8615**	**2.8154**	**2.8286**	**2.8154**	**2.8192**	**2.8118**

Attainments of Program Specific Outcomes

	PSO1	**PSO2**	**PSO3**	**PSO4**	**PSO5**
CO1	5.7231	2.8615	5.7231	5.7231	2.8615
CO2	8.5846	8.5846	5.7231	8.5846	8.5846
CO3	8.4461	5.6308	2.8154	5.6308	5.6308
CO4	5.6308	5.6308	5.6308	8.4461	8.4461
CO5	8.1692	5.4461	5.4461	5.4461	8.1692
FINAL PROGRAM ATTAINMENT	**2.8118**	**2.8154**	**2.8154**	**2.8192**	**2.8077**

Semester: II
Paper 2: Programming in C
CO- Bloom's Taxonomy Mapping

Course Objectives:

1. Learn how to solve common types of computing problems.
2. Learn data types and control structures of C
3. Learn to map problems to programming features of C.
4. Learn to write good portable C programs

COURSE OUTCOME WEIGHTED AVERAGE: 2.5893

Course Learning Outcomes: **Upon successful completion of the course, a student will be able to:**	**Knowledge level (Bloom's Taxonomy)**	**Average level weightage**	CO Attainment
CO 1: Appreciate and understand the working of a digital computer	Level 1 (Knowledge) Level 2 (Understand)	1.5	2.8240
CO 2: Analyze a given problem and develop an algorithm to solve the problem	Level 2 (Understand) Level 3 (Application)	2.5	2.7067
CO 3: Improve upon a solution to a problem	Level 2 (Understand) Level 3 (Application)	2.5	2.7067
CO 4: Use the 'C' language constructs in the right way	Level 2 (Understand) Level 3 (Application) Level 6 (Create)	3.6	2.5777
CO 5: Design, develop and test programs written in 'C'	Level 1(knowledge) Level 2 (Understand)	1.5	2.8240

Semester: II

Paper 2: Programming in C

CO – PO Mapping
1-Low, 2-Moderate, 3-High, 0- No Correlation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	2	1	1	1	1	3	2	2
CO2	3	2	0	0	1	1	3	3	3
CO3	3	2	0	0	1	1	3	3	3
CO4	3	2	0	0	1	1	3	2	2
CO5	2	2	0	0	1	1	2	2	2

CO – PSO Mapping
1-Low, 2-Moderate, 3-High, 0- No Correlation

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	1	2	2	1
CO2	3	3	2	3	3
CO3	3	2	2	3	2
CO4	3	2	2	2	2
CO5	2	2	2	2	2

Attainments of Program Outcomes

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	5.6480	5.6480	2.8240	2.8240	2.8240	2.8240	8.4721	5.6480	5.6480
CO2	8.1201	5.4134	0.0000	0.0000	2.7067	2.7067	8.1201	8.1201	8.1201
CO3	8.1201	5.4134	0.0000	0.0000	2.7067	2.7067	8.1201	8.1201	8.1201
CO4	7.7330	5.1553	0.0000	0.0000	2.5777	2.5777	7.7330	5.1553	5.1553
CO5	5.6480	5.6480	0.0000	0.0000	2.8240	2.8240	5.6480	5.6480	5.6480
FINAL PROGRAM ATTAINMENT	**2.7130**	**2.7278**	**2.8240**	**2.8240**	**2.7278**	**2.7278**	**2.7209**	**2.7243**	**2.7243**

Attainments of Program Specific Outcomes

	PSO1	**PSO2**	**PSO3**	**PSO4**	**PSO5**
CO1	5.6480	2.8240	5.6480	5.6480	2.8240
CO2	8.1201	8.1201	5.4134	8.1201	8.1201
CO3	8.1201	5.4134	5.4134	8.1201	5.4134
CO4	7.7330	5.1553	5.1553	5.1553	5.1553
CO5	5.6480	5.6480	5.6480	5.6480	5.6480
FINAL PROGRAM ATTAINMENT	**2.7130**	**2.7161**	**2.7278**	**2.7243**	**2.7161**

Semester: III
Paper 3: Data Structures
CO- Bloom's Taxonomy Mapping

Course Objectives:

To introduce the fundamental concept of data structures and to emphasize the importance of data structures in developing and implementing efficient algorithms.

COURSE OUTCOME WEIGHTED AVERAGE: 2.5225

Course Learning Outcomes: Upon successful completion of the course, a student will be able to:	**Knowledge level (Bloom's Taxonomy)**	**Average level weightage**	CO Attainment
CO 1: Describe how arrays, linked structures, stacks, queues, trees, and graphs are represented in memory and used by algorithms	Level 1 (Knowledge) Level 2 (Understand)	1.5	2.7954
CO 2: Describe common applications for arrays, linked structures, stacks, queues, trees, and graphs.	Level 1 (Knowledge) Level 2 (Understand) Level 3 (Application)	2	2.7272
CO 3: Write programs that use arrays, linked structures, stacks, queues, trees, and graphs.	Level 1(Knowledge) Level 2 (Understand) Level 3 (Application)	2	2.7272
CO 4: Demonstrate different methods for traversing trees.	Level 1 (Knowledge) Level 2 (Understand) Level 3 (Application)	2	2.7272
CO 5: Compare alternative implementations of data structures with respect to performance	Level 1(Knowledge) Level 2 (Understand) Level 3 (Application) Level 4 (Analyze)	2.5	2.6590
CO 6: Compare and contrast the benefits of dynamic and static data	Level 1 (Knowledge) Level 2 (Understand) Level 4 (Analyze)	3	2.5908

structures implementations	Level 5 (Evaluation)		
CO 7: Describe the concept of recursion, give examples of its use, and describe how it can be implemented using a stack.	Level 1 (Knowledge) Level 2 (Understand) Level 3 (Application)	2	2.7272
CO 8: Discuss the computational efficiency of the principal algorithms for sorting, searching.	Level 1(Knowledge) Level 2 (Understand) Level 4 (Analyze)	2.3	2.6863

Semester: III

Paper 3: Data Structures

CO – PO Mapping
1-Low, 2-Moderate, 3-High, 0- No Correlation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	2	1	1	1	1	2	1	2
CO2	2	2	0	0	1	1	2	2	2
CO3	3	3	0	0	1	1	3	3	3
CO4	3	3	0	0	1	1	3	2	3
CO5	3	2	0	0	1	1	3	3	3
CO6	2	2	0	0	1	1	2	2	2
CO7	2	2	0	0	1	1	3	2	3
CO8	2	2	0	0	1	1	3	2	2

CO – PSO Mapping
1-Low, 2-Moderate, 3-High, 0- No Correlation

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	1	3	2	1
CO2	3	3	2	2	2
CO3	3	2	3	3	3
CO4	3	2	2	3	3
CO5	3	3	3	3	3
CO6	3	2	2	3	3
CO7	3	2	2	3	3
CO8	3	2	1	2	3

Attainments of Program Outcomes

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	5.5908	5.5908	2.7954	2.7954	2.7954	2.7954	5.5908	2.7954	5.5908
CO2	5.5908	5.5908	0.0000	0.0000	2.7954	2.7954	5.5908	5.5908	5.5908
CO3	8.3862	8.3862	0.0000	0.0000	2.7954	2.7954	8.3862	8.3862	8.3862
CO4	8.3862	8.3862	0.0000	0.0000	2.7954	2.7954	8.3862	5.5908	8.3862
CO5	8.3862	5.5908	0.0000	0.0000	2.7954	2.7954	8.3862	8.3862	8.3862
CO6	5.5908	5.5908	0.0000	0.0000	2.7954	2.7954	5.5908	5.5908	5.5908
CO7	5.5908	5.5908	0.0000	0.0000	2.7954	2.7954	8.3862	5.5908	8.3862
CO8	5.5908	5.5908	0.0000	0.0000	2.7954	2.7954	8.3862	5.5908	5.5908
FINAL PROGRAM ATTAINMENT	**2.7954**	**2.7954**	**2.7954**	**2.7954**	**2.7954**	**2.7954**	**2.7954**	**2.7954**	**2.7954**

Attainments of Program Specific Outcomes

	PSO1	**PSO2**	**PSO3**	**PSO4**	**PSO5**
CO1	8.3862	2.7954	8.3862	5.5908	2.7954
CO2	8.3862	8.3862	5.5908	5.5908	5.5908
CO3	8.3862	5.5908	8.3862	8.3862	8.3862
CO4	8.3862	5.5908	5.5908	8.3862	8.3862
CO5	8.3862	8.3862	8.3862	8.3862	8.3862
CO6	8.3862	5.5908	5.5908	8.3862	8.3862
CO7	8.3862	5.5908	5.5908	8.3862	8.3862
CO8	8.3862	5.5908	2.7954	5.5908	8.3862
FINAL ATTAINMENT	**2.7954**	**2.7954**	**2.7954**	**2.7954**	**2.7954**

Semester: IV
Paper 4: Object Oriented Programming using JAVA
CO- Bloom's Taxonomy Mapping

Course Objectives:

As the business environment becomes more sophisticated, the software development is becoming increasingly complex. As of the best programming paradigm which helps to eliminate complexity of large projects, Object Oriented Programming (OOP) has become the predominant technique for writing software in the past decade. Many other important software development techniques are based upon the fundamental ideas captured by object-oriented programming.

COURSE OUTCOME WEIGHTED AVERAGE: 2.7052

Course Learning Outcomes: **Upon successful completion of the course, a student will be able to:**	**Knowledge level (Bloom's Taxonomy)**	**Average level weightage**	CO Attainment
CO 1: Understand the concept and underlying principles of Object-Oriented Programming	Level 1 (Knowledge) Level 2 (Understand)	1.5	2.8737
CO 2: Understand how object-oriented concepts are incorporated into the Java programming language	Level 1 (Knowledge) Level 2 (Understand) Level 3 (Application)	2	2.8316
CO 3: Develop problem-solving and programming skills using OOP concept	Level 1(Knowledge) Level 2 (Understand) Level 3 (Application)	2	2.8316
CO 4: Understand the benefits of a well-structured program	Level 1 (Knowledge) Level 2 (Understand)	1.5	2.8737
CO 5: Develop the ability to solve real-world problems through software development in high-level programming language like Java	Level 3 (Application) Level 4 (Analyze) Level 6(Create)	4.3	2.6379
CO 6: Develop efficient Java applets and applications using OOP concept	Level 3 (Application) Level 6 (Create)	3	2.7474
CO 7: Become familiar with the fundamentals and acquire programming skills in the Java language.	Level 1 (Knowledge) Level 2 (Understand) Level 3(Application)	2	2.8316

Semester: IV

Paper 4: Object Oriented Programming through JAVA

CO – PO Mapping
1-Low, 2-Moderate, 3-High, 0- No Correlation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	2	1	1	1	1	2	1	2
CO2	2	2	0	0	1	1	2	1	2
CO3	2	2	0	0	1	1	2	2	2
CO4	3	3	0	0	1	1	3	3	3
CO5	3	3	0	0	1	1	3	3	3
CO6	3	3	0	0	1	1	2	1	3
CO7	3	3	0	0	1	1	1	2	2

CO – PSO Mapping
1-Low, 2-Moderate, 3-High, 0- No Correlation

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	1	2	2	1
CO2	2	2	2	2	2
CO3	2	2	1	2	2
CO4	3	3	2	3	3
CO5	3	3	3	3	3
CO6	3	1	2	2	3
CO7	3	2	2	3	3

Attainments of Program Outcomes

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	5.7474	5.7474	2.8737	2.8737	2.8737	2.8737	5.7474	2.8737	5.7474
CO2	5.6632	5.6632	0.0000	0.0000	2.8316	2.8316	5.6632	2.8316	5.6632
CO3	5.6632	5.6632	0.0000	0.0000	2.8316	2.8316	5.6632	5.6632	5.6632
CO4	8.6211	8.6211	0.0000	0.0000	2.8737	2.8737	8.6211	8.6211	8.6211
CO5	7.9138	7.9138	0.0000	0.0000	2.6379	2.6379	7.9138	7.9138	7.9138
CO6	7.9138	7.9138	0.0000	0.0000	2.6379	2.6379	5.2759	2.6379	7.9138
CO7	7.9138	7.9138	0.0000	0.0000	2.6379	2.6379	2.6379	5.2759	5.2759
FINAL PROGRAM ATTAINMENT	**4.1197**	**4.1197**	**2.8737**	**2.8737**	**3.8649**	**3.8649**	**3.4602**	**3.5817**	**3.8999**

Attainments of Program Specific Outcomes

	PSO1	**PSO2**	**PSO3**	**PSO4**	**PSO5**
CO1	5.7474	2.8737	5.7474	5.7474	2.8737
CO2	5.6632	5.6632	5.6632	5.6632	5.6632
CO3	5.6632	5.6632	2.8316	5.6632	5.6632
CO4	8.6211	8.6211	5.7474	8.6211	8.6211
CO5	7.9138	7.9138	7.9138	7.9138	7.9138
CO6	7.9138	2.6379	5.2759	5.2759	7.9138
CO7	7.9138	5.2759	5.2759	7.9138	7.9138
FINAL PROGRAM ATTAINMENT	**4.1197**	**3.5135**	**3.8455**	**3.8999**	**4.2330**

Semester: V

Paper 5: Database Management Systems

CO- Bloom's Taxonomy Mapping

Course Objectives:

1. Design & develop database for large volumes & varieties of data with optimized data processing techniques.
2. Learn to logical database design using ER diagrams.
3. Learn to relational model.
4. Learn to SQL and PL/SQL.

COURSE OUTCOME WEIGHTED AVERAGE: 2.6023

Course Learning Outcomes: Upon successful completion of the course, a student will be able to:	**Knowledge level (Bloom's Taxonomy)**	**Average level weightage**	CO Attainment
CO 1: Design and model of data in database.	Level 1 (Knowledge) Level 2 (Understand)	1.5	2.8296
CO 2: Store, Retrieve data in database.	Level 1 (Knowledge) Level 2 (Understand) Level 3 (Application)	2	2.7728
CO 3: To explore knowledge on Relational Model	Level 1(Knowledge) Level 2 (Understand) Level 3 (Application)	2	2.7728
CO 4: To write queries using SQL	Level 1 (Knowledge) Level 2 (Understand) Level 3 (Application)	2	2.7728
CO 5: To write programs using PL/SQL.	Level 1 (Knowledge) Level 2 (Understand) Level 3 (Application)	2	2.7728

Semester: V

Paper 5: Database Management Systems

CO – PO Mapping
1-Low, 2-Moderate, 3-High, 0- No Correlation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	2	1	1	1	1	2	1	2
CO2	2	2	0	0	1	1	2	1	2
CO3	2	2	0	0	1	1	2	2	2
CO4	3	3	0	0	1	1	3	3	3
CO5	2	2	0	0	1	1	2	2	2

CO – PSO Mapping
1-Low, 2-Moderate, 3-High, 0- No Correlation

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	1	1	2	1
CO2	2	2	1	2	1
CO3	3	2	1	2	3
CO4	3	3	2	2	2
CO5	3	3	2	2	2

Attainments of Program Outcomes

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	5.6591	5.6591	2.8296	2.8296	2.8296	2.8296	5.6591	2.8296	5.6591
CO2	5.5455	5.5455	0.0000	0.0000	2.7728	2.7728	5.5455	2.7728	5.5455
CO3	5.5455	5.5455	0.0000	0.0000	2.7728	2.7728	5.5455	5.5455	5.5455
CO4	8.3183	8.3183	0.0000	0.0000	2.7728	2.7728	8.3183	8.3183	8.3183
CO5	5.5455	5.5455	0.0000	0.0000	2.7728	2.7728	5.5455	5.5455	5.5455
FINAL PROGRAM ATTAINMENT	**2.7831**	**2.7831**	**2.8296**	**2.8296**	**2.7841**	**2.7841**	**2.7831**	**2.7791**	**2.7831**

Attainments of Program Specific Outcomes

	PSO1	**PSO2**	**PSO3**	**PSO4**	**PSO5**
CO1	5.6591	2.8296	2.8296	5.6591	2.8296
CO2	5.5455	5.5455	2.7728	5.5455	2.7728
CO3	8.3183	5.5455	2.7728	5.5455	8.3183
CO4	8.3183	8.3183	5.5455	5.5455	5.5455
CO5	8.3183	8.3183	5.5455	5.5455	5.5455
FINAL PROGRAM ATTAINMENT	**2.7815**	**2.7779**	**2.7809**	**2.7841**	**2.7791**

Semester: V

Paper 6: Software Engineering
CO- Bloom's Taxonomy Mapping

Course Objectives:

The Objective of the course is to assist the student in understanding the basic theory of software engineering, and to apply these basic theoretical principles to a group software development project.

COURSE OUTCOME WEIGHTED AVERAGE: 2.7068

Course Learning Outcomes: Upon successful completion of the course, a student will be able to:	**Knowledge level (Bloom's Taxonomy)**	**Average level weightage**	CO Attainment
CO 1: Ability to gather and specify requirements of the software projects	Level 1 (Knowledge) Level 2 (Understand) Level 3 (Analyze)	2	2.8325
CO 2: Ability to analyze software requirements with existing tools	Level 1 (Knowledge) Level 2 (Understand) Level 3 (Analyze)	2	2.8325
CO 3: Able to differentiate different testing methodologies	Level 1 (Knowledge) Level 2 (Understand) Level 3 (Analyze)	2	2.8325
CO 4: Able to understand and apply the basic project management practices in real life projects	Level 1 (Knowledge) Level 2 (Understand) Level 3 (Application)	2	2.8325
CO5: Ability to work in a team as well as independently on software projects	Level 1 (Knowledge) Level 2 (Understand) Level 3 (Application) Level 4 (Analyze)	2.5	2.7906

Semester: V

Paper 6: Software Engineering

CO – PO Mapping
1-Low, 2-Moderate, 3-High, 0- No Correlation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	2	1	1	1	1	2	1	2
CO2	2	2	1	1	1	2	3	2	2
CO3	3	3	1	1	1	1	3	3	3
CO4	3	3	0	0	1	1	3	3	3
CO5	3	2	0	0	1	1	2	3	3

CO – PSO Mapping
1-Low, 2-Moderate, 3-High, 0- No Correlation

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	2	2	2	2
CO2	3	2	2	2	3
CO3	2	2	1	3	3
CO4	3	2	2	2	2
CO5	3	1	2	3	2

Attainments of Program Outcomes

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	5.6591	5.6591	2.8296	2.8296	2.8296	2.8296	5.6591	2.8296	5.6591
CO2	5.5455	5.5455	2.7728	2.7728	2.7728	5.5455	8.3183	5.5455	5.5455
CO3	8.3183	8.3183	2.7728	2.7728	2.7728	2.7728	8.3183	8.3183	8.3183
CO4	8.3183	8.3183	0.0000	0.0000	2.7728	2.7728	8.3183	8.3183	8.3183
CO5	8.3183	5.5455	0.0000	0.0000	2.7728	2.7728	5.5455	8.3183	8.3183
FINAL PROGRAM ATTAINMENT	**2.7815**	**2.7822**	**2.7917**	**2.7917**	**2.7841**	**2.7822**	**2.7815**	**2.7775**	**2.7815**

Attainments of Program Specific Outcomes

	PSO1	**PSO2**	**PSO3**	**PSO4**	**PSO5**
CO1	8.4887	5.6591	5.6591	5.6591	5.6591
CO2	8.3183	5.5455	5.5455	5.5455	8.3183
CO3	5.5455	5.5455	2.7728	8.3183	8.3183
CO4	8.3183	5.5455	5.5455	5.5455	5.5455
CO5	8.3183	2.7728	5.5455	8.3183	5.5455
FINAL PROGRAM ATTAINMENT	**2.7849**	**2.7854**	**2.7854**	**2.7822**	**2.7822**

Semester: VI

Paper 7A: Operating Systems
CO- Bloom's Taxonomy Mapping

Course Objectives:

1. To understand the services provided by and the design of an operating system.
2. To understand the structure and organization of the file system.
3. To understand what a process is how processes are synchronized and scheduled.
4. To understand different approaches to memory management.
5. Students should be able to use system calls for managing processes, memory and the file system.

Course Learning Outcomes: **Upon successful completion of the course, a student will be able to:**	**Knowledge level (Bloom's Taxonomy)**	**Average level weightage**
CO 1: Analyze the concepts of processes in operating system and illustration of the scheduling of processes for a given problem instance.	Level 1 (Knowledge) Level 2 (Understand) Level 3 (Application) Level 4 (Analyze)	2.5
CO 2: identify the deadlock situation and provide appropriate solution so that protection and security of the operating system is also maintained.	Level 1 (Knowledge) Level 2 (Understand) Level 3 (Application)	2
CO 3: Analyze memory management techniques, concepts of virtual memory and disk scheduling.	Level 1(Knowledge) Level 2 (Understand) Level 3 (Application) Level 4 (Analyze)	2.5
CO 4: Understand the implementation of file systems and directories along with the interfacing of IO devices with the operating system.	Level 1 (Knowledge) Level 2 (Understand) Level 3 (Application)	2

Semester: VI

Paper 7A: Operating Systems

CO – PO Mapping
1-Low, 2-Moderate, 3-High, 0- No Correlation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	2	1	1	1	1	2	2	2
CO2	2	2	1	1	1	2	2	2	2
CO3	3	3	1	1	1	1	3	3	3
CO4	3	3	0	0	1	1	3	3	3

CO – PSO Mapping
1-Low, 2-Moderate, 3-High, 0- No Correlation

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	2	2	2	2
CO2	3	2	2	2	3
CO3	2	2	1	3	3
CO4	3	2	2	3	3

Semester: VI

Paper 7B: Computer Networks
CO- Bloom's Taxonomy Mapping

Course Objectives:

1. To provide an introduction to the fundamental concepts on data communication and the design of computer networks.
2. To get familiarized with the basic protocols of computer networks.

Course Learning Outcomes: **Upon successful completion of the course, a student will be able to:**	**Knowledge level (Bloom's Taxonomy)**	**Average level weightage**
CO 1: Identify the different components in a communication system and their respective roles.	Level 1 (Knowledge) Level 2 (Understand)	1.5
CO 2: Describe the technical issues related to Local Area Networks.	Level 1 (Knowledge) Level 2 (Understand)	1.5
CO 3: Identify the common technologies available in establishing LAN infrastructure.	Level 1(Knowledge) Level 2 (Understand) Level 3 (Application)	2

Semester: V

Paper 7B: Computer Networks

CO – PO Mapping
1-Low, 2-Moderate, 3-High, 0- No Correlation

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**
CO1	2	2	2	1	2	2	2	2	2
CO2	2	2	2	1	2	2	2	2	2
CO3	3	3	2	1	2	2	3	3	3

CO – PSO Mapping
1-Low, 2-Moderate, 3-High, 0- No Correlation

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	2	2	2	2
CO2	3	2	2	3	3
CO3	3	3	1	3	3

Semester: VI

Paper 7C: Web Technologies
CO- Bloom's Taxonomy Mapping

Course Objectives:

1. To provide knowledge on web architecture, web services, client side and server side scripting technologies to focus on the development of web-based information systems and web services.
2. To provide skills to design interactive and dynamic web sites.

COURSE OUTCOME WEIGHTED AVERAGE: 2.7471

Course Learning Outcomes: **Upon successful completion of the course, a student will be able to:**	**Knowledge level (Bloom's Taxonomy)**	**Average level weightage**	CO Attainment
CO 1: To understand the web architecture and web services.	Level 1 (Knowledge) Level 2 (Understand)	1.5	2.8916
CO 2: To practice latest web technologies and tools by conducting experiments.	Level 1 (Knowledge) Level 2 (Understand) Level 3 (Application) Level 6 (Create)	3	2.7833
CO 3: To design interactive web pages using HTML and Style sheets.	Level 1(Knowledge) Level 2 (Understand) Level 3 (Application) Level 6 (Create)	3	2.7833
CO 4: To study the framework and building blocks of .NET Integrated Development Environment.	Level 1 (Knowledge) Level 2 (Understand) Level 3 (Application)	2	2.8555
CO 5: To provide solutions by identifying and formulating IT related problems	Level 1 (Knowledge) Level 2 (Understand) Level 3 (Application)	2	2.8555

Semester: VI

Paper 7C: Web Technologies

CO – PO Mapping
1-Low, 2-Moderate, 3-High, 0- No Correlation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	2	2	1	1	2	2	2	2
CO2	2	2	2	1	1	1	2	2	2
CO3	2	2	2	1	1	1	2	2	2
CO4	3	3	2	1	1	1	3	3	3
CO5	3	3	2	1	1	1	2	2	2

CO – PSO Mapping
1-Low, 2-Moderate, 3-High, 0- No Correlation

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	2	2	2	2
CO2	2	2	2	3	3
CO3	3	3	1	3	3
CO4	3	3	2	3	3
CO5	3	3	2	2	3

Attainments of Program Outcomes

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	5.7833	5.7833	5.7833	2.8916	2.8916	5.7833	5.7833	5.7833	5.7833
CO2	5.7833	5.7833	5.7833	2.8916	2.8916	2.8916	5.7833	5.7833	5.7833
CO3	5.7833	5.7833	5.7833	2.8916	2.8916	2.8916	5.7833	5.7833	5.7833
CO4	8.6749	8.6749	5.7833	2.8916	2.8916	2.8916	8.6749	8.6749	8.6749
CO5	8.6749	8.6749	5.7833	2.8916	2.8916	2.8916	5.7833	5.7833	5.7833
FINAL PROGRAM ATTAINMENT	**2.8916**	**2.8916**	**2.8916**	**2.8916**	**2.8916**	**2.8916**	**2.8916**	**2.8916**	**2.8916**

Attainments of Program Specific Outcomes

	PSO1	**PSO2**	**PSO3**	**PSO4**	**PSO5**
CO1	5.7833	5.7833	5.7833	5.7833	5.7833
CO2	5.7833	5.7833	5.7833	8.6749	8.6749
CO3	8.6749	8.6749	2.8916	8.6749	8.6749
CO4	8.6749	8.6749	5.7833	8.6749	8.6749
CO5	8.6749	8.6749	5.7833	5.7833	8.6749
FINAL PROGRAM ATTAINMENT	**2.8916**	**2.8916**	**2.8916**	**2.8916**	**2.8916**

Semester: VI

Paper 8A1: Foundations of Data Science
CO- Bloom's Taxonomy Mapping

Course Objectives:

Modern scientific, engineering, and business applications are increasingly dependent on data, existing traditional data analysis technologies were not designed for the complexity of the modern world. Data Science has emerged as a new, exciting, and fast-paced discipline that explores novel statistical, algorithmic, and implementation challenges that emerge in processing, storing, and extracting knowledge from Big Data.

Course Learning Outcomes: **Upon successful completion of the course, a student will be able to:**	**Knowledge level (Bloom's Taxonomy)**	**Average level weightage**
CO 1: Able to apply fundamental algorithmic ideas to process data.	Level 1 (Knowledge) Level 2 (Understand) Level 3 (Application)	2
CO 2: Learn to apply hypotheses and data into actionable predictions.	Level 1 (Knowledge) Level 2 (Understand) Level 3 (Application)	2
CO 3: Document and transfer the results and effectively communicate the findings using visualization techniques.	Level 1(Knowledge) Level 2 (Understand) Level 3 (Application)	2

Semester: V

Paper 8A1: Foundations of Data Science

CO – PO Mapping
1-Low, 2-Moderate, 3-High, 0- No Correlation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	2	1	1	1	2	2	2	2
CO2	2	2	1	1	1	1	2	2	2
CO3	3	3	1	1	1	1	3	3	3

CO – PSO Mapping
1-Low, 2-Moderate, 3-High, 0- No Correlation

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	2	2	3	2
CO2	3	2	2	3	3
CO3	3	3	1	3	3

Semester: VI

Paper 8A3: Computing for Data Analytics
CO- Bloom's Taxonomy Mapping

Course Objectives:

The objective of this course is to teach fundamental concepts and tools needed to understand the emerging role of business analytics in organizations.

Course Learning Outcomes: **Upon successful completion of the course, a student will be able to:**	**Knowledge level (Bloom's Taxonomy)**	**Average level weightage**
CO 1: Learn the Big Data in Technology Perspective.	Level 1 (Knowledge) Level 2 (Understand)	1.5
CO 2: Understanding of the statistical procedures most often used by practicing applications.	Level 1 (Knowledge) Level 2 (Understand) Level 3 (Application)	2
CO 3: Understand forecasting methods and apply for business applications.	Level 1(Knowledge) Level 2 (Understand) Level 3 (Application)	2

Semester: V

Paper 8A3: Computing for Data Analytics

CO – PO Mapping
1-Low, 2-Moderate, 3-High, 0- No Correlation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	2	1	1	1	2	2	2	2
CO2	2	2	1	1	1	1	2	2	2
CO3	3	3	1	1	1	1	3	3	3

CO – PSO Mapping
1-Low, 2-Moderate, 3-High, 0- No Correlation

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	2	2	3	3
CO2	3	2	2	3	3
CO3	3	3	1	3	3

Semester: VI

Paper 8B1: Distributed Systems
CO- Bloom's Taxonomy Mapping

Course Objectives:

- To expose the fundamentals of distributed computer systems, assuming the availability of facilities for data transmission.
- To discuss multiple levels of distributed algorithms, distributed file systems, distributed databases, security and protection.

COURSE OUTCOME WEIGHTED AVERAGE: 2.7982

Course Learning Outcomes: Upon successful completion of the course, a student will be able to:	**Knowledge level (Bloom's Taxonomy)**	**Average level weightage**	CO Attainment
CO 1: Create models for distributed systems.	Level 1 (Knowledge) Level 2 (Understand) Level 3 (Application)	2	2.8847
CO 2: Apply different techniques learned in the distributed systems.	Level 1 (Knowledge) Level 2 (Understand) Level 3 (Application)	2	2.8847

CO – PO Mapping

1-Low, 2-Moderate, 3-High, 0- No Correlation

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**
CO1	2	2	1	1	1	2	2	2	2
CO2	2	2	1	1	1	1	2	2	2

CO – PSO Mapping

1-Low, 2-Moderate, 3-High, 0- No Correlation

	PSO1	**PSO2**	**PSO3**	**PSO4**	**PSO5**
CO1	3	2	2	3	3
CO2	3	2	2	3	3

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	5.7694	5.7694	2.8847	2.8847	2.8847	5.7694	5.7694	5.7694	5.7694
CO2	5.7694	5.7694	2.8847	2.8847	2.8847	2.8847	5.7694	5.7694	5.7694
FINAL PROGRAM ATTAINMENT	**2.8847**	**2.8847**	**2.8847**	**2.8847**	**2.8847**	**2.8847**	**2.8847**	**2.8847**	**2.8847**

Attainments of Program Specific Outcomes

	PSO1	**PSO2**	**PSO3**	**PSO4**	**PSO5**
CO1	8.6541	5.7694	5.7694	8.6541	8.6541
CO2	8.6541	5.7694	5.7694	8.6541	8.6541
FINAL PROGRAM ATTAINMENT	**2.8847**	**2.8847**	**2.8847**	**2.8847**	**2.8847**

Semester: VI

Paper 8B2: Cloud Computing
CO- Bloom's Taxonomy Mapping

Course Objectives:

The student will learn about the cloud environment, building software systems and components that scale to millions of users in modern internet, cloud concepts capabilities across the various cloud service models including Iaas, Paas, Saas and developing cloud based software applications on top of cloud platforms.

COURSE OUTCOME WEIGHTED AVERAGE: 2.7238

Course Learning Outcomes: Upon successful completion of the course, a student will be able to:	**Knowledge level (Bloom's Taxonomy)**	**Average level weightage**	CO Attainment
CO 1: Compare the strengths and limitations of cloud computing.	Level 1 (Knowledge) Level 2 (Understand) Level 3 (Application)	2	2.8422
CO 2: Identify the architecture, infrastructure and delivery models of cloud computing.	Level 1 (Knowledge) Level 2 (Understand) Level 3 (Application)	2	2.8422
CO 3: Apply suitable virtualization concept.	Level 1(Knowledge) Level 2 (Understand) Level 3 (Application)	2	2.8422
CO 4: Choose the appropriate cloud player, Programming Models and approach.	Level 1(Knowledge) Level 2 (Understand) Level 3 (Application)	2	2.8422
CO 5: Address the core issues of cloud computing such as security, privacy and interoperability.	Level 1(Knowledge) Level 2 (Understand) Level 3 (Application)	2	2.8422
CO6: Design Cloud Services and Set a private cloud	Level 1(Knowledge) Level 2 (Understand) Level 3 (Application)	2	2.8422

Semester: VI

Paper 8B2: Cloud Computing

CO – PO Mapping
1-Low, 2-Moderate, 3-High, 0- No Correlation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	2	1	1	1	2	2	2	2
CO2	2	2	1	1	1	1	2	2	2
CO3	3	3	1	1	1	1	3	3	3
CO4	3	3	1	1	1	1	2	2	3
CO5	3	3	1	1	1	1	1	2	3
CO6	3	3	1	1	1	1	2	1	3

CO – PSO Mapping
1-Low, 2-Moderate, 3-High, 0- No Correlation

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	2	2	3	3
CO2	3	2	2	3	3
CO3	3	3	1	3	3
CO4	3	3	1	3	3
CO5	2	1	1	2	3
CO6	2	2	1	2	1

Attainments of program Outcomes

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	5.6844	5.6844	2.8422	2.8422	2.8422	5.6844	5.6844	5.6844	5.6844
CO2	5.6844	5.6844	2.8422	2.8422	2.8422	2.8422	5.6844	5.6844	5.6844
CO3	8.5265	8.5265	2.8422	2.8422	2.8422	2.8422	8.5265	8.5265	8.5265
CO4	8.5265	8.5265	2.8422	2.8422	2.8422	2.8422	5.6844	5.6844	8.5265
CO5	8.5265	8.5265	2.8422	2.8422	2.8422	2.8422	2.8422	5.6844	8.5265
CO6	8.5265	8.5265	2.8422	2.8422	2.8422	2.8422	5.6844	2.8422	8.5265
FINAL PROGRAM ATTAINMENT	**2.8422**	**2.8422**	**2.8422**	**2.8422**	**2.8422**	**2.8422**	**2.8422**	**2.8422**	**2.8422**

Attainments of program Specific Outcomes

	PSO1	**PSO2**	**PSO3**	**PSO4**	**PSO5**
CO1	8.5265	5.6844	5.6844	8.5265	8.5265
CO2	8.5265	5.6844	5.6844	8.5265	8.5265
CO3	8.5265	8.5265	2.8422	8.5265	8.5265
CO4	8.5265	8.5265	2.8422	8.5265	8.5265
CO5	5.6844	2.8422	2.8422	5.6844	8.5265
CO6	5.6844	5.6844	2.8422	5.6844	2.8422
FINAL PROGRAM ATTAINMENT	**2.8422**	**2.8422**	**2.8422**	**2.8422**	**2.8422**

Semester: VI

Paper 8B3: Grid Computing
CO- Bloom's Taxonomy Mapping

Course Objectives:

The student will learn about the grid environment, building software systems and components that scale to millions of users in modern internet, Grid concepts capabilities across the various Grid services.

COURSE OUTCOME WEIGHTED AVERAGE: 2.7477

Course Learning Outcomes: Upon successful completion of the course, a student will be able to:	**Knowledge level (Bloom's Taxonomy)**	**Average level weightage**	CO Attainment
CO 1: Compare the strengths and limitations of Grid Computing.	Level 1 (Knowledge) Level 2 (Understand) Level 3 (Application)	2	2.8559
CO 2: Identify the architecture, infrastructure and delivery models of Grid Computing.	Level 1 (Knowledge) Level 2 (Understand) Level 3 (Application)	2	2.8559
CO 3: Apply suitable virtualization concept.	Level 1(Knowledge) Level 2 (Understand) Level 3 (Application)	2	2.8559
CO4 : Address the core issues of Grid Computing such as security, privacy and interoperability	Level 1 (Knowledge) Level 2 (Understand) Level 3 (Application)	2	2.8559

Semester: V

Paper 8B3: Grid Computing

CO – PO Mapping
1-Low, 2-Moderate, 3-High, 0- No Correlation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	2	1	1	1	2	2	2	2
CO2	2	2	1	1	1	1	2	2	2
CO3	3	3	1	1	1	1	3	3	3
CO4	3	3	1	1	1	1	2	2	3

CO – PSO Mapping
1-Low, 2-Moderate, 3-High, 0- No Correlation

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	2	2	3	3
CO2	3	2	2	3	3
CO3	3	3	1	3	3
CO4	3	3	1	2	2

Attainments of program Outcomes

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	5.7117	5.7117	2.8559	2.8559	2.8559	5.7117	5.7117	5.7117	5.7117
CO2	5.7117	5.7117	2.8559	2.8559	2.8559	2.8559	5.7117	5.7117	5.7117
CO3	8.5676	8.5676	2.8559	2.8559	2.8559	2.8559	8.5676	8.5676	8.5676
CO4	8.5676	8.5676	2.8559	2.8559	2.8559	2.8559	5.7117	5.7117	8.5676
FINAL PROGRAM ATTAINMENT	**2.8559**	**2.8559**	**2.8559**	**2.8559**	**2.8559**	**2.8559**	**2.8559**	**2.8559**	**2.8559**

Attainments of program Specific Outcomes

	PSO1	**PSO2**	**PSO3**	**PSO4**	**PSO5**
CO1	8.5676	5.7117	5.7117	8.5676	8.5676
CO2	8.5676	5.7117	5.7117	8.5676	8.5676
CO3	8.5676	8.5676	2.8559	8.5676	8.5676
CO4	8.5676	8.5676	2.8559	5.7117	5.7117
FINAL PROGRAM ATTAINMENT	**2.8559**	**2.8559**	**2.8559**	**2.8559**	**2.8559**

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DEPARTMENT OF ENGLISH
CO & PO ATTAINMENT

2018 – 2019

CO – PO ATTAINMENT METHODOLOGY

- Step 1

Calculation of Course Outcome Weighted Average (COWA)

The performance of the students assessed by two methods

(a) Direct Assessment: The weightage for internal exams is 30% and for semester end exams is 60%
(b) Indirect assessment: 5% weightage for exit survey and 5% for extracurricular activities

The performance of the student is categorised in four levels

S,No	Percentage obtained by the student in DA and IDA	Level weightage
1	Less than 35%	0
2	Between 35% and 50%	1
3	Between 51% and 70%	2
4	Above 70%	3

The average level of all students for a particular course is found. It is called as course outcome weighted average (COWA).

$$\mathbf{COWA} = \frac{\textit{some of the level weitage of all students of a course}}{\textit{total number of students}}$$

- Step 2:

Calculation of Course outcome level index (COLLI):

To Map the course outcomes (COs) of a course with Blooms levels (1 to 6) by using action verbs used in CO' s. A course outcome may be mapped to multiple Blooms levels; hence we need to calculate the average Blooms level weightage (ABLW).

$$\mathbf{COLLI} = \frac{\textit{Sum of the weigtages of blooms levels mapped}}{\textit{number of levels mapped}}$$

- Step 3:

CO-PO mapping and CO-PSO mapping

Map each course outcome with POs and PSOs in levels 0,1,2,3. A CO may be mapped to multiple POs or PSOs with different levels 1,2,3. The weighted average of each PO is to be calculated.

- Step 4:

Calculation of CO attainment:

The formula for Course Outcome Attainment (CO Attainment) can be calculated by using below formula

$$\textbf{CO attainment} = \textbf{COWA} + \left\{(\mathbf{3} - \boldsymbol{COWA}) \times \left(\mathbf{1} - \frac{\boldsymbol{COLLI}}{\mathbf{3.5}}\right)\right\}$$

(Blooms Level Weighted Average value $= 3.5$)

- Step 5:

Calculation of PO attainment:

The formula for Programme Outcome Attainment (PO Attainment) can be calculated by using below formula

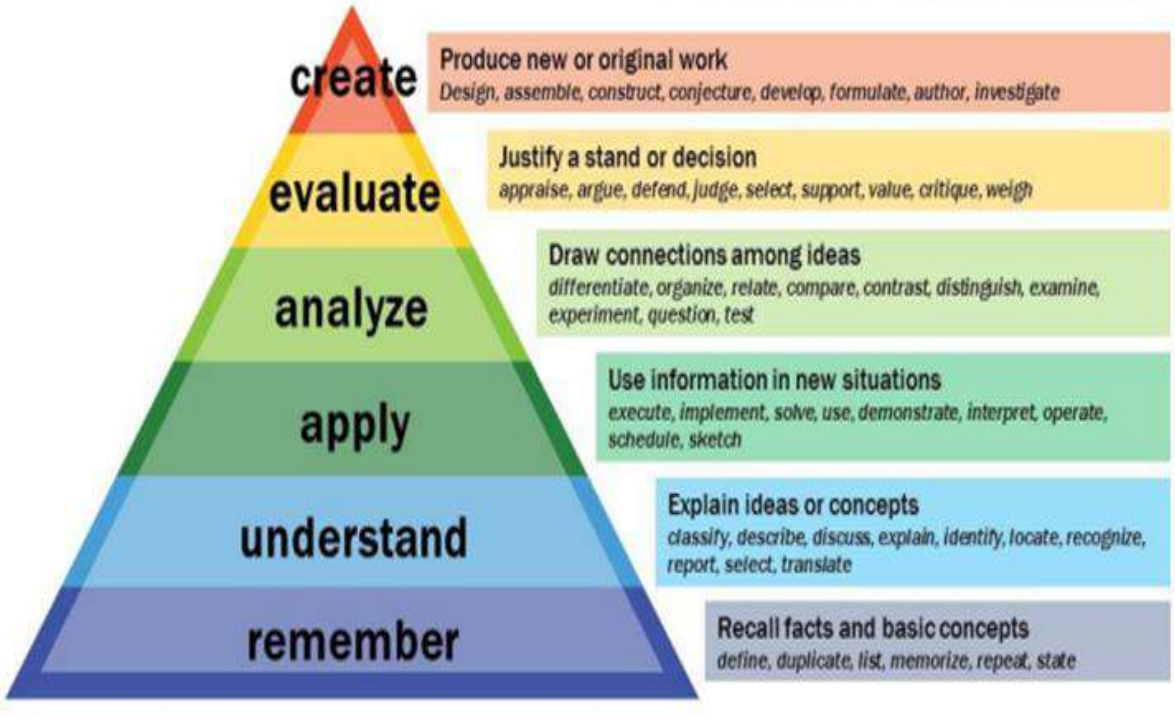
$$\textbf{PO Attainment} = \frac{\boldsymbol{\Sigma(CO\ attainment)(PO\ level\ mapped\ with\ CO)}}{\boldsymbol{Sum\ of\ the\ PO\ levels\ mapped\ with\ CO}}$$

PSO attainment:

The formula for Programme Specific Outcome Attainment (PSO Attainment) can be calculated by using below formula

$$\textbf{PSO Attainment} = \frac{\boldsymbol{\Sigma(CO\ attainment)(PSO\ level\ mapped\ with\ CO)}}{\boldsymbol{Sum\ of\ the\ PSO\ levels\ mapped\ with\ CO}}$$

Levels of Bloom's Taxonomoy	
Level-1	Knowlede/Remember
Level-2	Understand
Level-3	Application
Level-4	Analyze
Level-5	Evaluation
Level-6	Create



PROGRAMME OUTCOMES

POs	Programme Outcomes
PO1	Critical Thinking: Ability to take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid,and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
PO2	Effective Communication: Ability to speak, read, write, and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media, and technology
PO3	Social Interaction: Ability to elicit views of others, mediate disagreements and help reach conclusions in group settings.
PO4	Effective Citizenship: Ability to demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.
PO5	Ethics: Ability to recognize different value systems including our own, understand the moral dimensions of your decisions, and accept responsibility for them.
PO6	Environment and Sustainability: Ability to understand the issues of environmental contexts and sustainable Development.
PO7	Employability skills: Equipping graduates with the essential abilities and knowledge to excel in their choosen careers.
PO8	Entrepreneurship skills: Seeks to empower students with the competencies needed to be successful entrepreneurs, enabling them to launch, operate, and innovate in their own businesses or entrepreneurial ventures.
PO9	Self-directed and Life-long Learning: Acquire the ability to engage in independent and life-long learning in the broadest

PROGRAMME SPECIFIC OUTCOMES:

PSOs	Program Specific Outcomes (PSOs)
PSO1	Grasp and analyze fundamental laws and concepts, enabling exploration in advanced branches of science and technology.
PSO2	Perform basic experiments, and competently handle, understand, and design equipment for specific scientific purposes.
PSO3	Develop essential analytical and mathematical skills, providing the advanced competence needed for higher education, research, and industry.
PSO4	Gain qualifications for job opportunities in schools, colleges, and scientific organizations, facilitating career initiation in the scientific field.
PSO5	Expand the boundaries of human knowledge, uncovering new facts and phenomena in the universe.

SEMESTER- 1

PAPER-1: GENERAL ENGLISH

COURSE OUTCOME WEIGHTED AVERAGE: 2.085160583

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Demonstrate improvement in all four language skills: reading, writing, speaking, and listening	L3 (APPLY) & L2 (UNDERSTAND)	2.5	2.346543274
CO2	Engage in effective interpersonal communication	L3(APPLY)	3	2.215851928
CO3	Develop grammatical accuracy and fluency in spoken and written English	L1(REMEMBER), L2 (UNDERSTAND) & L4(ANALYSE)	2.3	2.398819812
CO4	Develop professional communication skills	L3(APPLY), L4(ANALYSE) & L5(CREATE)	4	1.954469238
CO5	Acquire the ability to use relevant vocabulary in professional and daily life	L3(APPLY)	3	2.215851928

CO- PO MAPPING 1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	3	3	1	0	3	1	1	3
C02	1	2	3	0	1	3	1	2	1
CO3	2	3	1	0	0	3	1	0	2
CO4	1	2	0	0	1	3	1	0	2
CO5	1	2	0	3	0	3	3	2	2
TOTAL	8	12	7	4	2	15	7	5	10

CO- PSO MAPPING 1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	2	1	0
C02	3	3	1	0	0
CO3	2	3	3	1	0
CO4	3	3	1	3	3
CO5	3	3	1	2	2
TOTAL	14	15	8	7	5

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	7.03963	7.03963	7.03963	2.346543	0	7.03963	2.346543	2.346543	7.03963
CO2	2.215852	4.431704	6.647556	0	2.215852	6.647556	2.215852	4.431704	2.215852
CO3	4.79764	7.196459	2.39882	0	0	7.196459	2.39882	0	4.79764
CO4	1.954469	3.908938	0	0	1.954469	5.863408	1.954469	0	3.908938
CO 5	2.215852	4.431704	0	6.647556	0	6.647556	6.647556	4.431704	4.431704
FINAL ATTAINMENT	**2.27793**	**2.250703**	**2.298001**	**2.248525**	**2.085161**	**2.226307**	**2.22332**	**2.24199**	**2.239376**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	7.03963	7.03963	4.693087	2.346543	0
CO2	6.647556	6.647556	2.215852	0	0
CO3	4.79764	7.196459	7.196459	2.39882	0
CO4	5.863408	5.863408	1.954469	5.863408	5.863408
CO 5	6.647556	6.647556	2.215852	4.431704	4.431704
FINAL ATTAINMENT	**2.213985**	**2.226307**	**2.284465**	**2.148639**	**2.059022**

SEMESTER- 2

PAPER-1: GENERAL ENGLISH

COURSE OUTCOME WEIGHTED AVERAGE: 2.354701911

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Develop active listening strategies to enhance comprehension and retention of spoken language.	L3(APPLY)	3	2.446887352
CO2	Build up a repository of active vocabulary	L1(REMEMBER) & L3(APPLY)	2	2.631258235
CO3	Enhance writing skills for future purposes	L2(UNDERSTAND), L3(APPLY) & L4(ANALYSE)	3	2.446887352
CO4	Foster skills in organizing ideas logically and coherently in written form.	L4(ANALYSE) & L5(EVALUATE)	4.5	2.170331028
CO5	Analyze the formal elements of poetry, including enter, rhyme, imagery, and figurative lanČuaČe.	L4(ANALYSE)	4	2.26251647

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	7.340662	4.893775	0	2.446887	2.446887	7.340662	2.446887	2.446887	7.340662
CO2	2.631258	7.893775	0	0	0	7.893775	2.631258	5.262516	2.631258
CO3	0	7.340662	0	4.893775	0	4.893775	2.446887	0	4.893775
CO4	0	0	4.340662	6.510993	0	4.340662	2.170331	0	4.340662
CO 5	6.787549	2.262516	6.787549	6.787549	2.262516	6.787549	6.787549	4.525033	4.525033
FINAL ATTAINMENT	**2.39421**	**2.487859**	**2.225642**	**2.293245**	**2.354702**	**2.40434**	**2.354702**	**2.446887**	**2.373139**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	2.446887	0	0	0	0
CO2	2.631258	7.893775	7.893775	0	0
CO3	0	7.340662	4.893775	2.446887	0
CO4	0	6.510993	6.510993	4.340662	0
CO 5	0	2.262516	2.262516	2.262516	4.525033
FINAL ATTAINMENT	**2.539073**	**2.400795**	**2.395673**	**2.262516**	**2.262516**

CO- PO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	2	0	1	1	3	1	1	3
C02	1	3	0	0	0	3	1	2	1
CO3	0	3	0	2	0	2	1	0	2
CO4	0	0	2	3	0	2	1	0	2
CO5	3	1	3	3	1	3	3	2	2
TOTAL	7	9	5	9	2	13	7	5	10

CO- PSO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	1	0	0	0	0
C02	1	3	3	0	0
CO3	0	3	2	1	0
CO4	0	3	3	2	0
CO5	0	1	1	1	2
TOTAL	2	10	9	4	2

SEMESTER- 3

PAPER-1: GENERAL ENGLISH

COURSE OUTCOME WEIGHTED AVERAGE: 2.118127616

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Foster reflective listening abilities.	L2(UNDERSTAND)	2	2.496072923
CO2	Develop effective public speaking skills.	L3(APPLY)	3	2.244109385
CO3	Develop techniques for preparing for various types of interviews.	L4(ANALYSE). L5(EVALUATE) & L6(CREATE)	5	1.740182309
CO4	Active listening to improve interactions and relationships.	L2(UNDERSTAND)	2	2.496072923
CO5	Cultivate effective communication strategies for entrepreneurship skills.	L1(REMEMBER) & L3(APPLY)	2	2.496072923

CO- PO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	3	2	0	0	2	1	1	3
C02	1	1	0	0	2	1	1	2	1
CO3	1	3	2	2	2	2	1	0	2
CO4	2	2	1	1	2	3	1	0	2
CO5	2	3	3	2	3	3	3	2	2
TOTAL	8	12	8	5	9	11	7	5	10

CO- PSO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	3	2	3
C02	2	2	1	2	3
CO3	3	3	3	---	3
CO4	3	1	3	3	2
CO5	3	2	3	2	3
TOTAL	14	11	13	9	14

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	4.893775	7.340662	4.893775	0	0	4.893775	2.446887	2.446887	7.340662
CO2	2.631258	2.631258	0	0	5.262516	2.631258	2.631258	5.262516	2.631258
CO3	2.446887	7.340662	4.893775	4.893775	4.893775	4.893775	2.446887	0	4.893775
CO4	4.340662	4.340662	2.170331	2.170331	4.340662	6.510993	2.170331	0	4.340662
CO 5	4.525033	6.787549	6.787549	4.525033	6.787549	6.787549	6.787549	4.525033	4.525033
FINAL ATTAINMENT	**2.354702**	**2.370066**	**2.343179**	**2.317828**	**2.364945**	**2.337941**	**2.354702**	**2.446887**	**2.373139**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	7.340662	7.340662	7.340662	4.893775	7.340662
CO2	5.262516	5.262516	2.631258	5.262516	7.893775
CO3	7.340662	7.340662	7.340662	#VALUE!	7.340662
CO4	6.510993	2.170331	6.510993	6.510993	4.340662
CO 5	6.787549	4.525033	6.787549	4.525033	6.787549
FINAL ATTAINMENT	**2.374456**	**2.421746**	**2.354702**	**#VALUE!**	**2.407379**

SEMESTER- 4

PAPER-1: GENERAL ENGLISH

COURSE OUTCOME WEIGHTED AVERAGE: 1.916296114

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Acquire familiarity with narration and representation.	L1(REMEMBER)	1	2.690370318
CO2	Critically engage with culture, gender, and marginality.	L3(APPLY)	3	2.071110955
CO3	Foster empathy and cultural awareness through the study of diverse literary voices and perspectives.	L5(CREATE)	5	1.451851591
CO4	Synthesize knowledge from literature, history, and cultural studies.	L5(CREATE)	5	1.451851591
CO5	Develop critical thinking skills and communication skills.	L3(APPLY)	3	2.071110955

CO- PO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	2	2	0	0	3	1	1	3
C02	2	3	3	2	3	1	1	2	1
CO3	1	0	1	0	3	1	1	0	2
CO4	2	2	2	3	3	3	1	0	2
CO5	2	3	3	1	0	3	3	2	2
TOTAL	10	10	11	6	9	11	7	5	10

CO- PSO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	2	0	2	1
C02	2	1	3	0	2
CO3	3	0	3	1	0
CO4	3	0	3	0	0
CO5	1	3	0	3	3
TOTAL	11	6	9	6	6

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
O 1	8.071111	5.380741	5.380741	0	0	8.071111	2.69037	2.69037	8.071111
O2	4.142222	6.213333	6.213333	4.142222	6.213333	2.071111	2.071111	4.142222	2.071111
O3	1.451852	0	1.451852	0	4.355555	1.451852	1.451852	0	2.903703
O4	2.903703	2.903703	2.903703	4.355555	4.355555	4.355555	1.451852	0	2.903703
O 5	4.142222	6.213333	6.213333	2.071111	0	6.213333	6.213333	4.142222	4.142222
FINAL ATTAINMENT	**2.071111**	**2.071111**	**2.014815**	**1.761481**	**1.658271**	**2.014815**	**1.982645**	**2.194963**	**2.009185**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	5.380741	5.380741	0	5.380741	2.69037
CO2	4.142222	2.071111	6.213333	0	4.142222
CO3	4.355555	0	4.355555	1.451852	0
CO4	4.355555	0	4.355555	0	0
CO 5	2.071111	6.213333	0	6.213333	6.213333
FINAL ATTAINMENT	**1.845926**	**2.277531**	**1.658271**	**2.174321**	**2.174321**

SEMESTER-1

PAPER-1: SPL. ENG, P-1

COURSE OUTCOME WEIGHTED AVERAGE: 2.325

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Students will develop an appreciation for the diversity of literary expression across different historical periods and cultural contests.	L3 (APPLY) & L2 (UNDERSTAND)	2.5	2.517857143
CO2	Students will evaluate how literature reflects and influences human perceptions of tine and existence.	L3(APPLY)	3	2.421428571
CO3	Interpreting thematic elements, stylistic features, and rhetorical devices	L1(REMEMBER), L2 (UNDERSTAND) & L4(ANALYSE)	2.3	2.556428571
CO4	Students will understand the basic principles of philology, including the study of historical linguistics, etymology, and textual criticism.	L3(APPLY), L4(ANALYSE) & L5(CREATE)	4	2.228571429
CO5	Students will articulate their ideas clearly and respond thoughtfully to the perspectives of others.	L3(APPLY)	3	2.421428571

CO- PO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	3	1	0	3	1	1	1	3
C02	3	2	3	1	3	1	1	2	1
CO3	1	2	2	0	2	0	1	0	2
CO4	2	1	2	0	3	3	1	0	2
CO5	0	0	2	2	0	3	3	2	2
TOTAL	9	8	10	3	11	8	7	5	10

CO- PSO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	0	2	0
C02	1	1	0	0	1
CO3	3	1	3	2	0
CO4	1	3	3	1	0
CO5	0	0	1	0	3
TOTAL	8	8	7	5	4

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	7.553571	7.553571	2.517857	0	7.553571	2.517857	2.517857	2.517857	7.553571
CO2	7.264286	4.842857	7.264286	2.421429	7.264286	2.421429	2.421429	4.842857	2.421429
CO3	2.556429	5.112857	5.112857	0	5.112857	0	2.556429	0	5.112857
CO4	4.457143	2.228571	4.457143	0	6.685714	6.685714	2.228571	0	4.457143
CO 5	0	0	4.842857	4.842857	0	7.264286	7.264286	4.842857	4.842857
FINAL ATTAINMENT	**2.425714**	**2.467232**	**2.4195**	**2.421429**	**2.419675**	**2.361161**	**2.426939**	**2.440714**	**2.438786**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	7.553571	7.553571	0	5.035714	0
CO2	2.421429	2.421429	0	0	2.421429
CO3	7.669286	2.556429	7.669286	5.112857	0
CO4	2.228571	6.685714	6.685714	2.228571	0
CO 5	0	0	2.421429	0	7.264286
FINAL ATTAINMENT	**2.484107**	**2.402143**	**2.396633**	**2.475429**	**2.421429**

SEMESTER-2

PAPER-1: SPL. ENG, P-2

COURSE OUTCOME WEIGHTED AVERAGE: 2.2125

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Students will demonstrate knowledge of the major periods in English literature.	L2(UNDERSTAND) & L3(APPLY)	2.5	2.4375
CO2	Students will define and exemplify essential literary terns and concepts such as metaphor, allegory, irony, and symbolism.	L1 (REMEMBER) & L2 (UNDERSTAND)	1.5	2.6625
CO3	Students will analyze and interpret literary works that address themes of peace.	L2 (UNDERSTAND) & L4(ANALYSE)	3	2.325
CO4	Students will present their literary analyses and research findings demonstrations effective communication skills.	L4(ANALYSE) & L5(CREATE)	4.5	1.9875
CO5	Students will explore the relevance and impact of Shakespeare's work in contemporary contests.	L4(ANALYSE)	4	2.1

CO- PO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	3	2	0	2	1	1	1	3
C02	0	1	3	2	1	3	1	2	1
CO3	3	2	2	1	2	0	1	0	2
CO4	2	0	3	2	0	3	1	0	2
CO5	2	2	3	3	0	1	3	2	2
TOTAL	10	8	13	8	5	8	7	5	10

CO- PSO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	2	3	3	0
C02	1	1	2	2	2
CO3	1	2	3	0	1
CO4	3	0	1	1	3
CO5	3	2	0	3	0
TOTAL	11	7	9	9	6

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	7.3125	7.3125	4.875	0	4.875	2.4375	2.4375	2.4375	7.3125
CO2	0	2.6625	7.9875	5.325	2.6625	7.9875	2.6625	5.325	2.6625
CO3	6.975	4.65	4.65	2.325	4.65	0	2.325	0	4.65
CO4	3.975	0	5.9625	3.975	0	5.9625	1.9875	0	3.975
CO 5	4.2	4.2	6.3	6.3	0	2.1	6.3	4.2	4.2
FINAL ATTAINMENT	**2.24625**	**2.353125**	**2.290385**	**2.240625**	**2.4375**	**2.310938**	**2.244643**	**2.3925**	**2.28**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	7.3125	4.875	7.3125	7.3125	0
CO2	2.6625	2.6625	5.325	5.325	5.325
CO3	2.325	4.65	6.975	0	2.325
CO4	5.9625	0	1.9875	1.9875	5.9625
CO 5	6.3	4.2	0	6.3	0
FINAL ATTAINMENT	**2.232955**	**2.341071**	**2.4**	**2.325**	**2.26875**

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SEMESTER-3

PAPER-1: SPL. ENG, P-3

COURSE OUTCOME WEIGHTED AVERAGE: 1.875

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Students will demonstrate knowledge of key characteristics, themes, and historical contests of Restoration and Augustan literature.	L3 (APPLY) & L2 (UNDERSTAND)	2.5	2.196428571
CO2	Students will define and exemplify literary terns and concepts relevant to the study of periodical satire, sentimental comedy, periodical essays, prose, poetry, and drama.	L2(UNDERSTAND) & L3(APPLY)	2.5	2.196428571
CO3	Students will conduct an in-depth study of a selected drama, analyzing its literary and theatrical elements.	L4(ANALYSE)	4	1.714285714
CO4	Students will show active engagement with course materials	L3(APPLY), L4(ANALYSE) & L5(CREATE)	4	1.714285714
CO5	Students will explore the relevance and impact of Shakespeare's work in contemporary contests.	L2(UNDERSTAND) & L4 (ANALYSE)	3	2.035714286

CO- PO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	3	2	0	3	1	1	1	3
C02	0	3	3	1	0	2	1	2	1
CO3	0	2	2	3	0	3	1	0	2
CO4	1	0	1	0	3	3	1	0	2
CO5	3	3	3	3	0	0	3	2	2
TOTAL	7	11	11	7	6	9	7	5	10

CO- PSO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	0	3	2
C02	2	3	3	3	0
CO3	3	3	0	3	3
CO4	0	0	3	3	2
CO5	2	2	2	3	1
TOTAL	10	11	8	15	8

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	7.3125	7.3125	4.875	0	7.3125	2.4375	2.4375	2.4375	7.3125
CO2	0	7.9875	7.9875	2.6625	0	5.325	2.6625	5.325	2.6625
CO3	0	4.65	4.65	6.975	0	6.975	2.325	0	4.65
CO4	1.9875	0	1.9875	0	5.9625	5.9625	1.9875	0	3.975
CO 5	6.3	6.3	6.3	6.3	0	0	6.3	4.2	4.2
FINAL ATTAINMENT	**2.228571**	**2.386364**	**2.345455**	**2.276786**	**2.2125**	**2.3**	**2.244643**	**2.3925**	**2.28**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	7.3125	7.3125	0	7.3125	4.875
CO2	5.325	7.9875	7.9875	7.9875	0
CO3	6.975	6.975	0	6.975	6.975
CO4	0	0	5.9625	5.9625	3.975
CO 5	4.2	4.2	4.2	6.3	2.1
FINAL ATTAINMENT	**2.38125**	**2.406818**	**2.26875**	**2.3025**	**2.240625**

SEMESTER-5

PAPER-1: SPL. ENG, P-5

COURSE OUTCOME WEIGHTED AVERAGE: 1.875

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Students will evaluate how literature serves as a reflection of and response.	L2(UNDERSTAND) & L5(EVALUATE)	3.5	2.3625
CO2	Students will e:hibit curiosity and initiative in e:plorinČ new topics related to the EnČlish lanČuaČe and its Člobal inpact.	L3(APPLY)	3	2.453571429
CO3	Students will analyze and interpret literary works that address thenes of tine, nortality, and the hunan e:perience.	L3(APPLY) & L4(ANALYSE)	3.5	2.3625
CO4	Students will study well-supported literary analyses and critiques.	L5(EVALUATE)	5	2.089285714
CO5	Gain an appreciation for the intricate connections between language, literature, and human experience.	L1(REMEMBER)	1	2.817857143

CO- PO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	0	2	3	0	3	1	1	1	3
C02	2	2	2	2	2	2	1	2	1
CO3	2	3	3	2	3	0	1	0	2
CO4	0	1	3	3	3	0	1	0	2
CO5	0	0	1	0	3	3	3	2	2
TOTAL	4	8	12	7	14	6	7	5	10

CO- PSO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	0	2	3	1	0
C02	3	2	1	0	3
CO3	3	2	1	3	2
CO4	2	3	3	3	0
CO5	3	3	2	0	3
TOTAL	11	12	10	7	8

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	0	4.725	7.0875	0	7.0875	2.3625	2.3625	2.3625	7.0875
CO2	4.907143	4.907143	4.907143	4.907143	4.907143	4.907143	2.453571	4.907143	2.453571
CO3	4.725	7.0875	7.0875	4.725	7.0875	0	2.3625	0	4.725
CO4	0	2.089286	6.267857	6.267857	6.267857	0	2.089286	0	4.178571
CO 5	0	0	2.817857	0	8.453571	8.453571	8.453571	5.635714	5.635714
FINAL ATTAINMENT	**2.408036**	**2.351116**	**2.347321**	**2.271429**	**2.414541**	**2.620536**	**2.531633**	**2.581071**	**2.408036**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	0	4.725	7.0875	2.3625	0
CO2	7.360714	4.907143	2.453571	0	7.360714
CO3	7.0875	4.725	2.3625	7.0875	4.725
CO4	4.178571	6.267857	6.267857	6.267857	0
CO 5	8.453571	8.453571	5.635714	0	8.453571
FINAL ATTAINMENT	**2.461851**	**2.423214**	**2.380714**	**2.245408**	**2.567411**

SEMESTER-5

PAPER-1: SPL. ENG, P-6

COURSE OUTCOME WEIGHTED AVERAGE: 2.475

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Students will Čain a broad and nuanced understandinČ of world literature	L2 (UNDERSTAND)	2	2.7
CO2	Students will e:plore the siČnificance of these thenes in shapinČ the hunan e:perience and fosterinČ cross-cultural understandinČ.	L4(ANALYSE)	4	2.4
CO3	Develop critical and analytical skills necessary for advanced literary study.	L1(REMEMBER), L2 (UNDERSTAND) & L4(ANALYSE)	2.3	2.655
CO4	Students will show active enČaČenent with course naterials.	L3(APPLY), L4(ANALYSE) & L5(CREATE)	4	2.4
CO5	Acquire the ability to understand and connunicate with a wide ranČe of vocabulary.	L2(UNDERSTAND) & L4 (ANALYSE)	3	2.55

CO- PO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	3	2	0	3	0	1	1	3
C02	0	2	2	3	3	0	1	2	1
CO3	1	0	3	3	0	3	1	0	2
CO4	0	0	0	2	2	3	1	0	2
CO5	1	0	3	3	2	3	3	2	2
TOTAL	5	5	10	11	10	9	7	5	10

CO- PSO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	2	0	3
C02	3	2	2	3	0
CO3	3	1	0	2	2
CO4	2	0	0	1	3
CO5	1	3	1	0	3
TOTAL	12	9	5	6	11

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	8.1	8.1	5.4	0	8.1	0	2.7	2.7	8.1
CO2	0	4.8	4.8	7.2	7.2	0	2.4	4.8	2.4
CO3	2.655	0	7.965	7.965	0	7.965	2.655	0	5.31
CO4	0	0	0	4.8	4.8	7.2	2.4	0	4.8
CO 5	2.55	0	7.65	7.65	5.1	7.65	7.65	5.1	5.1
FINAL ATTAINMENT	**2.661**	**2.58**	**2.5815**	**2.510455**	**2.52**	**2.535**	**2.543571**	**2.52**	**2.571**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	8.1	8.1	5.4	0	8.1
CO2	7.2	4.8	4.8	7.2	0
CO3	7.965	2.655	0	5.31	5.31
CO4	4.8	0	0	2.4	7.2
CO 5	2.55	7.65	2.55	0	7.65
FINAL ATTAINMENT	**2.55125**	**2.578333**	**2.55**	**2.485**	**2.569091**

SEMESTER-6

PAPER-1: SPL. ENG, P-7-1

COURSE OUTCOME WEIGHTED AVERAGE: 2.325

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Connect literature with historical, sociopolitical, and cultural contexts	L3 (APPLY) & L2 (UNDERSTAND)	2.5	2.517857143
CO2	Discuss themes of apartheid, power dynamics, and human relationships.	L3(APPLY)	3	2.421428571
CO3	Analyse characters, socio-political context, and dramatic techniques.	L1(REMEMBER), L2 (UNDERSTAND) & L4(ANALYSE)	2.3	2.556428571
CO4	Promotes analytical thinking and emotional intelligence through the study of literary texts.	L3(APPLY), L4(ANALYSE) & L5(CREATE)	4	2.228571429
CO5	Encourage critical thinking and empathy through literary analysis	L3(APPLY)	3	2.421428571

CO- PO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	3	2	2	3	2	1	1	3
C02	0	1	2	1	2	3	1	2	1
CO3	2	0	2	2	1	2	1	0	2
CO4	1	1	3	1	1	1	1	0	2
CO5	0	1	3	0	0	0	3	2	2
TOTAL	6	6	12	6	7	8	7	5	10

CO- PSO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	0	2	2	0
C02	2	2	2	2	2
CO3	2	2	2	2	1
CO4	0	1	0	1	1
CO5	0	1	0	1	1
TOTAL	7	6	6	8	5

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	7.553571	7.553571	5.035714	5.035714	7.553571	5.035714	2.517857	2.517857	7.553571
CO2	0	2.421429	4.842857	2.421429	4.842857	7.264286	2.421429	4.842857	2.421429
CO3	5.112857	0	5.112857	5.112857	2.556429	5.112857	2.556429	0	5.112857
CO4	2.228571	2.228571	6.685714	2.228571	2.228571	2.228571	2.228571	0	4.457143
CO 5	0	2.421429	7.264286	0	0	0	7.264286	4.842857	4.842857
FINAL ATTAINMENT	**2.4825**	**2.4375**	**2.411786**	**2.466429**	**2.45449**	**2.455179**	**2.426939**	**2.440714**	**2.438786**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	7.553571	0	5.035714	5.035714	0
CO2	4.842857	4.842857	4.842857	4.842857	4.842857
CO3	5.112857	5.112857	5.112857	5.112857	2.556429
CO4	0	2.228571	0	2.228571	2.228571
CO 5	0	2.421429	0	2.421429	2.421429
FINAL ATTAINMENT	**2.501327**	**2.434286**	**2.498571**	**2.455179**	**2.409857**

SEMESTER-6

PAPER-1: SPL. ENG, P-8-A1

COURSE OUTCOME WEIGHTED AVERAGE: 1.8

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Examine the development of characters in various genres and their roles in advancing themes and narratives	L3 (APPLY) & L2 (UNDERSTAND)	2.5	2.5538
CO2	Understand and articulate the historical, cultural, and social contexts that influence literary production and reception.	L3(APPLY)	3	2.4645
CO3	Develop ethical reasoning and reflective thinking about literature's role in society and personal life	L1(REMEMBER), L2 (UNDERSTAND) & L4(ANALYSE)	2.3	2.5895
CO4	Reflect critically on personal interpretations of texts and the processes of reading and analysis	L3(APPLY), L4(ANALYSE) & L5(CREATE)	4	2.2860
CO5	Develop effective communication skills, presenting ideas and arguments clearly in both written and oral forms.	L3(APPLY)	3	2.4645

CO- PO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	0	1	3	2	1	2	1	1	3
C02	3	3	1	1	2	1	1	2	1
CO3	1	2	2	2	2	2	1	0	2
CO4	0	1	3	3	1	2	1	0	2
CO5	0	0	3	3	0	3	3	2	2
TOTAL	4	7	12	11	6	10	7	5	10

CO- PSO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	1	3	3	1	0
C02	3	3	3	1	3
CO3	0	0	3	0	3
CO4	0	0	3	0	3
CO5	0	0	1	3	3
TOTAL	4	6	13	5	12

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	0.0000	2.7323	8.1968	5.4645	2.7323	5.4645	2.7323	2.7323	8.1968
CO2	8.1968	8.1968	2.7323	2.7323	5.4645	2.7323	2.7323	5.4645	2.7323
CO3	2.6430	5.2860	5.2860	5.2860	5.2860	5.2860	2.6430	0.0000	5.2860
CO4	0.0000	2.2860	6.8581	6.8581	2.2860	4.5720	2.2860	0.0000	4.5720
CO 5	0.0000	0.0000	7.1258	7.1258	0.0000	7.1258	7.1258	4.7505	4.7505
FINAL ATTAINMENT	**2.7099**	**2.6430**	**2.5166**	**2.4970**	**2.6281**	**2.5181**	**2.5028**	**2.5895**	**2.5538**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	2.7323	8.1968	8.1968	2.7323	0.0000
CO2	8.1968	8.1968	8.1968	2.7323	8.1968
CO3	0.0000	0.0000	7.9290	0.0000	7.9290
CO4	0.0000	0.0000	6.8581	0.0000	6.8581
CO 5	0.0000	0.0000	2.3753	7.1258	7.1258
FINAL ATTAINMENT	**2.7323**	**2.7323**	**2.5812**	**2.5181**	**2.5091**

SEMESTER-6

PAPER-1: SPL. ENG, P-8-A2

COURSE OUTCOME WEIGHTED AVERAGE: 1.8

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Analyze narrative techniques such as plot, setting, point of view, and symbolism used in different genres.	L3 (APPLY) & L2 (UNDERSTAND)	2.5	2.1429
CO2	Communicate literary analyses.	L3(APPLY)	3	1.9714
CO3	Explain the influence of historical, cultural, and social contexts on the creation and interpretation of literary works, particularly those addressing the course's themes	L1(REMEMBER), L2 (UNDERSTAND) & L4(ANALYSE)	2.3	2.2114
CO4	Develop a deeper understanding of societal issues and those of personal development.	L3(APPLY), L4(ANALYSE) & L5(CREATE)	4	1.6286
CO5	Articulate critical interpretations of literary works through written and oral presentations	L3(APPLY)	3	1.9714

CO- PO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	1	2	2	3	1	2	1	1	3
C02	0	0	2	3	1	3	1	2	1
CO3	3	3	2	1	3	2	1	0	2
CO4	2	2	2	1	2	2	1	0	2
CO5	1	1	3	3	0	3	3	2	2
TOTAL	7	8	11	11	7	12	7	5	10

CO- PSO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	1	3	2	1	1
C02	1	3	1	3	0
CO3	2	3	3	0	3
CO4	3	3	3	0	3
CO5	3	3	0	3	0
TOTAL	10	15	9	7	7

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	2.7153	5.4306	5.4306	8.1459	2.7153	5.4306	2.7153	2.7153	8.1459
CO2	0.0000	0.0000	5.4306	8.1459	2.7153	8.1459	2.7153	5.4306	2.7153
CO3	7.8612	7.8612	5.2408	2.6204	7.8612	5.2408	2.6204	0.0000	5.2408
CO4	4.4816	4.4816	4.4816	2.2408	4.4816	4.4816	2.2408	0.0000	4.4816
CO 5	2.3357	2.3357	7.0071	7.0071	0.0000	7.0071	7.0071	4.6714	4.6714
FINAL ATTAINMENT	**2.4848**	**2.5136**	**2.5083**	**2.5600**	**2.5391**	**2.5255**	**2.4713**	**2.5635**	**2.5255**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	2.7153	8.1459	5.4306	2.7153	2.7153
CO2	2.7153	8.1459	2.7153	8.1459	0.0000
CO3	5.2408	7.8612	7.8612	0.0000	7.8612
CO4	6.7224	6.7224	6.7224	0.0000	6.7224
CO 5	7.0071	7.0071	0.0000	7.0071	0.0000
FINAL ATTAINMENT	**2.4401**	**2.5255**	**2.5255**	**2.5526**	**2.4713**

SEMESTER-6

PAPER-1: SPL. ENG, P-8-A3

COURSE OUTCOME WEIGHTED AVERAGE: 1.8

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Evaluate the historical-biographical and moral-philosophical dimensions of a work.	L3 (APPLY) & L2 (UNDERSTAND)	2.5	2.6250
CO2	Explore the structure of a text and its distinctive features such as rhyme, rhythm, meter, and imagery.	L3(APPLY)	3	2.5500
CO3	Investigate the socio-cultural contexts of literature	L1(REMEMBER), L2 (UNDERSTAND) & L4(ANALYSE)	2.3	2.6550
CO4	Reflect critically on personal interpretations of texts and the processes of reading and analysis.	L3(APPLY), L4(ANALYSE) & L5(CREATE)	4	2.4000
CO5	Develop effective communication skills, presenting ideas and arguments clearly in both written and oral forms	L3(APPLY)	3	2.5500

CO- PO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	2	1	0	1	3	1	1	3
C02	1	2	3	3	2	1	1	2	1
CO3	1	1	2	3	0	2	1	0	2
CO4	1	0	3	2	2	1	1	0	2
CO5	1	1	3	3	0	3	3	2	2
TOTAL	7	6	12	11	5	10	7	5	10

CO- PSO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	1	2	3	0	3
C02	0	0	0	2	2
CO3	3	0	3	3	2
CO4	0	2	3	0	0
CO5	2	3	0	3	3
TOTAL	6	7	9	8	10

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	7.8750	5.2500	2.6250	0.0000	2.6250	7.8750	2.6250	2.6250	7.8750
CO2	2.5500	5.1000	7.6500	7.6500	5.1000	2.5500	2.5500	5.1000	2.5500
CO3	2.6550	2.6550	5.3100	7.9650	0.0000	5.3100	2.6550	0.0000	5.3100
CO4	2.4000	0.0000	7.2000	4.8000	4.8000	2.4000	2.4000	0.0000	4.8000
CO 5	2.5500	2.5500	7.6500	7.6500	0.0000	7.6500	7.6500	5.1000	5.1000
FINAL ATTAINMENT	**2.5757**	**2.5925**	**2.5363**	**2.5514**	**2.5050**	**2.5785**	**2.5543**	**2.5650**	**2.5635**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	2.6250	5.2500	7.8750	0.0000	7.8750
CO2	0.0000	0.0000	0.0000	5.1000	5.1000
CO3	7.9650	0.0000	7.9650	7.9650	5.3100
CO4	0.0000	4.8000	7.2000	0.0000	0.0000
CO 5	5.1000	7.6500	0.0000	7.6500	7.6500
FINAL ATTAINMENT	**2.6150**	**2.5286**	**2.5600**	**2.5894**	**2.5935**

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VISAKHAPATNAM

DEPARTMENT OF CHEMISTRY

CO & PO ATTAINMENT

2018 – 2019

CO – PO ATTAINMENT METHODOLOGY

- Step 1

Calculation of Course Outcome Weighted Average (COWA)

The performance of the students was assessed by two methods

(a) Direct Assessment: The weightage for internal exams is 30% and for semester end exams is 60%
(b) Indirect assessment: 5% weightage for exit survey and 5% for extracurricular activities

The performance of the student is categorized into four levels

S.No	Percentage obtained by the student in DA and IDA	Level weightage
1	Less than 35%	0
2	Between 35% and 50%	1
3	Between 51% and 70%	2
4	Above 70%	3

The average level of all students for a particular course is found. It is called as Course Outcome Weighted Average (COWA).

$$\mathbf{COWA} = \frac{some\ of\ the\ level\ weitage\ of\ all\ students\ of\ a\ course}{total\ number\ of\ students}$$

- Step 2:

Calculation of Course outcome level index (COLLI):

To Map the course outcomes (COs) of a course with Blooms levels (1 to 6) by using action verbs used in CO' s. A course outcome may be mapped to multiple Blooms levels; hence we need to calculate the average Blooms level weightage (ABLW).

$$\mathbf{COLLI} = \frac{Sum\ of\ the\ weigtages\ of\ \ blooms\ levels\ mapped}{number\ of\ levels\ mapped}$$

- Step 3:

CO-PO mapping and CO-PSO mapping

Map each course outcome with POs and PSOs in levels 0,1,2,3. A CO may be mapped to multiple POs or PSOs with different levels 1,2,3. The weighted average of each PO is to be calculated.

- Step 4:

Calculation of CO attainment:

The formula for Course Outcome Attainment (CO Attainment) can be calculated by using below formula

$$\textbf{CO attainment} = \textbf{COWA} + \left\{(3 - \boldsymbol{COWA}) \times \left(1 - \frac{\boldsymbol{COLLI}}{3.5}\right)\right\}$$

(Blooms Level Weighted Average value = 3.5)

- Step 5:

Calculation of PO attainment:

The formula for Programme Outcome Attainment (PO Attainment) can be calculated by using below formula

$$\textbf{PO Attainment} = \frac{\Sigma(\boldsymbol{CO\ attainment})(\boldsymbol{PO\ level\ mapped\ with\ CO})}{\boldsymbol{Sum\ of\ the\ PO\ levels\ mapped\ with\ CO}}$$

PSO attainment:

The formula for Programme Specific Outcome Attainment (PSO Attainment) can be calculated by using the below formula

$$\textbf{PSO Attainment} = \frac{\Sigma(\boldsymbol{CO\ attainment})(\boldsymbol{PSO\ level\ mapped\ with\ CO})}{\boldsymbol{Sum\ of\ the\ PSO\ levels\ mapped\ with\ CO}}$$

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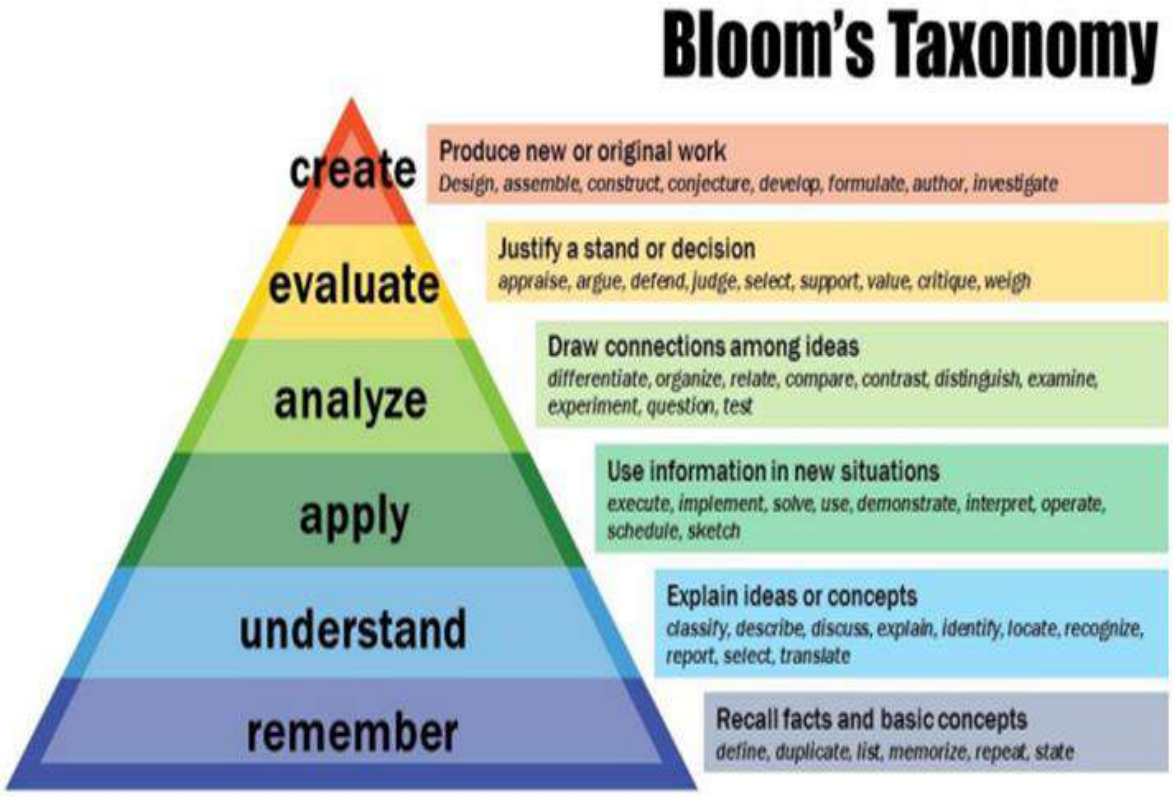
Levels of Bloom's Taxonomoy

Level-1	Knowlede/Remember
Level-2	Understand
Level-3	Application
Level-4	Analyze
Level-5	Evaluation
Level-6	Create



POs	Programme Outcomes
PO1	Critical Thinking: Ability to take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid,and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
PO2	Effective Communication: Ability to speak, read, write, and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media, and technology
PO3	Social Interaction: Ability to elicit views of others, mediate disagreements and help reach conclusions in group settings.
PO4	Effective Citizenship: Ability to demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.
PO5	Ethics: Ability to recognize different value systems including our own, understand the moral dimensions of your decisions, and accept responsibility for them.
PO6	Environment and Sustainability: Ability to understand the issues of environmental contexts and sustainable Development.
PO7	Employability skills: Equipping graduates with the essential abilities and knowledge to excel in their choosen careers.
PO8	Entrepreneurship skills: Seeks to empower students with the competencies needed to be successful entrepreneurs, enabling them to launch, operate, and innovate in their own businesses or entrepreneurial ventures.
PO9	Self-directed and Life-long Learning: Acquire the ability to engage in independent and life-long learning in the broadest

Program Specific Outcomes (PSOs)

PSOs	Program Specific Outcomes (PSOs)
PSO1	Grasp and analyze fundamental laws and concepts, enabling exploration in advanced branches of science and technology.
PSO2	Perform basic experiments, and competently handle, understand, and design equipment for specific scientific purposes.
PSO3	Develop essential analytical and mathematical skills, providing the advanced competence needed for higher education, research, and industry.
PSO4	Gain qualifications for job opportunities in schools, colleges, and scientific organizations, facilitating career initiation in the scientific field.
PSO5	Expand the boundaries of human knowledge, uncovering new facts and phenomena in the universe.

SEMESTER- 1

PAPER-1: INORGANIC AND ORGANIC CHEMISTRY

COURSE OUTCOME WEIGHTED AVERAGE: 2.51321353065539

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Explain the methods of synthesizing diborane and higher boranes. Describe the structural features and bonding in diborane and various higher boranes.	L-1 (Knowledge) L-2(Understand)	3.0	2.513213531
CO2	Classify oxides based on their chemical behavior (acidic, basic, amphoteric, neutral). Distinguish between different types of oxides (simple, mixed, peroxide, superoxide)	L-1 (knowledge) L-4(Analyze)	3.5	2.652295379
CO3	Explore recent advances and innovative uses of lithium and magnesium alkyls in chemical research.Analyze case studies of complex syntheses involving these organometallic compounds, understanding their role in modern chemistry.	L-2(Understand) L-3(Apply) L-6(Create)	3.6	2.499305346
CO4	Develop critical thinking skills to analyze and predict the outcomes of various organic reactions. Solve problems related to bond polarization, reactivity, and stability of organic molecules.	L-1 (knowledge) L-2(Understand)	2.5	2.652295379
CO5	Explain the mechanism of halogen addition to alkenes. Perform and predict the products of halogen addition reactions.	L-2(Understand) L-3(Apply) L-6(Create)	3.5	2.582754455

CO- PO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	1	1	1	3	3	2	2	2
C02	3	1	1	2	3	2	2	2	3
CO3	2	1	1	2	3	2	3	2	2
CO4	2	1	2	2	2	3	3	2	2
CO5	2	1	2	2	2	3	3	2	2
TOTAL	12	5	7	9	13	13	13	10	11

CO- PSO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	2	2	1	2
C02	2	2	3	2	2
CO3	2	1	2	2	2
CO4	1	2	1	2	3
CO5	1	2	1	2	3
TOTAL	9	9	9	9	12

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	7.539641	2.513214	2.513214	2.51321	7.53964	7.539641	5.0264	5.02642	5.026427
CO2	7.956886	2.652295	2.652295	5.30459	7.95688	5.304591	5.3045	5.30459	7.956886
CO3	5.304591	2.652295	2.652295	5.30459	7.95688	5.304591	7.9568	5.30459	5.304591
CO4	5.304591	2.652295	5.304591	5.30459	5.30459	7.956886	7.9568	5.30459	5.304591
CO 5	5.304591	2.652295	5.304591	5.30459	5.30459	7.956886	7.9568	5.30459	5.304591
FINAL ATTAINMENT	**2.617525**	**2.624479**	**2.632427**	**2.63684**	**2.6202**	**2.6202**	**2.6308**	**2.62447**	**2.627008**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	7.539641	5.026427	5.026427	2.513214	5.026427
CO2	5.304591	5.304591	7.956886	5.304591	5.304591
CO3	5.304591	2.652295	5.304591	5.304591	5.304591
CO4	2.652295	5.304591	2.652295	5.304591	7.956886
CO 5	2.652295	5.304591	2.652295	5.304591	7.956886
FINAL ATTAINMENT	**2.605935**	**2.621388**	**2.621388**	**2.636842**	**2.629115**

SEMESTER – 2

PAPER- 2 PHYSICAL & GENERAL CHEMISTRY

COURSE OUTCOME WEIGHTED AVERA GE: 2.523809524

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels)	CO Learning Level Index	CO ATTAINMENT
CO 1	To know the elements of symmetry in crystals, Definition of lattice point and space lattice. Description of the unit cell, the smallest repeating unit in the crystal lattice. Overview of Bravais lattices and different crystal systems	L-1 (knowledge) L-2(Understand)	3.5	2.523809524
CO2	To distinguish between the Deviation of real gases from ideal behavior, Understanding the temperature change of a real gas when it expands or is compressed without any heat exchange with the environment	L-2(Understand) L-3(Apply) L-4(Analyze)	3	2.591836735
CO3	To differentiate between the structural states of matter. Understand the unique properties of liquid crystals and their applications.	L-2(Understand) L-4(Analyze)	3	2.591836735
CO4	Application to ideal solutions where the partial vapor pressure of each component is directly proportional to its mole fraction in the solution.Deviations from Raoult's law due to solute-solvent interactions.	L-2(Understand) L-4(Analyze)	3	2.591836735
CO5	Overview of colloids and their importance in various fields.Techniques for preparing sols, such as dispersion methods and condensation methods.	L-1 (knowledge) L-6(Create)	3.3	2.551020408
CO6	To understand the Wedge, Fischer, Newman, and Saw-Horse formulae for depicting three-dimensional structures of molecules.	L-2(Understand) L-4(Analyze)	3.5	2.523809524

CO- PO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	2	3	2	2	2	2	2	3
C02	3	1	1	3	3	2	3	2	3
CO3	2	2	2	1	2	2	2	3	2
CO4	3	3	1	2	3	3	3	2	3
CO5	2	2	2	2	2	3	3	2	2
CO6	2	2	2	2	2	3	3	2	2
TOTAL	15	12	11	12	14	15	16	13	15

CO- PSO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	3	2	3	2
C02	3	2	3	2	2
CO3	2	3	2	2	2
CO4	2	2	3	2	3
CO5	2	2	2	2	3
CO6	2	2	2	1	2
TOTAL	13	14	14	12	14

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	7.5714	5.04761	7.571429	5.047619	5.0476	5.047619	5.047619	5.0476	5.04761
C02	7.7755	2.59183	2.591837	7.77551	7.7755	5.183673	7.77551	5.1836	7.77551
CO3	5.1836	5.18367	5.183673	2.591837	5.1836	5.183673	5.183673	7.7755	5.18367
CO4	7.7755	7.77551	2.591837	5.183673	7.7755	7.77551	7.77551	5.1836	7.77551
CO5	5.1836	5.18367	5.183673	5.183673	5.1836	7.77551	7.77551	5.1836	5.18367
FINAL ATTAINMENT	5.1836	5.18367	5.183673	5.183673	5.1836	7.77551	7.77551	5.1836	5.18367

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	5.047619	7.571429	5.047619	7.571429	5.047619
C02	7.77551	5.183673	7.77551	5.183673	5.183673
CO3	5.183673	7.77551	5.183673	5.183673	5.183673
CO4	5.183673	5.183673	7.77551	5.183673	7.77551
CO5	5.183673	5.183673	5.183673	5.183673	7.77551
CO6	5.183673	5.183673	5.183673	2.591837	5.183673
FINAL ATTAINMENT	**2.581371**	**2.577259**	**2.582119**	**2.57483**	**2.582119**

SEMESTER- 3

PAPER-3 : INORGANIC & ORGANIC CHEMISTRY

COURSE OUTCOME WEIGHTED AVERAGE: 2.611363636

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	To understand the electronic configuration, variable valence, magnetic properties, catalytic properties and ability to form complexes.	L-1 (knowledge) L-2(Understand)	3.5	2.611363636
CO2	Overview of properties like malleability, ductility, conductivity, etc.Explanation of conductors, semiconductors, and insulators based on band structure.	L-2(Understand) L-4(Analyze)	3	2.666883117
CO3	Calculation and significance of EAN.Structures of metal carbonyls of vanadium (V), chromium (Cr), manganese (Mn), iron (Fe), cobalt (Co), and nickel (Ni).	L-1 (knowledge) L-5(Evaluate)	3	2.666883117
CO4	General electronic configuration and specific examples.To diffentiate between Lanthanide and actinides Contraction and Explain its consequences.	L-1 (knowledge) L-4(Analyze)	2.5	2.722402597
CO5	Primary, secondary, and tertiary alcohols.Common and IUPAC naming conventions. Mechanism and application in synthesizing primary alcohols.	L-2(Understand) L-3(Apply)	2.5	2.722402597
CO6	Naming aliphatic and aromatic aldehydes and ketones. Understanding of common names and IUPAC nomenclature.	L-2(Understand) L-3(Apply)	2.5	2.722402597

CO- PO MAPPING 1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	2	3	2	2	2	2	2	2
C02	3	1	1	3	3	2	3	2	3
CO3	2	2	2	1	2	2	2	3	2
CO4	3	3	1	2	3	3	3	2	3
CO5	2	2	2	2	2	3	3	2	2
CO6	2	2	2	2	2	3	3	2	2
TOTAL	15	12	11	12	14	15	16	13	14

CO- PSO MAPPING 1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	3	2	3	2
C02	3	2	3	2	2
CO3	2	3	2	2	2
CO4	2	2	3	2	3
CO5	2	2	2	2	3
CO6	2	2	2	1	2
TOTAL	13	14	14	12	14

PROGRAM OUTCOMES ATTAINMENT

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	7.83409	5.222727	7.834091	5.2227	5.2227	5.2227	5.222727	5.222727	5.222727
CO2	8.00064	2.666883	2.666883	8.0006	8.0006	5.3337	8.0006	5.333766	8.000649
CO3	5.33376	5.333766	5.333766	2.6668	5.3337	5.3337	5.3337	8.000649	5.333766
CO4	8.00064	8.000649	2.666883	5.3337	8.0006	8.0006	8.0006	5.333766	8.000649
CO5	5.33376	5.333766	5.333766	5.3337	5.3337	8.0006	8.0006	5.333766	5.333766
CO6	5.33376	5.333766	5.333766	5.3337	5.3337	8.0006	8.0006	5.333766	5.333766
FINAL ATTAINMENT	**2.65577**	**2.65763**	**2.651741**	**2.6576**	**2.6589**	**2.6594**	**2.6599**	**2.65834**	**2.658952**

PROGRAM SPECIFIC OUTCOMES ATTAINMENT

	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	5.222727	7.834091	5.222727	7.834091	5.222727
CO2	8.000649	5.333766	8.000649	5.333766	5.333766
CO3	5.333766	8.000649	5.333766	5.333766	5.333766
CO4	5.333766	5.333766	8.000649	5.333766	8.000649
CO5	5.333766	5.333766	5.333766	5.333766	8.000649
CO6	5.333766	5.333766	5.333766	2.666883	5.333766
FINAL ATTAINMENT	**2.658342**	**2.654986**	**2.658952**	**2.653003**	**2.658952**

SEMESTER- 4

PAPER-4: SPECTROSCOPY & PHYSICAL CHEMISTRY

COURSE OUTCOME WEIGHTED AVERAGE:

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Definition and mathematical expression. Limitations of Beer-Lambert Law. Concepts of transmittance, absorbance, and molar absorptivity.	L-1 (knowledge) L-2(Understand)	3.5	2.611179111
CO 2	Types of molecular spectra. Energy levels of molecular orbitals (σ, π, η). Selection rules for electronic spectra. Types of electronic transitions in molecules. Effect of conjugation. Concepts of chromophore and auxochrome.	L-2(Understand) L-4(Analyze)	3	2.666724952
CO 3	Modes of vibrations in diatomic and polyatomic molecules. Characteristic absorption bands of various functional groups. Interpretation of IR spectra for Alkanes, Aromatic compounds, Alcohols, Carbonyls, and Amines (one example each).	L-1 (knowledge) L-5(Evaluate)	3	2.666724952
CO 4	Nuclear magnetic resonance and its basic principles. Equivalent and non-equivalent protons. Position of NMR signals. Chemical shift, spin-spin splitting, and coupling constants. Applications of NMR with examples: Ethyl bromide, Ethanol, Acetaldehyde, 1,1,2-tribromoethane, Ethyl acetate, Toluene, and Acetophenone.	L-1 (knowledge) L-4(Analyze)	2.5	2.722270793
CO 5	Specific conductance and equivalent conductance. Variation of equivalent conductance with dilution. Migration of ions and Kohlrausch's law.	L-2(Understand) L-3(Apply)	2.5	2.722270793
CO 6	Single electrode potential and sign convention. Reversible and irreversible cells. Nernst Equation.	L-2(Understand) L-3(Apply)	2.5	2.722270793

CO- PO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	2	3	2	2	2	2	2	2
C02	3	1	1	3	3	2	3	2	3
CO3	2	2	2	1	2	2	2	3	2
	3	3	1	2	3	3	3	2	3
CO4	2	2	2	2	2	3	3	2	2
CO5	2	2	2	2	2	3	3	2	2
TOTAL	15	12	11	12	14	15	16	13	14

CO- PSO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	3	2	3	2
C02	3	2	3	2	2
CO3	2	3	2	2	2
CO4	2	2	3	2	3
CO5	2	2	2	2	3
CO6	2	2	2	1	2
TOTAL	13	14	14	12	14

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	7.83353	5.222358	7.833537	5.222358	5.2223	5.222358	5.22235	5.2223	5.22235
CO2	8.00017	2.666725	2.666725	8.000175	8.0001	5.33345	8.00017	5.3334	8.00017
CO3	5.33345	5.33345	5.33345	2.666725	5.3334	5.33345	5.33345	8.0001	5.33345
CO4	8.00017	8.000175	2.666725	5.33345	8.0001	8.000175	8.00017	5.3334	8.00017
CO5	5.33345	5.33345	5.33345	5.33345	5.3334	8.000175	8.00017	5.3334	5.33345
CO6	5.33345	5.33345	5.33345	5.33345	5.3334	8.000175	8.00017	5.3334	5.33345
FINAL ATTAINMENT	**2.65561**	**2.657467**	**2.651576**	**2.657467**	**2.6587**	**2.659319**	**2.65978**	**2.6581**	**2.65879**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	5.222358	7.833537	5.222358	7.833537	5.222358
CO2	8.000175	5.33345	8.000175	5.33345	5.33345
	5.33345	8.000175	5.33345	5.33345	5.33345
CO3	5.33345	5.33345	8.000175	5.33345	8.000175
CO4	5.33345	5.33345	5.33345	5.33345	8.000175
CO5	5.33345	5.33345	5.33345	2.666725	5.33345
FINAL ATTAINMENT	**2.658179**	**2.654822**	**2.65879**	**2.652838**	**2.65879**

SEMESTER- 5

PAPER-5 : INORGANIC, PHYSICAL & ORGANIC CHEMISTRY

COURSE OUTCOME WEIGHTED AVERAGE: 2.805256192

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Students will gain proficiency in the IUPAC nomenclature of coordination compounds. They will be able to explain and apply Werner's theory and Sedgwick's concept of coordination.	L-1 (knowledge) L-2(Understand)	3.5	2.805256192
CO2	Students will identify and differentiate between structural and stereoisomerism in coordination compounds. They will understand the stereochemistry of complexes with coordination numbers 4 and 6.	L-2(Understand) L-4(Analyze)	3	2.833076736
CO3	Students will learn about different types of magnetic behavior and how to calculate magnetic moments using the spin-only formula. They will understand the experimental determination of magnetic susceptibility using the Gouy method.	L-1 (knowledge) L-5(Evaluate)	3	2.833076736
CO4	Students will determine the composition of complexes using Job's method and the mole ratio method.	L-1 (knowledge) L-4(Analyze)	2.5	2.86089728
CO5	Students will be proficient in the nomenclature and classification of nitro hydrocarbons. They will understand the structure and tautomerism of nitroalkanes. Students will learn the preparation methods of nitroalkanes and their reactivity, including halogenations, reactions with nitrous acid, Neff reaction, Mannich reaction, Michael addition, and reduction.	L-2(Understand) L-3(Apply)	2.5	2.86089728
CO6	Students will classify and name aliphatic and aromatic amines, including primary, secondary, tertiary amines, and quaternary ammonium compounds. Students will understand the first law, including internal energy, enthalpy, and heat capacities.	L-2(Understand) L-3(Apply)	2.5	2.86089728

CO- PO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	2	3	2	2	2	2	2	2
C02	3	1	1	3	3	2	3	2	3
CO3	2	2	2	1	2	2	2	3	2
CO4	3	3	1	2	3	3	3	2	3
CO5	2	2	2	2	2	3	3	2	2
CO6	2	2	2	2	2	3	3	2	2
CO7	3	2	3	2	2	2	2	2	2
TOTAL	15	12	11	12	14	15	16	13	14

CO- PSO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	3	2	3	2
C02	3	2	3	2	2
CO3	2	3	2	2	2
CO4	2	2	3	2	3
CO5	2	2	2	2	3
CO6	2	2	2	1	2
CO7	2	3	2	3	2
TOTAL	13	14	14	12	14

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	8.415769	5.610512	8.415769	5.610512	5.610512	5.610512	5.610512	5.610512	5.610512
C02	8.49923	2.833077	2.833077	8.49923	8.49923	5.666153	8.49923	5.666153	8.49923
CO3	5.666153	5.666153	5.666153	2.833077	5.666153	5.666153	5.666153	8.49923	5.666153
CO4	8.49923	8.49923	2.833077	5.666153	8.49923	8.49923	8.49923	5.666153	8.49923
CO5	5.666153	5.666153	5.666153	5.666153	5.666153	8.49923	8.49923	5.666153	5.666153
CO6	5.666153	5.666153	5.666153	5.666153	5.666153	8.49923	8.49923	5.666153	5.666153
CO7	8.415769	5.610512	8.415769	5.610512	5.610512	5.610512	5.610512	5.610512	5.610512
FINAL ATTAINMENT	**2.827513**	**2.82844**	**2.825489**	**2.82844**	**2.829102**	**2.829367**	**2.829599**	**2.828797**	**2.829102**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	5.610512	8.415769	5.610512	8.415769	5.610512
C02	8.49923	5.666153	8.49923	5.666153	5.666153
CO3	5.666153	8.49923	5.666153	5.666153	5.666153
CO4	5.666153	5.666153	8.49923	5.666153	8.49923
CO5	5.666153	5.666153	5.666153	5.666153	8.49923
CO6	5.666153	5.666153	5.666153	2.833077	5.666153
CO7	5.610512	8.415769	5.610512	8.415769	5.610512
FINAL ATTAINMENT	**2.828797**	**2.827115**	**2.829102**	**2.826122**	**2.829102**

SEMESTER- 5

PAPER-6 : INORGANIC, ORGANIC & PHYSICAL CHEMISTRY

COURSE OUTCOME WEIGHTED AVERAGE: 2.73170731707317

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Students will differentiate between labile and inert metal complexes. They will understand SN1 and SN2 mechanisms for ligand substitution reactions. Also, Substitution Reactions in Square Planar Complexes	L-1 (knowledge) L-2(Understand)	3.5	2.731707317
CO 2	Students will learn the biological significance of essential elements like Na, K, Mg, Ca, Fe, Co, Ni, Cu, Zn, and Cl. They will understand the structure and functions of key metalloporphyrins, such as hemoglobin, myoglobin, and chlorophyll.	L-2(Understand) L-4(Analyze)	3	2.770034843
CO 3	Students will define the order and molecularity of reactions. They will derive rate constants for first, second, third, and zero-order reactions and understand their significance.	L-1 (knowledge) L-5(Evaluate)	3	2.770034843
CO 4	Students will learn about the aromatic character and structures of five-membered ring compounds like furan, thiophene, and pyrrole.	L-1 (knowledge) L-4(Analyze)	2.5	2.808362369
CO 5	Students will provide evidence for cyclic structures of glucose and fructose. They will understand methods for interconversion between different monosaccharides, such as the Kiliani-Fischer method and Ruff degradation.	L-2(Understand) L-3(Apply)	2.5	2.808362369
CO 6	Students will classify amino acids into alpha, beta, and amma categories, and identify natural and essential amino acids.	L-2(Understand) L-3(Apply)	2.5	2.808362369

CO- PO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	2	3	2	2	2	2	2	2
C02	3	1	1	3	3	2	3	2	3
CO3	2	2	2	1	2	2	2	3	2
CO4	3	3	1	2	3	3	3	2	3
CO5	2	2	2	2	2	3	3	2	2
CO6	2	2	2	2	2	3	3	2	2
TOTAL	15	12	11	12	14	15	16	13	14

CO- PSO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	3	2	3	2
C02	3	2	3	2	2
CO3	2	3	2	2	2
CO4	2	2	3	2	3
CO5	2	2	2	2	3
CO6	2	2	2	1	2
TOTAL	13	14	14	12	14

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	8.195122	5.463415	8.195122	5.463415	5.463415	5.463415	5.463415	5.463415	5.463415
C02	8.310105	2.770035	2.770035	8.310105	8.310105	5.54007	8.310105	5.54007	8.310105
CO3	5.54007	5.54007	5.54007	2.770035	5.54007	5.54007	5.54007	8.310105	5.54007
CO4	8.310105	8.310105	2.770035	5.54007	8.310105	8.310105	8.310105	5.54007	8.310105
CO5	5.54007	5.54007	5.54007	5.54007	5.54007	8.310105	8.310105	5.54007	5.54007
CO6	5.54007	5.54007	5.54007	5.54007	5.54007	8.310105	8.310105	5.54007	5.54007
FINAL ATTAINMENT	**2.762369**	**2.763647**	**2.759582**	**2.763647**	**2.764559**	**2.764925**	**2.765244**	**2.764138**	**2.764559**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	5.463415	8.195122	5.463415	8.195122	5.463415
C02	8.310105	5.54007	8.310105	5.54007	5.54007
CO3	5.54007	8.310105	5.54007	5.54007	5.54007
CO4	5.54007	5.54007	8.310105	5.54007	8.310105
CO5	5.54007	5.54007	5.54007	5.54007	8.310105
CO6	5.54007	5.54007	5.54007	2.770035	5.54007
FINAL ATTAINMENT	**2.764138**	**2.761822**	**2.764559**	**2.760453**	**2.764559**

SEMESTER- 6

PAPER-7C: GREEN CHEMISTRY

COURSE OUTCOME WEIGHTED AVERAGE: 2.743961352657

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Understand the importance of Green chemistry and Green synthesis.	L-1 (knowledge) L-2(Understand)	1.5	2.817115252
CO 2	Engage in Microwave assisted organic synthesis	L-2(Understand)	2	2.853692202
CO 3	Demonstrate skills using the alternative green solvents in synthesis.	L-4(Analyze)	4	2.707384403
CO 4	Demonstrate and explain enzymatie catalysis.	L-3(Apply) L-6(Create)	4.5	2.670807453
CO 5	Analyse alternative sources of energy and carry out green synthesis.	L-4(Analyze)	4	2.707384403
CO 6	Carry out the cheniical method of nanomaterial synthiesis.	L-4(Analyze)	4	2.817115252

CO- PO MAPPING 1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	1	1	1	2	2	2	2	2
C02	3	1	0	2	2	3	3	2	3
CO3	2	1	2	2	2	2	2	3	2
CO4	3	1	1	2	3	2	2	2	3
CO5	2	2	2	2	2	2	2	2	2
CO6	2	1	2	2	2	3	3	2	2
TOTAL	15	7	8	11	13	14	14	13	14

CO- PSO MAPPING 1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	2	1	2
C02	2	2	3	2	2
CO3	2	1	2	2	2
CO4	1	2	1	2	3
CO5	2	2	2	2	2
CO6	2	1	3	2	1
TOTAL	12	11	13	11	12

PROGRAM OUTCOMES ATTAINMENT

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	8.670807	2.890269	2.890269	2.890269	5.780538	5.780538	5.780538	5.780538	5.780538
C02	8.561077	2.853692	0	5.707384	5.707384	8.561077	8.561077	5.707384	8.561077
CO3	5.707384	2.853692	5.707384	5.707384	5.707384	5.707384	5.707384	8.561077	5.707384
CO4	8.561077	2.853692	2.853692	5.707384	8.561077	5.707384	5.707384	5.707384	8.561077
CO5	5.707384	5.707384	5.707384	5.707384	5.707384	5.707384	5.707384	5.707384	5.707384
CO6	5.707384	2.853692	5.707384	5.707384	5.707384	8.561077	8.561077	5.707384	5.707384
FINAL ATTAINMENT	**2.861008**	**2.858917**	**2.858264**	**2.857017**	**2.859319**	**2.858917**	**2.858917**	**2.859319**	**2.858917**

PROGRAM SPECIFIC OUTCOMES ATTAINMENT

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	8.670807	8.670807	5.780538	2.890269	5.780538
C02	5.707384	5.707384	8.561077	5.707384	5.707384
CO3	5.707384	2.853692	5.707384	5.707384	5.707384
CO4	2.853692	5.707384	2.853692	5.707384	8.561077
CO5	5.707384	5.707384	5.707384	5.707384	5.707384
CO6	5.707384	2.853692	8.561077	5.707384	2.853692
FINAL ATTAINMENT	**2.862836**	**2.863668**	**2.859319**	**2.857017**	**2.859788**

SEMESTER- 6

PAPER-8C1: ORGANIC SPECTROSCOPIC TECHNIQUES

COURSE OUTCOME WEIGHTED AVERAGE: 2.75308641975309

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Gain a comprehensive understanding of the principles and theoretical background of NMR, UV, and visible spectroscopy	L-1 (Knowledge)	1	2.929453263
CO 2	Develop the ability to interpret and analyze spectral data for identifying chemical structures	L-2(Understand) L-4(Analyze)	3	2.788359788
CO 3	Learn to apply spectroscopic techniques in various fields such as medical diagnostics and reaction kinetics	L-2(Understand) L-3(Apply)	2.5	2.823633157
CO 4	Acquire knowledge of advanced NMR techniques and their practical applications.	L-4(Analyze)	4	2.717813051
CO 5	Develop skills in chemical analysis using electronic spectroscopy and understand the practical implications of Beer-Lambert's law and its deviations	L-5(Evaluate) L-3(Apply)	4	2.717813051

CO- PO MAPPING 1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	1	1	0	2	2	3	1	2
C02	3	1	1	3	3	2	3	2	3
CO3	2	2	1	2	1	2	2	3	2
CO4	3	1	2	2	3	3	2	3	3
CO5	2	1	2	2	2	3	3	2	2
TOTAL	13	6	7	9	11	12	13	11	12

CO- PSO MAPPING 1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	2	1	2
C02	2	2	3	2	2
CO3	2	1	2	2	2
CO4	1	2	1	2	3
CO5	2	1	2	3	2
TOTAL	10	9	10	10	11

PROGRAM OUTCOMES ATTAINMENT

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	8.78836	2.929453	2.929453	0	5.858907	5.858907	8.78836	2.929453	5.858907
C02	8.365079	2.78836	2.78836	8.365079	8.365079	5.57672	8.365079	5.57672	8.365079
CO3	5.57672	5.57672	2.78836	5.57672	2.78836	5.57672	5.57672	8.365079	5.57672
CO4	8.365079	2.78836	5.57672	5.57672	8.365079	8.365079	5.57672	8.365079	8.365079
CO5	5.57672	2.78836	5.57672	5.57672	5.57672	8.365079	8.365079	5.57672	5.57672
FINAL ATTAINMENT	**2.82092**	**2.811875**	**2.808516**	**2.78836**	**2.814013**	**2.811875**	**2.82092**	**2.801186**	**2.811875**

PROGRAM SPECIFIC OUTCOMES ATTAINMENT

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	8.78836	8.78836	5.858907	2.929453	5.858907
C02	5.57672	5.57672	8.365079	5.57672	5.57672
CO3	5.57672	2.78836	5.57672	5.57672	5.57672
CO4	2.78836	5.57672	2.78836	5.57672	8.365079
CO5	5.57672	2.78836	5.57672	8.365079	5.57672
FINAL ATTAINMENT	**2.830688**	**2.835391**	**2.816578**	**2.802469**	**2.814013**

SEMESTER- 6

PAPER-8C2: ADVANCED ORGANIC REACTIONS

COURSE OUTCOME WEIGHTED AVERAGE: 2.753086

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Gain a comprehensive understanding of the principles and mechanisms of organic photochemistry.	L-1 (Knowledge)	1	2.929453143
CO 2	Learn detailed mechanisms of advanced photochemical reactions, including Norrish cleavages and photoreductions	L-2(Understand) L-4(Analyze)	3	2.788359429
CO 3	Develop proficiency in the use of protecting groups for alcohols, carboxylic acids, and carbonyl compounds	L-2(Understand) L-3(Apply)	2.5	2.823632857
CO 4	Acquire in-depth knowledge of classical synthetic reactions like the Mannich reaction, Robinson annulation, and the Wittig reaction.	L-4(Analyze)	4	2.717812571
CO 5	Understand and apply new synthetic reactions such as the Baylis-Hillman reaction, olefin metathesis, and various coupling reactions (Heck, Suzuki, Stille, Sonogashira, Click)	L-5(Evaluate) L-3(Apply)	4	2.717812571

CO- PO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	1	1	0	2	2	3	1	2
C02	3	1	1	3	3	2	3	2	3
CO3	2	2	1	2	1	2	2	3	2
CO4	3	1	2	2	3	3	2	3	3
CO5	2	1	2	2	2	3	3	2	2
TOTAL	13	6	7	9	11	12	13	11	12

CO- PSO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	2	1	2
C02	2	2	3	2	2
CO3	2	1	2	2	2
CO4	1	2	1	2	3
CO5	2	1	2	3	2
TOTAL	10	9	10	10	11

PROGRAM OUTCOMES ATTAINMENT

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	8.788359	2.929453	2.929453	0	5.858906	5.858906	8.788359	2.929453	5.858906
C02	8.365078	2.788359	2.788359	8.365078	8.365078	5.576719	8.365078	5.576719	8.365078
CO3	5.576719	5.576719	2.788359	5.576719	2.788359	5.576719	5.576719	8.365078	5.576719
CO4	8.365078	2.788359	5.576719	5.576719	8.365078	8.365078	5.576719	8.365078	8.365078
CO5	5.576719	2.788359	5.576719	5.576719	5.576719	8.365078	8.365078	5.576719	5.576719
FINAL ATTAINMENT	**2.82092**	**2.811875**	**2.808516**	**2.788359**	**2.814013**	**2.811875**	**2.82092**	**2.801186**	**2.811875**

PROGRAM SPECIFIC OUTCOMES ATTAINMENT

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	8.788359	8.788359	5.858906	2.929453	5.858906
C02	5.576719	5.576719	8.365078	5.576719	5.576719
CO3	5.576719	2.788359	5.576719	5.576719	5.576719
CO4	2.788359	5.576719	2.788359	5.576719	8.365078
CO5	5.576719	2.788359	5.576719	8.365078	5.576719
FINAL ATTAINMENT	**2.830688**	**2.835391**	**2.816578**	**2.802469**	**2.814013**

SEMESTER- 6

PAPER-8C3: PHARMACEUTICAL AND MEDICINAL CHEMISTRY

COURSE OUTCOME WEIGHTED AVERAGE: 2.91358

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Develop a comprehensive understanding of key terms and concepts in pharmaceutical and medicinal chemistry.	L-1 (Knowledge)	3.5	2.91358
CO 2	Learn to accurately name and classify drugs based on their chemical structure and therapeutic activity.	L-2(Understand) L-4(Analyze)	3	2.925925714
CO 3	Gain knowledge of the synthesis and therapeutic activities of various chemotherapeutic, psycho-therapeutic, and pharmacodynamic drugs.	L-2(Understand) L-3(Apply)	2.5	2.938271429
CO 4	Understand the principles of pharmacodynamics and pharmacokinetics and their application in drug development and therapy.	L-4(Analyze)	4	2.901234286
CO 5	Acquire knowledge about the immune system's response to HIV, the replication of retroviruses, and the current strategies for the investigation, prevention, and treatment of AIDS.	L-5(Evaluate) L-3(Apply)	4	2.901234286

CO- PO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	1	1	0	2	2	3	1	2
C02	3	1	1	3	3	2	3	2	3
CO3	2	2	1	2	1	2	2	3	2
CO4	3	1	2	2	3	3	2	3	3
CO5	2	1	2	2	2	3	3	2	2
TOTAL	13	6	7	9	11	12	13	11	12

CO- PSO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	2	1	2
C02	2	2	3	2	2
CO3	2	1	2	2	2
CO4	1	2	1	2	3
CO5	2	1	2	3	2
TOTAL	10	9	10	10	11

PROGRAM OUTCOMES ATTAINMENT

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	8.74074	2.91358	2.91358	0	5.82716	5.82716	8.74074	2.91358	5.82716
C02	8.777777	2.925926	2.925926	8.777777	8.777777	5.851851	8.777777	5.851851	8.777777
CO3	5.851851	5.851851	2.925926	5.851851	2.925926	5.851851	5.851851	8.777777	5.851851
CO4	8.777777	2.925926	5.851851	5.851851	8.777777	8.777777	5.851851	8.777777	8.777777
CO5	5.851851	2.925926	5.851851	5.851851	5.851851	8.777777	8.777777	5.851851	5.851851
FINAL ATTAINMENT	**2.923077**	**2.923868**	**2.924162**	**2.925926**	**2.923681**	**2.923868**	**2.923077**	**2.924803**	**2.923868**

PROGRAM SPECIFIC OUTCOMES ATTAINMENT

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	8.74074	8.74074	5.82716	2.91358	5.82716
C02	5.851851	5.851851	8.777777	5.851851	5.851851
CO3	5.851851	2.925926	5.851851	5.851851	5.851851
CO4	2.925926	5.851851	2.925926	5.851851	8.777777
CO5	5.851851	2.925926	5.851851	8.777777	5.851851
FINAL ATTAINMENT	**2.922222**	**2.92181**	**2.923457**	**2.924691**	**2.923681**

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VISAKHAPATNAM

DEPARTMENT OF PHYSICS

CO & PO ATTAINMENT

2018 – 2019

CO – PO ATTAINMENT METHODOLOGY

- Step 1

Calculation of Course Outcome Weighted Average (COWA)

The performance of the students assessed by two methods

(a) Direct Assessment: The weightage for internal exams is 30% and for semester end exams is 60%
(b) Indirect assessment: 5% weightage for exit survey and 5% for extracurricular activities

The performance of the student is categorised in four levels

S,No	Percentage obtained by the student in DA and IDA	Level weightage
1	Less than 35%	0
2	Between 35% and 50%	1
3	Between 51% and 70%	2
4	Above 70%	3

The average level of all students for a particular course is found. It is called as course outcome weighted average (COWA).

$$\mathbf{COWA} = \frac{\textit{some of the level weitage of all students of a course}}{\textit{total number of students}}$$

- Step 2:

Calculation of Course outcome level index (COLLI):

To Map the course outcomes (COs) of a course with Blooms levels (1 to 6) by using action verbs used in CO' s. A course outcome may be mapped to multiple Blooms levels; hence we need to calculate the average Blooms level weightage (ABLW).

$$\mathbf{COLLI} = \frac{\textit{Sum of the weigtages of blooms levels mapped}}{\textit{number of levels mapped}}$$

- Step 3:

CO-PO mapping and CO-PSO mapping

Map each course outcome with POs and PSOs in levels 0,1,2,3. A CO may be mapped to multiple POs or PSOs with different levels 1,2,3. The weighted average of each PO is to be calculated.

- Step 4:

Calculation of CO attainment:

The formula for Course Outcome Attainment (CO Attainment) can be calculated by using below formula

$$\textbf{CO attainment} = \textbf{COWA} + \left\{(3 - \boldsymbol{COWA}) \times \left(1 - \frac{\boldsymbol{COLLI}}{3.5}\right)\right\}$$

(Blooms Level Weighted Average value = 3.5)

- Step 5:

Calculation of PO attainment:

The formula for Programme Outcome Attainment (PO Attainment) can be calculated by using below formula

$$\textbf{PO Attainment} = \frac{\Sigma(\boldsymbol{CO\ attainment})(\boldsymbol{PO\ level\ mapped\ with\ CO})}{\boldsymbol{Sum\ of\ the\ PO\ levels\ mapped\ with\ CO}}$$

PSO attainment:

The formula for Programme Specific Outcome Attainment (PSO Attainment) can be calculated by using below formula

$$\textbf{PSO Attainment} = \frac{\Sigma(\boldsymbol{CO\ attainment})(\boldsymbol{PSO\ level\ mapped\ with\ CO})}{\boldsymbol{Sum\ of\ the\ PSO\ levels\ mapped\ with\ CO}}$$

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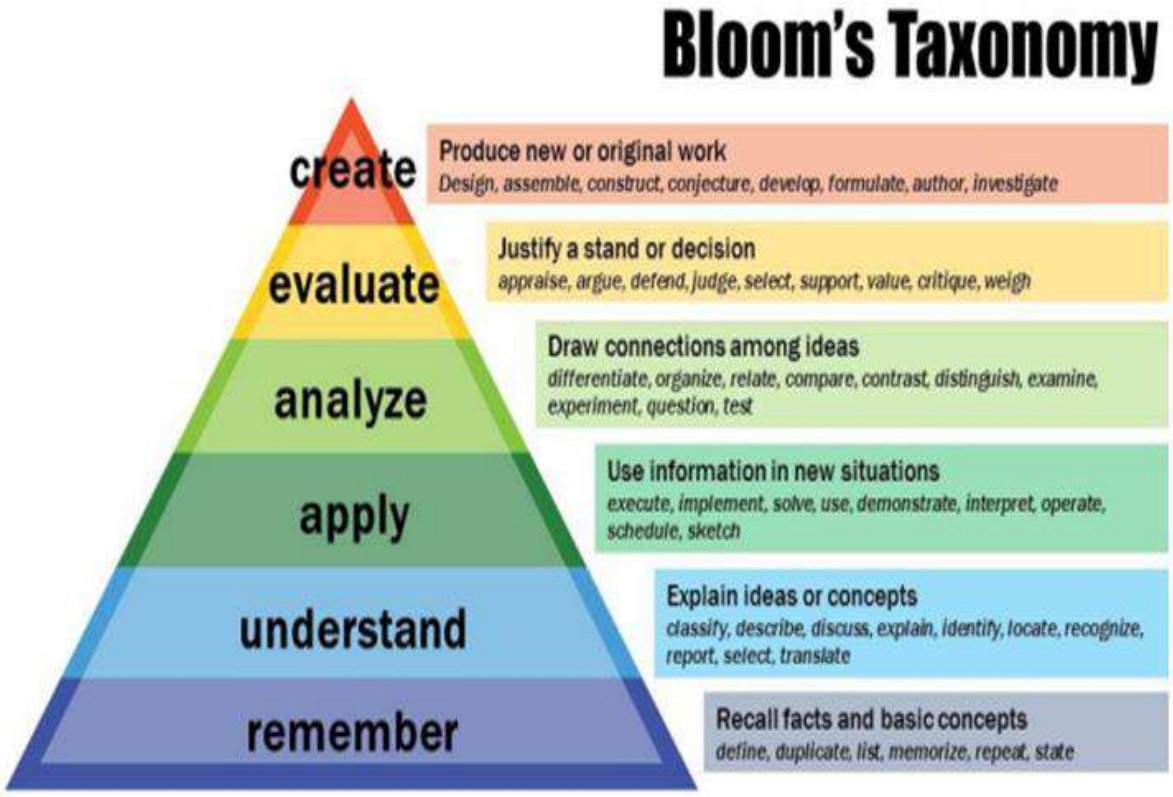
Levels of Bloom's Taxonomoy

Level-1	Knowlede/Remember
Level-2	Understand
Level-3	Application
Level-4	Analyze
Level-5	Evaluation
Level-6	Create



POs	Programme Outcomes
PO1	Critical Thinking: Ability to take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid,and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
PO2	Effective Communication: Ability to speak, read, write, and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media, and technology
PO3	Social Interaction: Ability to elicit views of others, mediate disagreements and help reach conclusions in group settings.
PO4	Effective Citizenship: Ability to demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.
PO5	Ethics: Ability to recognize different value systems including our own, understand the moral dimensions of your decisions, and accept responsibility for them.
PO6	Environment and Sustainability: Ability to understand the issues of environmental contexts and sustainable Development.
PO7	Employability skills: Equipping graduates with the essential abilities and knowledge to excel in their choosen careers.
PO8	Entrepreneurship skills: Seeks to empower students with the competencies needed to be successful entrepreneurs, enabling them to launch, operate, and innovate in their own businesses or entrepreneurial ventures.
PO9	Self-directed and Life-long Learning: Acquire the ability to engage in independent and life-long learning in the broadest

Program Specific Outcomes (PSOs)

PSOs	Program Specific Outcomes (PSOs)
PSO1	Grasp and analyze fundamental laws and concepts, enabling exploration in advanced branches of science and technology.
PSO2	Perform basic experiments, and competently handle, understand, and design equipment for specific scientific purposes.
PSO3	Develop essential analytical and mathematical skills, providing the advanced competence needed for higher education, research, and industry.
PSO4	Gain qualifications for job opportunities in schools, colleges, and scientific organizations, facilitating career initiation in the scientific field.
PSO5	Expand the boundaries of human knowledge, uncovering new facts and phenomena in the universe.

SEMESTER- 1

PAPER-1: Mechanics

COURSE OUTCOME WEIGHTED AVERAGE: 2.4033

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Understand Newton's laws of motion , motion of many particle systems ,laws of conservation of Linear Momentum , work & Energy and also about Collisions	L2	2	2.659
CO2	Apply the rotational kinematic relations, and Conservation of angular Momentum, symmetries of Moment of Inertia for the Combined Rotation Translation Motion	L3	3	2.4885
CO3	Comprehend the general characteristics of central forces and the application of Kepler's laws to describe the motion of planets and satellite in circular orbit through the study of law of Gravitation and also about the basic aspects of Elasticity & Fluid Motion	L4	4	2.3181
CO4	Get acquainted with the basics of Oscillatory motion and the motion w.r.t. the Non-inertial frames of Reference	L2	2	2.659

CO5	Understand postulates of Special theory of relativity and its consequences such as length contraction, time dilation, relativistic mass and mass-energy equivalence.	L2 L4	3	2.4885

CO- PO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	0	3	1	0	0	2	2	1
C02	1	2	0	2	1	1	2	0	1
CO3	2	3	1	0	0	1	3	2	1
CO4	1	2	1	1	1	3	1	2	1
CO5	0	2	3	1	0	1	1	2	2
TOTAL	6	9	8	5	2	6	9	8	6

CO- PSO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	2	1	2	2
C02	2	3	2	2	1
CO3	1	3	1	2	2
CO4	1	1	2	2	3
CO5	2	2	3	3	1
TOTAL	9	11	9	11	9

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	5.3181	0	7.9771	2.6591	0	0	5.3181	5.3181	2.6591
CO2	2.4885	4.9771	0	4.9771	2.4885	2.4885	4.9771	0	2.4885
CO3	4.6361	6.9542	2.3181	0	0	2.3181	6.9542	4.6361	2.3181
CO4	2.6591	5.3181	2.6591	2.6591	2.6590	7.9771	2.6591	5.3181	2.6591
CO 5	0	4.9771	7.4657	2.4885	0	2.4885	2.4885	4.9771	4.9771
FINAL ATTAINMENT	**2.5169**	**2.4696**	**2.5525**	**2.5567**	**2.5738**	**2.5453**	**2.4885**	**2.5311**	**2.5169**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	7.9771	5.3181	2.6591	5.3181	5.3181
CO2	4.9771	7.4657	4.9771	4.9771	2.4885
CO3	2.3181	6.9542	2.3181	4.6361	4.6361
CO4	2.6591	2.6591	5.3181	5.3181	7.9771
CO 5	4.9771	4.9771	7.4657	7.4657	2.4885
FINAL ATTAINMENT	**2.5453**	**2.4885**	**2.5264**	**2.5195**	**2.5453**

SEMESTER – 2

PAPER- 2 Waves and Oscillations

COURSE OUTCOME WEIGHTED AVERAGE: 2.4176

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels)	CO Learning Level Index	CO ATTAINMENT
CO 1	Demonstrate Understanding of Simple Harmonic Oscillations. Apply differential equations to describe simple harmonic motion. Analyze physical characteristics of simple harmonic oscillators, such as amplitude and frequency.	L2 L3	2.5	2.5841
CO2	Evaluate Damped and Forced Oscillations. Assess the behavior of damped harmonic oscillators through energy considerations and logarithmic decrement analysis. Compare and contrast damped and undamped oscillators to understand the impact of damping.	L5	5	2.1681
CO3	Analyze Complex Vibrations Using Fourier Analysis. Apply Fourier theorem to analyze periodic waveforms, including square, triangular, and sawtooth waves. Evaluate Fourier coefficients to decompose complex vibrations into sinusoidal components.	L4	4	2.3344
CO4	Examine Vibrations of Strings and Bars. Investigate transverse wave propagation along stretched strings and bars. Analyze the modes of vibration of strings clamped at ends, including overtones and harmonics. Calculate energy transport and transverse impedance in vibrating strings and bars.	L3 L4	3.5	2.4176
CO5	Applications. Describe the properties of ultrasonic waves and their production methods using piezoelectric and magnetostriction principles. Demonstrate techniques for detecting ultrasonic waves and determining their wavelengths.	L3 L5	3.5	2.4176

CO- PO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	1	2	O	0	2	1	1	1
C02	2	3	2	1	1	2	1	2	2
CO3	2	2	1	2	1	3	1	2	2
CO4	3	2	1	1	0	1	2	2	3
CO5	1	1	2	3	0	0	2	1	2
TOTAL	11	9	8	7	2	8	7	8	10

CO- PSO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	1	2	2	1	3
C02	3	2	2	1	1
CO3	2	1	1	2	3
CO4	3	2	2	1	1
CO5	2	1	1	3	2
TOTAL	11	8	8	8	10

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	7.7521	2.5840	5.1681	0	0	5.1681	2.5841	2.5841	2.5841
C02	4.3362	6.5043	4.3362	2.1681	2.1681	4.3362	2.1681	4.3362	4.3362
CO3	4.6689	4.6689	2.3344	4.6689	2.3344	7.0034	2.3344	4.6689	4.6689
CO4	7.2530	4.8353	2.4176	2.4176	0	2.4176	4.8353	4.8353	7.25304
CO5	2.4176	2.4176	4.8353	7.253	0	0	4.8353	2.4176	4.8353
FINAL ATTAINMENT	**2.4025**	**2.3344**	**2.3864**	**2.3582**	**2.2513**	**2.3656**	**2.3939**	**2.3552**	**2.3677**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2.5841	5.1681	5.1681	2.584	7.7521
C02	6.5043	4.3362	4.3362	2.1681	2.1681
CO3	4.6689	2.3344	2.3344	4.6689	7.0034
CO4	7.253	4.8353	4.8353	2.4176	2.4176
CO5	4.8353	2.4176	2.4176	7.253	4.8353
FINAL ATTAINMENT	**2.3496**	**2.3864**	**2.3864**	**2.3864**	**2.4176**

SEMESTER- 3

PAPER-3 : HEAT AND THERMODYNAMICS

COURSE OUTCOME WEIGHTED AVERAGE: 2.1528

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Understand the basic aspects of kinetic theory of gases,Maxwell-Boltzmandistribution law, equipartition of energies, mean free path of molecular collisions and the transport phenomenon in ideal gases	L2	2	2.5158
CO2	Gain knowledgeon thebasicconcepts of thermodynamics, thefirst and thesecond law of thermodynamics, the basic principles of refrigeration, the concept of entropy ,the thermodynamic potentials and their physical interpretations.	L2 L3	2.5	2.3948
CO3	UnderstandtheworkingofCarnot'sidealheatengine,Car not cycleandits efficiency	L3	3	2.2738
CO4	Develop critical understanding of concept of thermodynamic potentials, the formulation of Maxwell's equations and its applications	L6	6	1.5476
CO5	Differentiate between principles and methods to produce low temperature and liquefy air and also understand the practical applications of substances at low temperatures.	L4	4	2.0317
CO6	Examine the nature of blackbody radiations and the basic theories	L4	4	2.2226

CO- PO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	1	0	3	1	2	1	1	2
C02	1	2	1	1	1	2	3	0	2
CO3	2	2	1	1	0	2	1	2	1
CO4	0	2	1	3	1	1	3	2	2
CO5	2	1	1	2	1	1	1	2	2
CO6	2	1	2	1	0	1	1	1	1
TOTAL	9	9	6	11	4	9	10	8	10

CO- PSO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	2	1	1	3
C02	1	2	1	2	2
CO3	2	2	3	1	2
CO4	1	2	2	3	1
CO5	1	2	2	2	3
CO6	2	1	3	2	2
TOTAL	9	11	12	11	13

PROGRAM OUTCOMES ATTAINMENT

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	5.0317	2.5158	0	7.5476	2.5158	5.0317	2.5158	2.5158	5.0317
CO2	2.3948	4.7897	2.3948	2.3948	2.3948	4.7897	7.1845	0	4.7897
CO3	4.5476	4.5476	2.2738	2.2738	0	4.5476	2.2738	4.5476	2.2738
CO4	0	3.0953	1.5476	4.6436	1.5476	1.5476	4.643	3.0953	3.0953
CO5	4.0635	2.0319	2.0317	4.0635	2.0317	2.0317	2.0317	4.0635	4.0635
CO6	4.4453	2.2226	4.4453	2.2226	0	2.2226	2.2226	2.2226	2.2226
FINAL ATTAINMENT	**2.2759**	**2.1336**	**2.1155**	**2.1041**	**2.1225**	**2.2412**	**2.0871**	**2.0556**	**2.1476**

PROGRAM SPECIFIC OUTCOMES ATTAINMENT

	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	5.0317	5.0317	2.5158	2.5158	7.5476
CO2	2.3948	4.7897	2.3948	4.7897	4.7897
CO3	4.5476	4.5476	6.8215	2.2738	4.5476
CO4	1.5476	3.0953	3.0953	4.643	1.5476
CO5	2.0317	4.0635	4.0635	4.0635	6.0953
CO6	4.4453	2.2226	6.6679	4.4453	4.4453
FINAL ATTAINMENT	**2.2221**	**2.1591**	**2.1299**	**2.0664**	**2.2287**

SEMESTER- 4

PAPER-4 : OPTICS

COURSE OUTCOME WEIGHTED AVERAGE: 2.3198

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Understand the basics of the Superposition of Collinear & Perpendicular Harmonic Oscillations and also about the Wave motion.	L2	2	2.6113
CO2	Get acquainted with the theory of velocity of waves and also with the superposition of Harmonic Waves	L2	2	2.6113
CO3	Explain about the Electromagnetic nature of the Light and the phenomenon of Interference and also about the formation of Interference fringes in thin films as well as about the formation of Newton's rings.	L4	4	2.22265
CO4	Describe the construction and the working of the Michelson Interferometer & Fabry-perot Interferometer and also about the Fraunhofer Diffraction patterns due to single slit, Circular aperture as well as diffraction Grating.	L4	4	2.22265
CO5	Apply the basic mathematical principles of Diffraction to Explain Fresnel Diffraction Patterns due to a straight edge, slit and a wire and comprehend the basic principles Holography	L3 L4	3.5	2.3198

CO- PO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	1	0	3	1	2	1	1	2
C02	1	2	1	1	1	2	3	0	2
CO3	2	2	1	1	0	2	1	2	1
CO4	0	2	1	3	1	1	3	2	2
CO5	2	1	1	2	1	1	1	2	2
TOTAL	7	8	4	10	4	8	9	7	9

CO- PSO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	2	1	1	3
C02	1	2	1	2	2
CO3	2	2	3	1	2
CO4	1	2	2	3	1
CO5	1	2	2	2	3
TOTAL	7	10	9	9	11

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	5.16814	2.584057	0	7.752171	2.5857	5.168114	2.58407	2.5857	5.16814
CO2	2.16811	4.336229	2.168114	2.168114	2.1681	4.336229	6.50434	0	4.33622
CO3	4.66898	4.668983	2.334491	2.334491	0	4.668983	2.33449	4.6689	2.33449
CO4	0	4.83536	2.41768	7.25304	2.4176	2.41768	7.25304	4.8353	4.83536
CO5	4.83536	2.41768	2.41768	4.83536	2.4176	2.41768	2.41768	4.8353	4.83536
FINAL ATTAINMENT	**2.4057**	**2.355289**	**2.334491**	**2.434318**	**2.3968**	**2.376086**	**2.34373**	**2.4176**	**2.38995**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	5.168114	5.168114	2.584057	2.584057	7.752171
CO2	2.168114	4.336229	2.168114	4.336229	4.336229
CO3	4.668983	4.668983	7.003474	2.334491	4.668983
CO4	2.41768	4.83536	4.83536	7.25304	2.41768
CO5	2.41768	4.83536	4.83536	4.83536	7.25304
FINAL ATTAINMENT	**2.405796**	**2.384405**	**2.380707**	**2.371464**	**2.402555**

SEMESTER- 5

PAPER-5 : ELECTROSTATICS & MAGNETISM

COURSE OUTCOME WEIGHTED AVERAGE: 1.9563

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Understand the Gauss law and its application to obtain electric field in different cases and formulate the relationship between electric displacement vector, electric polarization.	L2	2	2.4036
CO2	Distinguish between the magnetic effect of electric current and electromagnetic induction and apply the related laws in appropriate circumstances.	L4	4	1.8072
CO3	Understand Biot and Savart's law and Ampere's circuital law to describe and explain the generation of magnetic fields by electrical currents.	L2 L4	3	2.1054
CO4	Develop an understanding on the unification of electric and magnetic fields and Maxwell's equations governing electromagnetic waves.	L2 L6	4	1.8072
CO5	Analyze Phenomenon of resonance in LCR AC-circuits, sharpness of resonance, Q- factor, Power factor.	L4	4	1.8072
CO6	Describe the operation of p-n junction diodes, zener diodes, light emitting diodes and transistors	L4	4	1.8072
CO7	Understand the operation of basic logic gates and universal gates and their truth tables.	L2	2	2.4036

CO- PO MAPPING 1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	1	0	3	0	2	1	1	2
C02	1	2	2	1	1	2	2	1	1
CO3	2	1	2	1	1	3	0	1	2
CO4	2	2	1	1	0	1	3	1	0
CO5	1	2	1	1	0	2	3	0	1
CO6	1	2	1	2	1	1	2	2	3
CO7	0	2	2	1	1	2	3	1	2
TOTAL	9	12	9	10	4	13	14	7	11

CO- PSO MAPPING 1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	3	1	2	2
C02	1	2	2	3	1
CO3	2	2	1	1	2
CO4	1	1	2	2	1
CO5	2	2	1	2	1
CO6	1	1	2	2	1
CO7	2	2	1	1	2
TOTAL	11	13	10	13	10

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	4.8072	2.4036	0	7.2108	0	4.8072	2.4036	2.4036	4.8072
C02	1.8072	3.6145	3.6119	1.8072	1.8072	3.6145	3.6145	1.8072	1.8072
CO3	4.2108	2.1054	4.2189	2.1054	2.1054	6.3163	0	2.1054	4.2108
CO4	3.6145	3.6145	1.8076	1.8072	0	1.8072	5.4217	1.8072	0
CO5	1.8072	3.6145	1.8076	1.8072	0	3.6145	5.4217	0	1.8072
CO6	1.8072	3.6145	1.8076	3.6145	1.8072	1.8072	3.6145	3.6145	5.4217
CO7	0	4.8072	4.8076	2.4036	2.4036	4.8072	7.2108	2.4036	4.8072
FINAL ATTAINMENT	**2.006**	**1.9812**	**2.00605**	**2.0756**	**2.0308**	**2.0595**	**1.9776**	**2.0202**	**2.0783**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	4.80726	7.210889	2.40363	4.80726	4.80726
C02	1.80726	3.614519	3.614519	5.421779	1.80726
CO3	4.210889	4.210889	2.105445	2.105445	4.210889
CO4	1.80726	1.80726	3.614519	3.614519	1.80726
CO5	3.614519	3.614519	1.80726	3.614519	1.80726
CO6	1.80726	1.80726	3.614519	3.614519	1.80726
CO7	4.80726	4.80726	2.40363	2.40363	4.80726
FINAL ATTAINMENT	**2.078337**	**2.082507**	**1.956352**	**1.967821**	**2.105445**

SEMESTER- 5

PAPER-6 : FUNDAMENTALS OF NANO SCIENCE

COURSE OUTCOME WEIGHTED AVERAGE: 2.2511

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Identify key historical milestones and the scientific revolution leading to the emergence of nanotechnology.	L2	2	2.57205
CO2	Analyze the various physical and chemical methods for synthesizing nanomaterials.	L2	2	2.57205
CO3	Classify nanostructures based on dimensional characteristics and core-shell structures.	L2 L3	2.5	2.46507
CO4	Classify nanostructures based on dimensional characteristics and core-shell structures.	L4	4	2.1441
CO5	Assess the diverse applications of nanomaterials in fields including physics, electronics, energy production, sensing, medicine, and robotics.	L4	4	2.1441

CO- PO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	1	2	1	1	2	2	1	1
C02	3	2	2	1	1	2	2	1	2
CO3	0	2	1	1	0	2	1	2	2
CO4	1	1	2	2	1	1	2	1	0
CO5	1	2	2	1	0	2	1	0	1
TOTAL	7	8	9	6	3	9	8	5	6

CO- PSO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	1	2	3	1
C02	1	3	2	2	1
CO3	2	1	2	2	1
CO4	1	2	2	1	2
CO5	2	2	1	3	1
TOTAL	8	9	9	11	6

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	5.1441	2.5720	5.1441	2.572	2.5721	5.1441	5.1441	2.5721	2.5721
C02	7.7161	5.1441	5.1441	2.572	2.5721	5.1441	5.1441	2.5721	5.1441
CO3	0	4.9301	2.465	2.465	0	4.9301	2.4651	4.9301	4.9301
CO4	2.1441	2.1441	4.2882	4.2882	2.1441	2.1441	4.2882	2.1441	0
CO5	2.1441	4.2882	4.2882	2.1441	0	4.2882	2.1441	0	2.1441
FINAL ATTAINMENT	**2.4497**	**2.3848**	**2.3699**	**2.340255**	**2.4294**	**2.4056**	**2.3982**	**2.4436**	**2.4651**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	5.1441	2.5721	5.1441	7.7161	2.5721
C02	2.5721	7.7161	5.1441	5.1441	2.5721
CO3	4.9301	2.4651	4.9301	4.9301	2.4651
CO4	2.1441	4.2882	4.2882	2.1441	4.2882
CO5	4.2882	4.2882	2.1441	6.4323	2.1441
FINAL ATTAINMENT	**2.3848**	**2.3699**	**2.4056**	**2.3969**	**2.3402**

SEMESTER- 6

PAPER-7 : VARYING ALTERNATING CURRENTS, ELETROMAGNETIC WAVES AND ELECTRONICS

COURSE OUTCOME WEIGHTED AVERAGE: 2.4103

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Analyze the growth and decay characteristics of currents in LR, CR, and LCR circuits to predict their behavior. Evaluate critical damping scenarios within electrical circuits to ensure optimal performance	L4	4	2.32605
CO2	Interpret Maxwell's equations and their significance in describing electromagnetic wave behavior, including the role of displacement current. Apply Maxwell's equations in differential form to derive the wave equation for electromagnetic waves.	L5	5	2.15757
CO3	Describe the formation of electron energy bands in solids and classify them based on the forbidden energy gap, emphasizing intrinsic and extrinsic semiconductors.	L4	4	2.32605
CO4	Evaluate the characteristics and applications of semiconductor devices such as p-n junction diodes and Zener diodes.	L4	4	2.32605
CO5	Apply binary, decimal, and hexadecimal number systems in digital principles, including conversion methods and arithmetic operations utilizing binary and hexadecimal representations.	L5	5	2.1575

CO- PO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	1	0	3	1	2	1	1	2
C02	1	2	1	1	1	2	3	0	2
CO3	2	2	1	1	0	2	1	2	1
CO4	0	2	1	3	1	1	3	2	2
CO5	2	1	1	2	1	1	1	2	2
TOTAL	7	8	4	10	4	8	9	7	9

CO- PSO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	2	1	1	3
C02	1	2	1	2	2
CO3	2	2	3	1	2
CO4	1	2	2	3	1
CO5	1	2	2	2	3
TOTAL	7	10	9	9	11

PROGRAM OUTCOMES ATTAINMENT

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	4.6521	2.3261	0	6.9781	2.3261	4.6521	2.3261	2.3261	4.6521
C02	2.1575	4.3151	2.1575	2.1575	2.1575	4.3151	6.4727	0	4.3151
CO3	4.6521	4.6521	2.3261	2.3261	0	4.6521	2.3261	4.6521	2.3261
CO4	0	4.6521	2.3261	6.9781	2.3261	2.3261	6.9781	4.6521	4.6521
CO5	4.3151	2.1575	2.1575	4.3151	2.1575	2.1575	2.1575	4.3151	4.3151
FINAL ATTAINMENT	**2.2538**	**2.2628**	**2.2418**	**2.2755**	**2.2418**	**2.2628**	**2.2511**	**2.2779**	**2.2511**

PROGRAM SPECIFIC OUTCOMES ATTAINMENT

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	4.6521	4.6521	2.3261	2.3261	6.9781
C02	2.1575	4.3151	2.1575	4.3151	4.3151
CO3	4.6521	4.6521	6.9781	2.3261	4.6521
CO4	2.3261	4.6521	4.6521	6.9781	2.3261
CO5	2.1575	4.3151	4.3151	4.3151	6.4727
FINAL ATTAINMENT	**2.2779**	**2.2586**	**2.2698**	**2.2511**	**2.2494**

SEMESTER- 6

PAPER-8: MATERIALS SCIENCE

COURSE OUTCOME WEIGHTED AVERAGE: 2.5137

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Analyze the classification of engineering materials and their structural levels, establishing structure-property relationships and understanding stability and metastability.	L4	4	2.4442
CO2	Evaluate bond energy, type, and length in chemical bonding, distinguishing between ionic and covalent bonds and correlating bonding characteristics with material properties.	L4	4	2.4442
CO3	Interpret the mechanical behavior of materials, including elastic behavior, using atomic models such as Young's modulus, Poisson's ratio, and shear modulus, and analyze plastic deformation using stress-strain curves.	L5	5	2.30528
CO4	Explore the applications of smart materials in MEMS, NEMS, and other fields, assessing their unique properties and functionalities.	L4	4	2.4442
CO5	Identify the equipment used for NDT, including metallurgical microscopes, electron microscopes, and scanning electron microscopes (SEMs), and understand their roles in material analysis and characterization.	L4 L5	4.5	2.3747

COURSE OUTCOME WEIGHTED AVERAGE: 2.5137

CO- PO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	0	3	1	0	0	2	2	1
C02	1	2	0	2	1	1	2	0	1
CO3	2	3	1	0	0	1	3	2	1
CO4	1	2	1	1	1	3	1	2	1
CO5	0	2	3	1	0	1	1	2	2
TOTAL	6	9	8	5	2	6	9	8	6

CO- PSO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	2	1	2	2
C02	2	3	2	2	1
CO3	1	3	1	2	2
CO4	1	1	2	2	3
CO5	2	2	3	3	1
TOTAL	9	11	9	11	9

PROGRAM OUTCOMES ATTAINMENT

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	4.8884	0	7.3326	2.4442	0	0	4.8884	4.8884	2.4442
C02	2.4442	4.8884	0	4.8884	2.4442	2.4442	4.8884	0	2.4442
CO3	4.6105	6.9158	2.3052	0	0	2.3052	6.9158	4.6105	2.3052
CO4	2.4442	4.8884	2.4442	2.4442	2.4442	7.3326	2.4442	4.8884	2.4442
CO5	0	4.7495	7.1242	2.3747	0	2.3747	2.3747	4.7495	4.7495
FINAL ATTAINMENT	**2.3979**	**2.3824**	**2.4008**	**2.4303**	**2.4442**	**2.4094**	**2.3901**	**2.3921**	**2.3979**

PROGRAM SPECIFIC OUTCOMES ATTAINMENT

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	7.3326	4.8884	2.4442	4.8884	4.8884
C02	4.8884	7.3326	4.8884	4.8884	2.4442
CO3	2.3052	6.9158	2.3052	4.6105	4.6105
CO4	2.4442	2.4442	4.8884	4.8884	7.3326
CO5	4.7495	4.7495	7.1242	7.1242	2.3747
FINAL ATTAINMENT	**2.4133**	**2.3937**	**2.4056**	**2.4**	**2.4056**

Dr. V. S. Krishna Govt. Degree College (A)
Visakhapatnam

DEPARTMENT OF BIOTECHNOLOGY

BOARD OF STUDIES 2018-19

PO CO ATTAINMENT

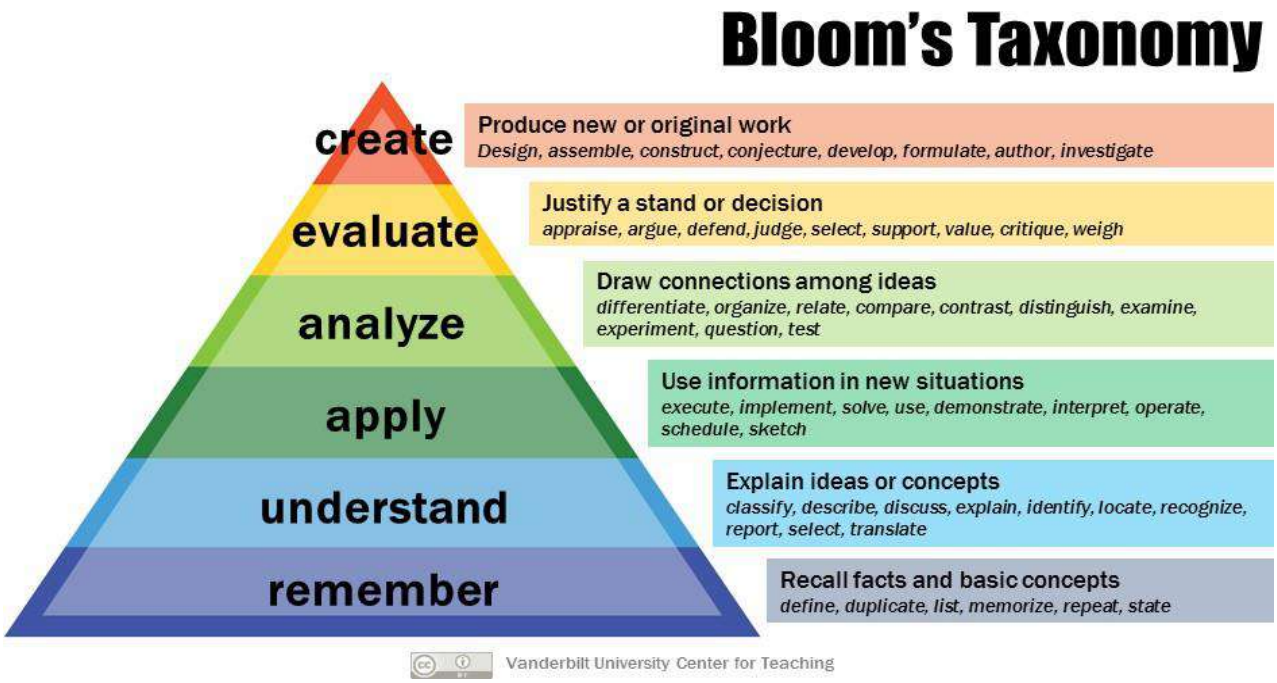
Department of Biotechnology
Programme Name: **BSc. Biotechnology**

Programmeoutcomes

PO1	**CriticalThinking**: Ability to take informed actions after identifying the assumptions that frame ourthinking and actions, checking out the degree to which these assumptions are accurate andvalid,andlookingatourideasanddecisions(intellectual,organizational,and personal)fromdifferentperspectives.
PO2	**EffectiveCommunication:** Abilityto speak,read,write,and listenclearlyinpersonandthroughelectronic mediain English and in one Indian language, and make meaning of the world by connectingpeople,ideas,books,media,andtechnology.
PO3	**SocialInteraction:** Abilitytoelicitviewsofothers,mediatedisagreementsandhelpreachconclusionsingroupsettings.
PO4	**EffectiveCitizenship:** Abilitytodemonstrateempatheticsocialconcernandequitycentrednationaldevelopment, andtheabilitytoactwithaninformedawarenessofissuesandparticipateinciviclifethrough volunteering.
PO5	**Ethics:** Abilitytorecognizedifferentvaluesystemsincludingyourown,understandthe moraldimensionsofyourdecisions,andacceptresponsibilityfor them.
PO6	**EnvironmentandSustainability:** Abilitytounderstandtheissuesofenvironmentalcontextsandsustainable development
PO7	**Employabilityskills:** Equippinggraduateswiththeessentialabilitiesandknowledgetoexcelintheir chosencareers
PO8	**Entrepreneurshipskills:** Seekstoempowerstudentswiththecompetenciesneededtobesuccessfulentrepreneurs,enablingthemtolaunch,operate,andinnovateintheirownbusinesses or entrepreneurialventures.
PO9	**Self-directedandLife-longLearning:** Acquiretheabilitytoengageinindependentandlife-longlearninginthebroadest contextsocio-technologicalchanges

Programmespecificoutcomes:	
PSO1	Astudentshouldbeabletounderstand basic concepts in Biochemistry, Molecular Biology, Microbiology, rDNA technology and Industrial Technology
PSO2	Astudentshouldbe able to design, execute, record and analyse the results of various expriments conducted during Practicals
PSO3	A student should be able to enter a workplace with the theory and practical knowledge in pharmaceuticals,environment related techniques and other related multidisciplinary areas.
PSO4	A Student should gain proficiency in regulations in safe handling of chemicals as vell as biosafety issues relating to experiments
PSO5	Enablingstudentstodevelopaninquisitive attitude towardsBiotechnologyasaninteresting andvaluablesubjectofstudy.

Levels of Bloom's Taxonomoy



Level-1	**Knowledge/Remember**
Level-2	**Understand**
Level-3	**Application**
Level-4	**Analyze**
Level-5	**Evaluation**
Level-6	**Create**

CO – PO ATTAINMENT METHODOLOGY

- Step 1

Calculation of Course Outcome Weighted Average (COWA)

The performance of the students assessed by two methods

(a) Direct Assessment: The weightage for internal exams is 30% and for semester end exams is 60%
(b) Indirect assessment: 5% weightage for exit survey and 5% for extracurricular activities

The performance of the student is categorised in four levels

S,No	Percentage obtained by the student in DA and IDA	Level weightage
1	Less than 35%	0
2	Between 35% and 50%	1
3	Between 51% and 70%	2
4	Above 70%	3

The average level of all students for a particular course is found. It is called as course outcome weighted average (COWA).

$$\mathbf{COWA} = \frac{\boldsymbol{some\ of\ the\ level\ weitage\ of\ all\ students\ of\ a\ course}}{\boldsymbol{total\ number\ of\ students}}$$

- Step 2:

Calculation of Course outcome level index (COLLI):

To Map the course outcomes (COs) of a course with Blooms levels (1 to 6) by using action verbs used in CO' s. A course outcome may be mapped to multiple Blooms levels; hence we need to calculate the average Blooms level weightage (ABLW).

$$\mathbf{COLLI} = \frac{\boldsymbol{Sum\ of\ the\ weigtages\ of\ \ blooms\ levels\ mapped}}{\boldsymbol{number\ of\ levels\ mapped}}$$

- Step 3:

CO-PO mapping and CO-PSO mapping

Map each course outcome with POs and PSOs in levels 0,1,2,3. A CO may be mapped to multiple POs or PSOs with different levels 1,2,3. The weighted average of each PO is to be calculated.

- Step 4:

Calculation of CO attainment:

The formula for Course Outcome Attainment (CO Attainment) can be calculated by using below formula

$$\mathbf{CO\ attainment} = \mathbf{COWA} + \left\{(\mathbf{3} - \boldsymbol{COWA}) \times \left(\mathbf{1} - \frac{\boldsymbol{COLLI}}{\mathbf{3.5}}\right)\right\}$$

(Blooms Level Weighted Average value $= 3.5$)

- Step 5:

Calculation of PO attainment:

The formula for Programme Outcome Attainment (PO Attainment) can be calculated by using below formula

$$\textbf{PO Attainment} = \frac{\Sigma(CO\ attainment)(PO\ level\ mapped\ with\ CO)}{Sum\ of\ the\ PO\ levels\ mapped\ with\ CO}$$

PSO attainment:

The formula for Programme Specific Outcome Attainment (PSO Attainment) can be calculated by using below formula

$$\textbf{PSO Attainment} = \frac{\Sigma(CO\ attainment)(PSO\ level\ mapped\ with\ CO)}{Sum\ of\ the\ PSO\ levels\ mapped\ with\ CO}$$

Dr.V.S.KRISHNA GOVERNMENT DEGREE AND PG COLLEGE (A), VSKP

DEPARTMENT OF BIOTECHNOLOGY

B.Sc BIOTECHNOLOGY SYLLABUS

SEMESTER I

Course I-MICROBIOLOGY & CELLBIOLOGY

Course Outcomes:

Course Outcome Weighted Average: 1.881

Course outcomes - Correlation with Blooms Taxonomy Levels		CO Learning Level Index	CO Attainment
CO1. Explain the different types of microscopes with their significance and importance.	L-2,L-3	2.5	2.2007
CO2. Explain basic microbial nutrition requirements and nutritional classification of bacteria and describe microbial growth, control (physical and chemical), maintenance of pure cultures and analyze cultural activity.	L-2,L-4	3	2.0409
CO3. Compare and contrast, structures and purposes of prokaryotic and eukaryotic cells and list their similarities and differences.	L-1, L-2, L-4	2.3	2.2647

CO4. Explain and draw the structures of cell organelles and locate their parts along with functions.	L-1,L-2, L-3	2	2.3606
CO5. Explain overall mechanism of sequential events of cell growth and cell division cycles.	L-2,L-4	3	2.0409

CO-POMapping									
1-Low,2-Moderate, 3-High, '- 'NoCorrelation									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	1	1	1	0	1	1	1	2
CO2	2	1	1	1	0	1	1	1	2

CO3	2	1	1	1	0	1	1	1	2
CO4	2	1	1	1	0	1	1	1	2
CO5	2	1	1	1	0	1	1	1	2
Total	11	5	5	5	0	5	5	5	10

CO-PSOMapping					
1-Low,2-Moderate, 3-High, '-'NoCorrelation					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	1	1	3
CO2	3	3	1	1	3
CO3	3	3	1	1	3
CO4	3	3	1	1	3
CO5	3	3	1	1	3
Total	15	15	5	5	15

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	6.6021	2.2007	2.2007	2.2007	0	2.2007	2.2007	2.2007	4.4014
CO2	4.0817	2.0409	2.0409	2.0409	0	2.0409	2.0409	2.0409	4.0817
CO3	4.5293	2.2647	2.2647	2.2647	0	2.2647	2.2647	2.2647	4.5293
CO4	4.7211	2.3606	2.3606	2.3606	0	2.3606	2.3606	2.3606	4.7211
CO 5	4.0817	2.0409	2.0409	2.0409	0	2.0409	2.0409	2.0409	4.0817
FINAL ATTAINMENT	**2.1833**	**2.1815**	**2.1815**	**2.1815**	**0**	**2.1815**	**2.1815**	**2.1815**	**2.1815**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	6.6021	6.6021	2.2007	2.2007	6.6021
CO2	6.1226	6.1226	2.0409	2.0409	6.1226
CO3	6.7940	6.7940	2.2647	2.2647	6.7940
CO4	7.0817	7.0817	2.3606	2.3606	7.0817
CO 5	6.1226	6.1226	2.0409	2.0409	6.1226
FINAL ATTAINMENT	**2.1815**	**2.1815**	**2.1815**	**2.1815**	**2.1815**

DEPARTMENT OF BIOTECHNOLOGY

B.Sc BIOTECHNOLOGY SYLLABUS

SEMESTER II

CourseII–MACROMOLECULES,ENZYMOLOGY,BIOENERGETICS

Course Outcomes:

Course Outcome Weighted Average: 2.175

Courseout comes–Correlation with Blooms Taxonomy levels		CO Learning Level Index	CO Attainment
CO1. Explain and classify different types of biomolecules (Amino acids, proteins, carbohydrates, lipids and vitamins)along with their significance	L-1,L-2	1.5	2.6464
CO2. Illustrate chemical structure of nitrogen bases, DNA and forces stabilizing the DNA	L-3,L-4	3.5	2.1750
CO3. Differentiate between different forms of DNA	L-1, L-2, L-4	2.3	2.4579
CO4. Explain enzymes with classification and nomenclature, enzyme kinetics	L-1,L-2, L-3	2	2.5286
CO5. Explain enzyme inhibition types along with significance.	L-1, L-2, L-3	2	2.5286

CO-POMapping

1-Low,2-Moderate, 3-High, ‘- ‘NoCorrelation									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	1	1	1	0	1	1	1	2
CO2	3	1	1	1	0	1	1	1	2
CO3	3	1	1	1	0	1	1	1	2
CO4	3	1	1	1	0	1	1	1	2
CO5	3	1	1	1	0	1	1	1	2
Total	15	5	5	5	0	5	5	5	10

CO-PSOMapping					
1-Low,2-Moderate, 3-High, ‘-‘NoCorrelation					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	1	1	1	3
CO2	3	1	1	1	3
CO3	3	1	1	1	3
CO4	3	1	1	1	3
CO5	3	1	1	1	3
Total	15	5	5	5	15

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	7.9393	2.6464	2.6464	2.6464	0	2.6464	2.6464	2.6464	5.2929
CO2	6.5250	2.1750	2.1750	2.1750	0	2.1750	2.1750	2.1750	4.3500
CO3	7.3736	2.4579	2.4579	2.4579	0	2.4579	2.4579	2.4579	4.9157
CO4	7.5857	2.5286	2.5286	2.5286	0	2.5286	2.5286	2.5286	5.0571
CO 5	7.5857	2.5286	2.5286	2.5286	0	2.5286	2.5286	2.5286	5.0571
FINAL ATTAINMENT	2.4673	2.4673	2.4673	2.4673	0	2.4673	2.4673	2.4673	2.4673

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	7.9393	2.6464	2.6464	2.6464	7.9393
CO2	6.5250	2.1750	2.1750	2.1750	6.5250
CO3	7.3736	2.4579	2.4579	2.4579	7.3736
CO4	7.5857	2.5286	2.5286	2.5286	7.5857
CO 5	7.5857	2.5286	2.5286	2.5286	7.5857
FINAL ATTAINMENT	2.4673	2.4673	2.4673	2.4673	2.4673

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SEMESTER III
CourseIII–BIOPHYSICALTECHNIQUES

Course Outcomes:

Course Outcome Weighted Average: 2.3129

Course outcomes - Correlation with Blooms Taxonomy Levels		CO Learning Level Index	CO Attainment
CO1. Explain the differentiate absorption and emission spectra.	L-2,L-3	2.5	2.5092
CO2. Illustrate each region of electromagnetic spectrum for spectroscopy	L-2,L-4	3	2.4111
CO3. Explain and relate the concepts of radioactivity and its applications.	L-1, L-2, L-4	2.3	2.5485
CO4. Illustrate and differentiate blotting techniques along with their applications and significance	L-1,L-2, L-3	2	2.6074
CO5. Identify and differentiate working principle, instrumentation and applications of various bio-analytical instruments.	L-2,L-4	3	2.4111

CO-PO Mapping 1-Low,2-Moderate, 3-High, '- 'NoCorrelation									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	1	1	1	0	1	1	1	2
CO2	3	1	1	1	0	1	1	1	2
CO3	3	1	1	1	0	1	1	1	2
CO4	3	1	1	1	0	1	1	1	2
CO5	3	1	1	1	0	1	1	1	2
Total	15	5	5	5	0	5	5	5	10

CO-PSO Mapping 1-Low,2-Moderate, 3-High, '-'NoCorrelation					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	1	1	1	3
CO2	3	1	1	1	3
CO3	3	1	1	1	3
CO4	3	1	1	1	3
CO5	3	1	1	1	3
Total	15	5	5	5	15

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	7.5276	2.5092	2.5092	2.5092	0	2.5092	2.5092	2.5092	5.0184
CO2	7.2332	2.4111	2.4111	2.4111	0	2.4111	2.4111	2.4111	4.8221
CO3	7.6454	2.5485	2.5485	2.5485	0	2.5485	2.5485	2.5485	5.0970
CO4	7.8221	2.6074	2.6074	2.6074	0	2.6074	2.6074	2.6074	5.2147
CO 5	7.2332	2.4111	2.4111	2.4111	0	2.4111	2.4111	2.4111	4.8221
FINAL ATTAINMENT	2.4974	2.4974	2.4974	2.4974	0	2.4974	2.4974	2.4974	2.4974

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	7.5276	2.5092	2.5092	2.5092	7.5276
CO2	7.2332	2.4111	2.4111	2.4111	7.2332
CO3	7.6454	2.5485	2.5485	2.5485	7.6454
CO4	7.8221	2.6074	2.6074	2.6074	7.8221
CO 5	7.2332	2.4111	2.4111	2.4111	7.2332
FINAL ATTAINMENT	2.4974	2.4974	2.4974	2.4974	2.4974

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SEMESTER- IV

Course IV– Immunology

Course Outcomes:

Course Outcome Weighted Average: 2.0894

Course outcomes - Correlation with Blooms Taxonomy Levels		CO Level Learning Index	CO Attainment
CO1. Define central immunological principles and concepts.	L-2,L-3	2.5	2.3496
CO2. Illustrate immunological processes and, identify immune responses at a cellular level and molecular level.	L-2,L-4	3	2.2195
CO3. Describe the roles of the immune system in both maintaining health and contributing to disease and the triggering and regulation of immune responses.	L-1, L-2, L-4	2.3	2.4016
CO4. Understand the preparation and role of vaccines	L-1,L-2, L-3	2	2.4797
CO5. Understand the application of different immunological techniques.	L-2,L-4	3	2.2195

CO-POMapping									
1-Low,2-Moderate, 3-High, '- 'NoCorrelation									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	1	1	1	1	1	3	1	1	1
CO2	1	1	1	1	1	1	1	3	1
CO3	1	1	1	1	1	1	1	3	1
CO4	2	1	1	1	1	1	1	1	2
CO5	1	1	1	1	1	3	1	1	1
Total	6	5	5	5	5	9	5	9	6

CO-PSOMapping					
1-Low,2-Moderate, 3-High, '-'NoCorrelation					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	1	1	1	3
CO2	3	1	1	1	3
CO3	3	1	1	1	3
CO4	3	1	1	1	3
CO5	3	1	1	1	3
Total	15	5	5	5	15

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	2.3496	2.3496	2.3496	2.3496	2.3496	7.0487	2.3496	2.3496	2.3496
CO2	2.2195	2.2195	2.2195	2.2195	2.2195	2.2195	2.2195	6.6585	2.2195
CO3	2.4016	2.4016	2.4016	2.4016	2.4016	2.4016	2.4016	7.2048	2.4016
CO4	4.9593	2.4797	2.4797	2.4797	2.4797	2.4797	2.4797	2.4797	4.9593
CO 5	2.2195	2.2195	2.2195	2.2195	2.2195	6.6585	2.2195	2.2195	2.2195
FINAL ATTAINMENT	**2.3582**	**2.3340**	**2.3340**	**2.3340**	**2.3340**	**2.3120**	**2.3340**	**2.3236**	**2.3582**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	7.0487	2.3496	2.3496	2.3496	7.0487
CO2	6.6585	2.2195	2.2195	2.2195	6.6585
CO3	7.2048	2.4016	2.4016	2.4016	7.2048
CO4	7.4390	2.4797	2.4797	2.4797	7.4390
CO 5	6.6585	2.2195	2.2195	2.2195	6.6585
FINAL ATTAINMENT	**2.3340**	**2.3340**	**2.3340**	**2.3340**	**2.3340**

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B.Sc BIOTECHNOLOGY
SEMESTER V

Course V– MOLECULAR BIOLOGY

Course Outcomes:

Course Outcome Weighted Average: 2.2852

Course outcomes - Correlation with Blooms Taxonomy Levels		CO Learning Level Index	CO Attainment
CO1. Explain the concept of gene and gene architecture.	L-2,L-4	3	2.3873
CO2. Demonstrate the overview of the central dogma of life and various molecular events.	L-2,L-4	3	2.3873
CO3. Illustrate molecular events in DNA synthesis, RNA synthesis and the role of different enzymes.	L-1, L-2, L-4	2.3	2.5303
CO4. Illustrate molecular events in protein synthesis and the role of different enzymes.	L-1,L-2, L-4	2.3	2.5303
CO5. Explain the regulation of gene expression in prokaryotes using operon concept.	L-2,L-4	3	2.3873

CO-POMapping									
1-Low,2-Moderate, 3-High, ‘- ‘NoCorrelation									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	1	1	1	1	1	1	1	3
CO2	3	1	1	1	1	1	1	1	3
CO3	3	1	1	1	1	1	1	1	3
CO4	3	1	1	1	1	1	1	1	3
CO5	3	1	1	1	1	1	1	1	3
Total	15	5	5	5	5	5	5	5	15

CO-PSOMapping					
1-Low,2-Moderate, 3-High, ‘-‘NoCorrelation					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	1	1	1	3
CO2	3	1	1	1	3
CO3	3	1	1	1	3
CO4	3	1	1	1	3
CO5	3	1	1	1	3
Total	15	5	5	5	15

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	7.1619	2.3873	2.3873	2.3873	2.3873	2.3873	2.3873	2.3873	7.1619
CO2	7.1619	2.3873	2.3873	2.3873	2.3873	2.3873	2.3873	2.3873	7.1619
CO3	7.5908	2.5303	2.5303	2.5303	2.5303	2.5303	2.5303	2.5303	7.5908
CO4	7.5908	2.5303	2.5303	2.5303	2.5303	2.5303	2.5303	2.5303	7.5908
CO 5	7.1619	2.3873	2.3873	2.3873	2.3873	2.3873	2.3873	2.3873	7.1619
FINAL ATTAINMENT	**2.4445**	**2.4445**	**2.4445**	**2.4445**	**2.4445**	**2.4445**	**2.4445**	**2.4445**	**2.4445**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	7.1619	2.3873	2.3873	2.3873	7.1619
CO2	7.1619	2.3873	2.3873	2.3873	7.1619
CO3	7.5908	2.5303	2.5303	2.5303	7.5908
CO4	7.5908	2.5303	2.5303	2.5303	7.5908
CO 5	7.1619	2.3873	2.3873	2.3873	7.1619
FINAL ATTAINMENT	**2.4445**	**2.4445**	**2.4445**	**2.4445**	**2.4445**

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SEMESTER - V
CourseVIA-ELECTIVE 1– rDNA Technology

Course Outcomes:

Course Outcome Weighted Average: 2.3117

Course outcomes - Correlation with Blooms Taxonomy Levels		CO Learning Level Index	CO Attainment
CO1. To understand the fundamental principles and techniques of recombinant DNA technology, including gene cloning, vectors, restriction enzymes, and polymerase chain reaction (PCR).	L-2,L-3, L-4	3	2.4100
CO2. To develop practical laboratory skills in manipulating DNA, such as cloning, transformation, gel electrophoresis, and DNA sequencing	L-2, L-3, L-4	3	2.4100
CO3. To apply rDNA technology in various fields such as medicine, agriculture, and environmental science.	L-1, L-2, L-4	2.3	2.5477
CO4. To design experiments, analyze data, and troubleshoot experimental issues. This is essential for conducting independent research and addressing real-world biological problems.	L-1,L-2, L-3	2.3	2.5477
CO5. Toexplore the ethical, legal, and social implications of rDNA technology. This includes understanding the regulatory frameworks, the potential risks and benefits of genetic engineering, and the importance of ethical considerations in scientific research.	L-2,L-4	3	2.4100

CO-POMapping									
1-Low,2-Moderate, 3-High, '- 'NoCorrelation									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	1	1	1	1	1	3	1	2
CO2	3	1	1	1	1	1	3	1	2
CO3	3	1	1	1	1	1	3	1	2
CO4	3	1	1	1	1	1	3	1	2
CO5	3	1	1	1	1	1	3	1	2
Total	15	5	5	5	5	5	15	5	10

CO-PSOMapping					
1-Low,2-Moderate, 3-High, '-'NoCorrelation					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	1	1	1	3
CO2	3	1	1	1	3
CO3	3	1	1	1	3
CO4	3	1	1	1	3
CO5	3	1	1	1	3
Total	15	5	5	5	15

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	7.2301	2.4100	2.4100	2.4100	2.4100	2.4100	7.2301	2.4100	4.8201
CO2	7.2301	2.4100	2.4100	2.4100	2.4100	2.4100	7.2301	2.4100	4.8201
CO3	7.6431	2.5477	2.5477	2.5477	2.5477	2.5477	7.6431	2.5477	5.0954
CO4	7.6431	2.5477	2.5477	2.5477	2.5477	2.5477	7.6431	2.5477	5.0954
CO 5	7.2301	2.4100	2.4100	2.4100	2.4100	2.4100	7.2301	2.4100	4.8201
FINAL ATTAINMENT	**2.4651**	**2.4651**	**2.4651**	**2.4651**	**2.4651**	**2.4651**	**2.4651**	**2.4651**	**2.4651**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	7.2301	2.4100	2.4100	2.4100	7.2301
CO2	7.2301	2.4100	2.4100	2.4100	7.2301
CO3	7.6431	2.5477	2.5477	2.5477	7.6431
CO4	7.6431	2.5477	2.5477	2.5477	7.6431
CO 5	7.2301	2.4100	2.4100	2.4100	7.2301
FINAL ATTAINMENT	**2.4651**	**2.4651**	**2.4651**	**2.4651**	**2.4651**

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SEMESTER - V
CourseVIB-ELECTIVE 2– GENETICS

Course Outcomes:

Course Outcome Weighted Average: 2.46

Course outcomes - Correlation with Blooms Taxonomy Levels		CO Learning Level Index	CO Attainment
CO1. Explain the structure and functions of genes and chromosomes	L-2,L-3	2.5	2.6143
CO2. Understand the laws and concepts of Mendelian inheritance, deviation from Mendel laws, concepts of linkage, autosomal and allosomal inheritance, and sex determination in different organisms	L-2,L-4	3	2.5371
CO3. Perform Karyotyping of different chromosome sets	L-1, L-2, L-4	2.3	2.6451
CO4. Understand the mechanism of different transposable elements and their roles.	L-1,L-2	1.5	2.7686
CO5. Explain the concept of DNA damage and Repair	L-2,L-4	3	2.5371

CO-POMapping									
1-Low,2-Moderate, 3-High, ‘- ‘NoCorrelation									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	1	1	1	1	1	1	1	3
CO2	3	1	1	1	1	1	1	1	3
CO3	3	1	1	1	1	1	1	1	3
CO4	3	1	1	1	1	1	1	1	3
CO5	3	1	1	1	1	1	1	1	3
Total	15	5	5	5	5	5	5	5	15

CO-PSOMapping					
1-Low,2-Moderate, 3-High, ‘-‘NoCorrelation					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	1	1	1	3
CO2	3	1	1	1	3
CO3	3	1	1	1	3
CO4	3	1	1	1	3
CO5	3	1	1	1	3
Total	15	5	5	5	15

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	7.8429	2.6143	2.6143	2.6143	2.6143	2.6143	2.6143	2.6143	7.8429
CO2	7.6114	2.5371	2.5371	2.5371	2.5371	2.5371	2.5371	2.5371	7.6114
CO3	7.9354	2.6451	2.6451	2.6451	2.6451	2.6451	2.6451	2.6451	7.9354
CO4	8.3057	2.7686	2.7686	2.7686	2.7686	2.7686	2.7686	2.7686	8.3057
CO 5	7.6114	2.5371	2.5371	2.5371	2.5371	2.5371	2.5371	2.5371	7.6114
FINAL ATTAINMENT	**2.6205**	**2.6205**	**2.6205**	**2.6205**	**2.6205**	**2.6205**	**2.6205**	**2.6205**	**2.6205**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	7.8429	2.6143	2.6143	2.6143	7.8429
CO2	7.6114	2.5371	2.5371	2.5371	7.6114
CO3	7.9354	2.6451	2.6451	2.6451	7.9354
CO4	8.3057	2.7686	2.7686	2.7686	8.3057
CO 5	7.6114	2.5371	2.5371	2.5371	7.6114
FINAL ATTAINMENT	**2.6205**	**2.6205**	**2.6205**	**2.6205**	**2.6205**

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DEPARTMENT OF BIOTECHNOLOGY

B.Sc BIOTECHNOLOGY SYLLABUS

SEMESTER - VI
CourseVII– PLANT AND ANIMAL BIOTECHNOLOGY

Course Outcomes:

Course Outcome Weighted Average: 2.6903

Course outcomes - Correlation with Blooms Taxonomy Levels		CO Learning Level Index	CO Attainment
CO1. Understand the key developments in the sphere of Plant biotechnology.	L-2,L-3	2.5	2.7788
CO2. Illustrate the in vitro propagation of plants and their maintenance.	L-2,L-4	3	2.7345
CO3. Understand Tissue culture technique	L-1, L-2, L-4	2.3	2.7965
CO4. Understand the principles of intellectual property in the context of industrial biotechnology.	L-1,L-2, L-3	2	2.8230
CO5. Understand the ethics, biosafety measures concerned with biotechnology.	L-2,L-4	3	2.7345

CO-POMapping									
1-Low,2-Moderate, 3-High, '- 'NoCorrelation									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	1	1	1	1	1	1	3	1	1
CO2	1	1	1	1	1	1	3	1	1
CO3	1	1	1	1	1	1	3	1	1
CO4	1	1	1	1	1	1	3	1	1
CO5	1	1	1	1	1	1	3	1	1
Total	5	5	5	5	5	5	15	5	5

CO-PSOMapping					
1-Low,2-Moderate, 3-High, '-'NoCorrelation					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	1	1	1	3
CO2	3	1	1	1	3
CO3	3	1	1	1	3
CO4	3	1	1	1	3
CO5	3	1	1	1	3
Total	15	5	5	5	15

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	2.7788	2.7788	2.7788	2.7788	2.7788	2.7788	8.3364	2.7788	2.7788
CO2	2.7345	2.7345	2.7345	2.7345	2.7345	2.7345	8.2036	2.7345	2.7345
CO3	2.7965	2.7965	2.7965	2.7965	2.7965	2.7965	8.3894	2.7965	2.7965
CO4	2.8230	2.8230	2.8230	2.8230	2.8230	2.8230	8.4691	2.8230	2.8230
CO 5	2.7345	2.7345	2.7345	2.7345	2.7345	2.7345	8.2036	2.7345	2.7345
FINAL ATTAINMENT	**2.7735**	**2.7735**	**2.7735**	**2.7735**	**2.7735**	**2.7735**	**2.7735**	**2.7735**	**2.7735**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	8.3364	2.7788	2.7788	2.7788	8.3364
CO2	8.2036	2.7345	2.7345	2.7345	8.2036
CO3	8.3894	2.7965	2.7965	2.7965	8.3894
CO4	8.4691	2.8230	2.8230	2.8230	8.4691
CO 5	8.2036	2.7345	2.7345	2.7345	8.2036
FINAL ATTAINMENT	**2.7735**	**2.7735**	**2.7735**	**2.7735**	**2.7735**

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B.Sc BIOTECHNOLOGY SYLLABUS

SEMESTER - VI

PAPER VIII CLUSTER-8-A1:CELL BIOLOGY

Course Outcomes:

Course Outcome Weighted Average: 2.7666

Course outcomes - Correlation with Blooms Taxonomy Levels		CO Learning Level Index	CO Attainment
CO1. Understand the ultra structures and purposes of prokaryotic and eukaryotic cells .	L-1,L-2	1.5	2.9000
CO2. Compare and contrastprokaryotic and eukaryotic cells .	L-1,L-2	1.5	2.9000
CO3. Explain and draw the structures of cell organelles and locate their parts along with functions.	L-1, L-2, L-4	2.3	2.8466
CO4. Explain overall mechanism of sequential events of cell growth and cell division cycles.	L-1,L-2, L-3	2	2.8666
CO5. Explain the structure, types and functions of genes and chromosomes	L-2,L-4	3	2.7999

CO-POMapping									
1-Low,2-Moderate, 3-High, '- 'NoCorrelation									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	1	1	1	1	1	1	1	3
CO2	3	1	1	1	1	1	1	1	3
CO3	3	1	1	1	1	1	1	1	3
CO4	3	1	1	1	1	1	1	1	3
CO5	3	1	1	1	1	1	1	1	3
Total	15	5	5	5	5	5	5	5	15

CO-PSOMapping					
1-Low,2-Moderate, 3-High, '-'NoCorrelation					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	1	1	1	3
CO2	3	1	1	1	3
CO3	3	1	1	1	3
CO4	3	1	1	1	3
CO5	3	1	1	1	3
Total	15	5	5	5	15

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	8.6999	2.9000	2.9000	2.9000	2.9000	2.9000	2.9000	2.9000	8.6999
CO2	8.6999	2.9000	2.9000	2.9000	2.9000	2.9000	2.9000	2.9000	8.6999
CO3	8.5399	2.8466	2.8466	2.8466	2.8466	2.8466	2.8466	2.8466	8.5399
CO4	8.5999	2.8666	2.8666	2.8666	2.8666	2.8666	2.8666	2.8666	8.5999
CO 5	8.3998	2.7999	2.7999	2.7999	2.7999	2.7999	2.7999	2.7999	8.3998
FINAL ATTAINMENT	**2.8626**	**2.8626**	**2.8626**	**2.8626**	**2.8626**	**2.8626**	**2.8626**	**2.8626**	**2.8626**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	8.6999	2.9000	2.9000	2.9000	8.6999
CO2	8.6999	2.9000	2.9000	2.9000	8.6999
CO3	8.5399	2.8466	2.8466	2.8466	8.5399
CO4	8.5999	2.8666	2.8666	2.8666	8.5999
CO 5	8.3998	2.7999	2.7999	2.7999	8.3998
FINAL ATTAINMENT	**2.8626**	**2.8626**	**2.8626**	**2.8626**	**2.8626**

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B.Sc BIOTECHNOLOGYSYLLABUS

SEMESTER - VI

PAPERVIIICLUSTER-8-A2:GENE BIOTECHNOLOGY

Course Outcomes:

Course Outcome Weighted Average: 2.7746

Course outcomes - Correlation with Blooms Taxonomy Levels		Average level Weightage	CO Attainment
CO1. Explain the structure and functions of genes and chromosomes	L-2,L-3	2.5	2.8390
CO2. Understand the laws and concepts of Mendelian inheritance, deviation from Mendel laws, concepts of linkage, autosomal and allosomal inheritance, and sex determination in different organisms	L-2,L-4	3	2.8068
CO3. Perform Karyotyping of different chromosome sets	L-1, L-2, L-4	2.3	2.8519
CO4. Understand the mechanism of different transposable elements and their roles	L-1,L-2	1.5	2.9034
CO5. Explain the concept of DNA damage and Repair	L-2,L-4	3	2.8068

CO-POMapping									
1-Low,2-Moderate, 3-High, '- 'NoCorrelation									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	1	1	1	1	1	1	1	3
CO2	3	1	1	1	1	1	1	1	3
CO3	3	1	1	1	1	1	1	1	3
CO4	3	1	1	1	1	1	1	1	3
CO5	3	1	1	1	1	1	1	1	3
Total	15	5	5	5	5	5	5	5	15

CO-PSOMapping					
1-Low,2-Moderate, 3-High, '-'NoCorrelation					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	1	1	1	3
CO2	3	1	1	1	3
CO3	3	1	1	1	3
CO4	3	1	1	1	3
CO5	3	1	1	1	3
Total	15	5	5	5	15

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	8.5170	2.8390	2.8390	2.8390	2.8390	2.8390	2.8390	2.8390	8.5170
CO2	8.4204	2.8068	2.8068	2.8068	2.8068	2.8068	2.8068	2.8068	8.4204
CO3	8.5556	2.8519	2.8519	2.8519	2.8519	2.8519	2.8519	2.8519	8.5556
CO4	8.7102	2.9034	2.9034	2.9034	2.9034	2.9034	2.9034	2.9034	8.7102
CO 5	8.4204	2.8068	2.8068	2.8068	2.8068	2.8068	2.8068	2.8068	8.4204
FINAL ATTAINMENT	**2.8416**	**2.8416**	**2.8416**	**2.8416**	**2.8416**	**2.8416**	**2.8416**	**2.8416**	**2.8416**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	8.5170	2.8390	2.8390	2.8390	8.5170
CO2	8.4204	2.8068	2.8068	2.8068	8.4204
CO3	8.5556	2.8519	2.8519	2.8519	8.5556
CO4	8.7102	2.9034	2.9034	2.9034	8.7102
CO 5	8.4204	2.8068	2.8068	2.8068	8.4204
FINAL ATTAINMENT	**2.8416**	**2.8416**	**2.8416**	**2.8416**	**2.8416**

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DEPARTMENT OF BIOTECHNOLOGY

B.Sc BIOTECHNOLOGY SYLLABUS

SEMESTER - VI, PAPERVIII
CLUSTER-8-A3:BIOSTATISTICS AND BIOINFORMATICS

Course Outcomes:

Course Outcome Weighted Average: 2.7484

Course outcomes - Correlation with Blooms Taxonomy Levels		CO Learning Level Index	CO Attainment
CO1. To become familiar with a variety of currently available genomic and proteomic databases.	L-2,L-3	2.5	2.8203
CO2. To be able to search and retrieve information from genomic and proteomic databases (e.g. GenBank, Swiss-Prot)	L-2,L-4	3	2.7843
CO3. To analyze their search results using software available on the internet (e.g. BLAST, ClustalW).	L-1, L-2, L-4	2.3	2.8347
CO4. To compare and analyze biological sequences and how to interpret the results of their analyses.	L-1,L-2, L-3	2	2.8562
CO5. Explain and draw the structures of cell organelles and locate their parts along with functions.	L-2,L-4	3	2.7843

CO-POMapping 1-Low,2-Moderate, 3-High, ‘- ‘NoCorrelation									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	1	1	1	1	1	1	1	3
CO2	3	1	1	1	1	1	1	1	3
CO3	3	1	1	1	1	1	1	1	3
CO4	3	1	1	1	1	1	1	1	3
CO5	3	1	1	1	1	1	1	1	3
Total	15	5	5	5	5	5	5	5	15

CO-PSOMapping 1-Low,2-Moderate, 3-High, ‘-‘NoCorrelation					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	1	1	1	3
CO2	3	1	1	1	3
CO3	3	1	1	1	3
CO4	3	1	1	1	3
CO5	3	1	1	1	3
Total	15	5	5	5	15

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	8.4609	2.8203	2.8203	2.8203	2.8203	2.8203	2.8203	2.8203	8.4609
CO2	8.3530	2.7843	2.7843	2.7843	2.7843	2.7843	2.7843	2.7843	8.3530
CO3	8.5040	2.8347	2.8347	2.8347	2.8347	2.8347	2.8347	2.8347	8.5040
CO4	8.5687	2.8562	2.8562	2.8562	2.8562	2.8562	2.8562	2.8562	8.5687
CO 5	8.3530	2.7843	2.7843	2.7843	2.7843	2.7843	2.7843	2.7843	8.3530
FINAL ATTAINMENT	**2.8160**	**2.8160**	**2.8160**	**2.8160**	**2.8160**	**2.8160**	**2.8160**	**2.8160**	**2.8160**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	8.4609	2.8203	2.8203	2.8203	8.4609
CO2	8.3530	2.7843	2.7843	2.7843	8.3530
CO3	8.5040	2.8347	2.8347	2.8347	8.5040
CO4	8.5687	2.8562	2.8562	2.8562	8.5687
CO 5	8.3530	2.7843	2.7843	2.7843	8.3530
FINAL ATTAINMENT	**2.8160**	**2.8160**	**2.8160**	**2.8160**	**2.8160**

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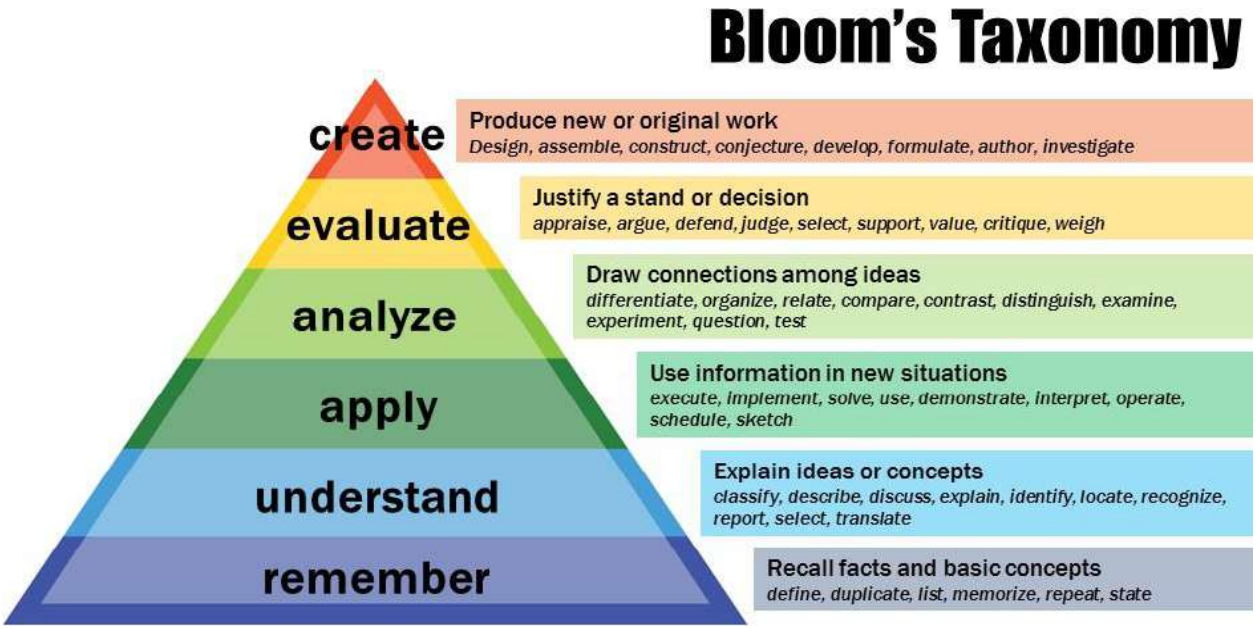
DEPARTMENT OF BOTANY

2018-2019
POs & COs MAPPING

Department of Botany-
Programme Name: **BSc. CBZ**

Levels of Bloom's Taxonomoy

Level-1	**Knowlede/Remember**
Level-2	**Understand**
Level-3	**Application**
Level-4	**Analyze**
Level-5	**Evaluation**
Level-6	**Create**



POs	Programme Outcomes
PO1	**Critical Thinking:** Ability to take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid,and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
PO2	**Effective Communication:** Ability to speak, read, write, and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media, and technology.
PO3	**Social Interaction:** Ability to elicit views of others, mediate disagreements and help reach conclusions in group settings.
PO4	**Effective Citizenship:** Ability to demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.
PO5	**Ethics:** Ability to recognize different value systems includingy our own, understand the moral dimensions of your decisions, and accept responsibility for them.
PO6	**Environment and Sustainability:** Ability to understand the issues of environmental contexts and sustainable Development.
PO7	**Employabilityskills:** Equipping graduates with the essential abilities and knowledge to excel in their choosen careers.
PO8	**Entrepreneurships kills:** Seeks to empower students with the competencies needed to be successful entrepreneours, enabling themto launch, operate,and innovate in their own businesses or entrepreneurial ventures.
PO9	**Self-directed and Life-long Learning:** Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes.

Program Specific Outcomes (PSOs)

PSOs	Program Specific Outcomes (PSOs)
PSO1	Analyze the relationships among animals, plants and microbes
PSO2.	Understand the nature and basic concepts of anatomy, embryology And Plant Ecology.
PSO3	Understand structure of Cell and functions of cell organelles. Plant breeding ; Biochemistry , Plant Physiology and Plant Biotechnology; EconomicBotany.
PSO4	Undertand the concept of gene, Heridity and Hybridization
PSO5	Know and understand different Physiological functions and Biochemical pathways in Plants and cell.
PSO6	Understand, identify and utilize different Economically useful Plants in life.
PSO7	Perform procedures as per laboratory standards in the areas of plant Anatomy, Embryology, Ecology, CellBiology, Plant Breeding, Plant Physiology and Plant Biotechnology.

CO – PO ATTAINMENT METHODOLOGY

- Step 1

Calculation of Course Outcome Weighted Average (COWA)

The performance of the students assessed by two methods

(a) Direct Assessment: The weightage for internal exams is 30% and for semester end exams is 60%
(b) Indirect assessment: 5% weightage for exit survey and 5% for extracurricular activities

The performance of the student is categorised in four levels

S,No	Percentage obtained by the student in DA and IDA	Level weightage
1	Less than 35%	0
2	Between 35% and 50%	1
3	Between 51% and 70%	2
4	Above 70%	3

The average level of all students for a particular course is found. It is called as course outcome weighted average (COWA).

$$\mathbf{COWA} = \frac{\boldsymbol{some\ of\ the\ level\ weitage\ of\ all\ students\ of\ a\ course}}{\boldsymbol{total\ number\ of\ students}}$$

- Step 2:

Calculation of Course outcome level index (COLLI):

To Map the course outcomes (COs) of a course with Blooms levels (1 to 6) by using action verbs used in CO' s. A course outcome may be mapped to multiple Blooms levels; hence we need to calculate the average Blooms level weightage (ABLW).

$$\mathbf{COLLI} = \frac{\boldsymbol{Sum\ of\ the\ weigtages\ of\ \ blooms\ levels\ mapped}}{\boldsymbol{number\ of\ levels\ mapped}}$$

- Step 3:

CO-PO mapping and CO-PSO mapping

Map each course outcome with POs and PSOs in levels 0,1,2,3. A CO may be mapped to multiple POs or PSOs with different levels 1,2,3. The weighted average of each PO is to be calculated.

- Step 4:

Calculation of CO attainment:

The formula for Course Outcome Attainment (CO Attainment) can be calculated by using below formula

$$\textbf{CO attainment} = \textbf{COWA} + \left\{(\mathbf{3} - \boldsymbol{COWA}) \times \left(\mathbf{1} - \frac{\boldsymbol{COLLI}}{\mathbf{3.5}}\right)\right\}$$

(Blooms Level Weighted Average value $= 3.5$)

- Step 5:

Calculation of PO attainment:

The formula for Programme Outcome Attainment (PO Attainment) can be calculated by using below formula

$$\textbf{PO Attainment} = \frac{\boldsymbol{\Sigma(CO\ attainment)(PO\ level\ mapped\ with\ CO)}}{\boldsymbol{Sum\ of\ the\ PO\ levels\ mapped\ with\ CO}}$$

PSO attainment:

The formula for Programme Specific Outcome Attainment (PSO Attainment) can be calculated by using below formula

$$\textbf{PSO Attainment} = \frac{\boldsymbol{\Sigma(CO\ attainment)(PSO\ level\ mapped\ with\ CO)}}{\boldsymbol{Sum\ of\ the\ PSO\ levels\ mapped\ with\ CO}}$$

SEMESTER – I
Paper – I : Microbial Diversity, Algae and Fungi

CO1: The structure in relation to function of cells the fundamental unit of life, are concerned in this course along with molecular present in cells and the flow they make the basic framework of cells and their continuity
CO2: awareness created on diversity on Algae, Fungi
CO3: knowledge created on microbial diversity
Co4: they can differentiate the plant viral diseases and bacterial diseases
Cos5: analyse the economic importance of microbes

Learning Outcomes: On Completion of the course, the students will be able to	**Knowledge level (Bloom's Taxonomy)**	**Average level weightage**
CO1:The structure in relation to function of cells the fundamental unit of life, are concerned in this course along with molecular present in cells and the flow they make the basic framework of cells and their continuity	Level1(Knowledge) Level2(Understanding)	**1.5**
CO2:Awareness created on diversity on Algae Fungi& lichens	Level1(Knowledge) Level3(Application)	**2**
CO3: knowledge created on microbial diversity	Level1(Knowledge) Level2(Understanding) Level4(Analysing)	**3.5**
CO4: compare and anlyse the difference between Eubacteria, archi bacteria and cyano bacteria	Level3(Application) Level4(Analysing) Level5(Evaluation)	**4**
CO5: the students get knowledge about economic importance of microbes	Level1(Understanding) Level3(Applying) Level4(Analysing) Level5(Evaluation)	**4.2**

CO-PO Mapping
1-Low, 2-Moderate, 3-High, '-' No Correlation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	**2**	**0**	**1**	**1**	**0**	**2**	**1**	**1**	**3**
CO2	**0**	**0**	**0**	**1**	**0**	**2**	**1**	**2**	**1**
CO3	**1**	**1**	**0**	**2**	**2**	**0**	**0**	**0**	**2**
CO4	**1**	**1**	**0**	**1**	**1**	**2**	**1**	**0**	**2**
CO5	**3**	**2**	**2**	**2**	**2**	**2**	**3**	**2**	**2**

CO-PSO Mapping
1-Low, 2-Moderate, 3-High, '-' No Correlation

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	**3**	**3**	**1**	**2**	**2**	**1**
CO2	**1**	**2**	**1**	**2**	**1**	**1**
CO3	**2**	**2**	**1**	**3**	**1**	**1**
CO4	**1**	**1**	**1**	**1**	**1**	**1**
CO5	**2**	**2**	**1**	**1**	**1**	**3**

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	5.125714	0	2.562857	2.562857	0	5.125714	2.562857	2.562857	7.688571
CO2	0	0	0	2.417143	0	4.834286	2.417143	4.834286	2.417143
CO3	1.98	1.98	0	3.96	3.96	0	0	0	3.96
CO4	1.834286	1.834286	0	1.834286	1.834286	3.668571	1.834286	0	3.668571
CO 5	5.328	3.552	3.552	3.552	3.552	3.552	5.328	3.552	3.552
FINAL ATTAINMENT	2.038286	1.841571	2.038286	2.046612	1.869257	2.147571	2.023714	2.189829	2.128629

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	7.688571	7.688571	2.562857	5.125714	5.125714
CO2	2.417143	4.834286	2.417143	4.834286	2.417143
CO3	3.96	3.96	1.98	5.94	1.98
CO4	1.834286	1.834286	1.834286	1.834286	1.834286
CO 5	3.552	3.552	1.776	1.776	1.776
FINAL ATTAINMENT	2.161333	2.186914	2.114057	2.16781	2.188857

I B.Sc., -Botany-I/ I Semester
MICROBIAL DIVERSITY, ALGAE AND FUNGI

UNIT-I: MICROBIAL WORLD (Origin and Evolution of Life, Microbial diversity

1. Discovery of microorganisms, origin of life, spontaneous, biogenesis, Pasteur experiments, germ theory of disease.
2. Classification of microorganisms – R.H. Whittaker's five kingdom concept.
3. Brief account of special groups of bacteria- Archaebacteria, Mycoplasma, Chlamydia, Actinomycetes and Cyanobacteria.

UNIT-II: VIRUSES

1. Viruses- Discovery, general account, structure& replication of –T4 Phage (Lytic, Lysogenic) and TMV, Viroid's.
2. Plant diseases caused by viruses – Symptoms, transmission and control measures (Brief account only).
3. Study of Tobacco Mosaic, Bhendi Vein clearing and Papaya leaf curl diseases.

UNIT-III: BACTERIA

1. Bacteria: Discovery, General characteristics, cell structure and nutrition
2. Reproduction- Asexual and bacterial recombination (Conjugation, Transformation, Transduction).
3. Economic importance of Bacteria.

UNIT-IV: Algae

1. General account - thallus organization and reproduction in Algae.
2. Fritsch classification of Algae (up to classes only) and economic importance.
3. Structure, reproduction and life history of *Oedogonium, Ectocarpus* and Polysiphonia.

UNIT-V: FUNGI

1. General characteristics and outline classification (Ainsworth).
2. Structure, reproduction and life history of *Rhizopus* (Zygomycota), *Pencillium* (Ascomycota), and *Puccinia* (Basidiomycota).
3. Lichens-Structure and reproduction; ecological and economic importance.

SEMESTER – 2

DIVERSITY OF ARCHAEGONIATES & PLANT ANATOMY

CO1: Diversified plant groups in vascular cryptogams
CO2: Deals with flowering seeded plants with economic importance
CO3: Analyze the tissue systems and their structural and functional role
CO4: deals with secondary growth of some important plants
Co5: undertsabd about the economic importance of gymnosperms

Learning Outcomes: On Completion of the course, the students will be able to	Knowledge level (Bloom's Taxonomy)	Average level weightage
CO1: Diversified plant groups in vascular plants	Level1(Knowledge) Level2(Understanding)	**1.5**
Co2 : Deals with flowering seeded classification and Nomen clture	Level1(Knowledge) Level2(Understanding) Level3(Application)	**2**
Create knowledge about important families like ASTERACEAE&POACEAE	Level1(Knowledge) Level2(Understanding) Level3(Application)	**2**
CO4: Create knowledge about the plant groups& eco types	Level3(Application) Level4(Analysing) Level6(create)	**4.3**
CO5: The students will understand about the phytogeographical zones	Level 2(Understanding) Level 3(Applying) Level 4(Analysing) Level 5(Evaluation)	**4.5**

CO-PO Mapping
1-Low, 2-Moderate, 3-High, '-' No Correlation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	**2**	**0**	**1**	**1**	**0**	**2**	**1**	**1**	**3**
CO2	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**2**	**1**
CO3	**1**	**2**	**0**	**2**	**2**	**0**	**0**	**0**	**2**
CO4	**1**	**1**	**0**	**1**	**0**	**2**	**1**	**0**	**2**
CO5	**3**	**2**	**0**	**2**	**1**	**2**	**3**	**2**	**2**

CO-PSO Mapping
1-Low, 2-Moderate, 3-High, '-' No Correlation

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	**3**	**3**	**1**	**2**	**3**	**1**
CO2	**1**	**2**	**1**	**1**	**1**	**1**
CO3	**2**	**1**	**1**	**3**	**1**	**1**
CO4	**1**	**1**	**1**	**2**	**1**	**1**
CO5	**2**	**1**	**1**	**1**	**1**	**3**

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	5.562857	0	2.781429	2.781429	0	5.562857	2.781429	2.781429	8.344286
CO2	0	0	0	0	0	5.417143	2.708571	5.417143	2.708571
CO3	2.708571	5.417143	0	5.417143	5.417143	0	0	0	5.417143
CO4	2.373429	2.373429	0	2.373429	0	4.746857	2.373429	0	4.746857
CO 5	7.032857	4.688571	0	4.688571	2.344286	4.688571	7.032857	4.688571	4.688571
FINAL ATTAINMENT	2.525388	2.495829	2.781429	2.543429	2.587143	2.551929	2.482714	2.577429	2.590543

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	8.344286	8.344286	2.781429	5.562857	8.344286
CO2	2.708571	5.417143	2.708571	2.708571	2.708571
CO3	5.417143	2.708571	2.708571	8.125714	2.708571
CO4	2.373429	2.373429	2.373429	4.746857	2.373429
CO 5	4.688571	2.344286	2.344286	2.344286	2.344286
FINAL ATTAINMENT	2.614667	2.648464	2.583257	2.60981	2.639878

I B.Sc., -Botany-II/ II Semester

DIVERSITY OF ARCHAEGONIATES & PLANT ANATOMY

UNIT – I: BRYOPHYTES

1. General characters, Classification (up to classes)
2. Structure, reproduction and Life history of *Marchantia,* and *Funaria.*
3. Evolution of Sporophyte in Bryophytes.

UNIT - II: PTERIDOPHYTES

1. General characters, classification (up to Classes)
2. Structure, reproduction and life history of *Lycopodium,* and *Marsilea.*
3. Heterospory and seed habit.
4. Stelar evaluation in Pteridophytes.

UNIT – III: GYMNOSPERMS

1. General characters, classification (up to classes)
2. Morphology, anatomy**,** reproduction and life history of *Pinus and Gnetum*
3. Economic importance.

UNIT –IV: Tissues and Tissue systems

1. Meristems - Root and Shoot apical meristems and their histological organization.
2. Tissues – Meristematic and permanent tissues (simple, complex, secretory)
3. Tissue systems–Epidermal, ground and vascular.

UNIT – V: Secondary growth

1. Anomalous secondary growth in *Achyranthes, Boerhaavia* and *Dracaena.*
2. Study of local timbers of economic Importance-Teak, Rosewood, Arjuna (Tellamaddi) Red sander.

SEMESTER-3

III Paper-III : Plant Taxonomy and Embryology

CO1: fundamental components of taxonomical study
CO2: Nomenclature of flowering plants and their distribution

CO3: Complete knowledge about important families like Cucurbitaceae, Rutaceae, etc.

CO4: Total awareness gained from plant embryology

Co5: they analyse the differences between monocots and Monoclamydae

Learning Outcomes:On Completion of the course, the students will be able to	**Knowledge level (Bloom's Taxonomy)**	**Average level weightage**
CO1: fundamental components of taxonomical study	Level1(Knowledge) Level2(Understanding)	**1.5**
CO2: Nomenclature of flowering plants and their distribution	Level1(Knowledge) Level2(Understanding) Level3(Application)	**2**
CO3: Complete knowledge about important families like Cucurbitaceae, Rutaceae, etc	Level1(Knowledge), Level2(Understanding) Level3(Application)	**2**
CO4: Total awareness gained from plant embryology	Level3(Application), Level4(Analysing) Level5(Evaluation)	**4**
Co5: They analyse the differences between monocots and Monochlamydae	Level2(Understanding) Level3(Applying) Level4(Analysing) Level5(Evaluation)	**3.5**

CO-PO Mapping
1-Low, 2-Moderate, 3-High, '-' No Correlation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	**2**	**1**	**1**	**1**	**0**	**2**	**1**	**1**	**3**
CO2	**0**	**0**	**1**	**1**	**0**	**2**	**1**	**2**	**1**
CO3	**1**	**1**	**0**	**2**	**2**	**1**	**0**	**1**	**1**
CO4	**1**	**1**	**0**	**1**	**0**	**2**	**1**	**0**	**2**
CO5	**3**	**2**	**2**	**2**	**2**	**2**	**3**	**2**	**2**

CO-PSO Mapping
1-Low, 2-Moderate, 3-High, '-' No Correlation

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	**3**	**3**	**1**	**2**	**2**	**1**
CO2	**1**	**2**	**1**	**2**	**1**	**1**
CO3	**2**	**2**	**1**	**3**	**1**	**1**
CO4	**1**	**1**	**1**	**2**	**1**	**1**
CO5	**2**	**1**	**1**	**1**	**1**	**3**

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	4.992	2.496	2.496	2.496	0	4.992	2.496	2.496	7.488
CO2	0	0	2.328	2.328	0	4.656	2.328	4.656	2.328
CO3	2.328	2.328	0	4.656	4.656	2.328	0	2.328	2.328
CO4	1.656	1.656	0	1.656	0	3.312	1.656	0	3.312
CO 5	5.472	3.648	3.648	3.648	3.648	3.648	5.472	3.648	3.648
FINAL ATTAIN MENT	**2.064**	**2.0256**	**2.118**	**2.112**	**2.076**	**2.104**	**1.992**	**2.188**	**2.122667**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	7.488	7.488	2.496	4.992	4.992
CO2	2.328	4.656	2.328	4.656	2.328
CO3	4.656	4.656	2.328	6.984	2.328
CO4	1.656	1.656	1.656	3.312	1.656
CO 5	3.648	1.824	1.824	1.824	1.824
FINAL ATTAINMENT	**2.197333**	**2.253333**	**2.1264**	**2.1768**	**2.188**

II B. Sc - SEMESTER –III: BOTANY THEORY PAPER –
III Paper-III : Plant Taxonomy and Embryology)

UNIT – I: INTRODUCTION TO PLANT TAXONOMY

1.Fundamental components of taxonomy (identification, nomenclature,classification)

2. Taxonomic resources: Herbarium- functions& importantherbaria, Botanical gardens, Flora, Keys- single access andmulti-access.

3.Botanical Nomenclature- Principles and rules of ICBN (ranks and names; principleof priority, binomial system; type method, author citation,valid-publication).

UNIT –II:CLASSIFICATION

1. Types of classification- Artificial, Natural andPhylogenetic.

2. Bentham & Hooker's system of classification- merits and demerits.

3. Engler&Prantle's system of classification- merits anddemerits

4. Phylogeny – origin and evolution ofAngiosperms

UNIT –III: SYSTEMATIC TAXONOMY-I

1. Systematic study and economic importance of the following families: Annonaceae, Brassicaceae, Rutaceae, Curcurbitaceae, and Apiaceae.

UNIT –IV:SYSTEMATIC TAXONOMY-II

1. Systematic study and economic importance of plants belonging to the following families: Asteraceae, Asclepiadaceae, Lamiaceae, Ephorbiaceae,Arecaceae,andPoaceae.

UNIT –V:EMBRYOLOGY

1. Anther structure, microsporogenesis and development of malegametophyte.

2. Ovule structure and types; Megasporogenesis, development of Monosporic, Bisporicand Tetrasporic types (*Peperomia ,Drusa, Adoxa*) of embryosacs.

3. Pollination and Fertilization (out lines) Endosperm development andtypes.

4. Development of Dicot and Monocot embryos,Polyembryony.

SEMESTER – 4

Paper IV : Plant Physiology and Metabolism

CO1: knowledge about the metabolism of plant

CO2: The students can understand about the mechanism of absorption of water in plants

CO3: aware with the mechanism of photosynthesis, respiration in plants

CO4: knowledge developed about phytoharmonal regulations and photo periodism

CO5 ; The students can differentiate co2 fixation in c3&c4 cycles

Learning Outcomes: On Completion of the course, the students will be able to	**Knowledge level (Bloom's Taxonomy)**	**Average level weightage**
CO1: knowledge about the metabolism of plant	Level1(Knowledge) Level2(Understanding) Level5(Evaluation)	**2.6**
CO2: The students can understand about the mechanism of absorption of water in plants	Level1(Knowledge) Level2(Understanding) Level3(Application)	**2**
CO3: aware with the mechanism of photosynthesis, respiration in plants	Level1(Knowledge), Level2(Understanding) Level4(Analysing)	**2.3**
CO4: knowledge developed about phyto-harmonal regulations and photo periodism	Level3(Application), Level4(Analysing) Level5(Evaluation)	**4**
CO5 ; The students can differentiate co2 fixation in c3&c4 cycles	Level2(Understanding) Level4(Analysing) Level5(Evaluation)	**3.6**

CO-PO Mapping
1-Low, 2-Moderate, 3-High, ‘-‘ No Correlation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	**2**	**0**	**1**	**1**	**1**	**2**	**1**	**1**	**3**
CO2	**1**	**0**	**1**	**1**	**0**	**2**	**1**	**2**	**1**
CO3	**1**	**1**	**0**	**2**	**2**	**0**	**0**	**0**	**2**
CO4	**1**	**1**	**0**	**1**	**2**	**2**	**1**	**0**	**2**
CO5	**3**	**2**	**2**	**2**	**2**	**2**	**3**	**2**	**2**

CO-PSO Mapping
1-Low, 2-Moderate, 3-High, ‘-‘ No Correlation

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	**3**	**3**	**1**	**2**	**2**	**1**
CO2	**1**	**2**	**1**	**2**	**2**	**1**
CO3	**2**	**1**	**1**	**3**	**1**	**1**
CO4	**1**	**1**	**1**	**1**	**1**	**1**
CO5	**2**	**1**	**1**	**1**	**1**	**3**

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	4.5024	0	2.2512	2.2512	2.2512	4.5024	2.2512	2.2512	6.7536
CO2	2.424	0	2.424	2.424	0	4.848	2.424	4.848	2.424
CO3	2.3376	2.3376	0	4.6752	4.6752	0	0	0	4.6752
CO4	1.848	1.848	0	1.848	3.696	3.696	1.848	0	3.696
CO 5	5.8896	3.9264	3.9264	3.9264	3.9264	3.9264	5.8896	3.9264	3.9264
FINAL ATTAIN MENT	2.1252	2.028	2.1504	2.160686	2.0784	2.1216	2.0688	2.20512	2.14752

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	6.7536	6.7536	2.2512	4.5024	4.5024
CO2	2.424	4.848	2.424	4.848	4.848
CO3	4.6752	2.3376	2.3376	7.0128	2.3376
CO4	1.848	1.848	1.848	1.848	1.848
CO 5	3.9264	1.9632	1.9632	1.9632	1.9632
FINAL ATTAINMENT	2.1808	2.2188	2.1648	2.2416	2.214171

II B.Sc. BOTANY, SEMESTER- IV, Paper-IV: THEORY

SYLLABUS PAPER –IV: Plant Physiology and Metabolism

UNIT – I: Plant –Water relations

1. Physical properties of water, Importance of water to plant life.
2. Diffusion, imbibition and osmosis; concept & components of Waterpotential.
3. Absorption and transport of water and ascent ofsap.
4. Transpiration –Definition, types of transpiration, structure and openingand closing mechanism ofstomata.

UNIT –II: Mineral nutrition&Enzymes

1. Mineral Nutrition**:** Essential elements (macro and micronutrients) and their rolein plant metabolism, deficiencysymptoms.
2. Mineral ion uptake (active and passivetransport).
3. Nitrogen metabolism- biological nitrogen fixation in *Rhizobium*, outlines ofprotein synthesis (transcription and translation).
4. Enzymes**:** General characteristics, mechanism of enzyme actionand factors regulating enzymeaction.

UNIT–III:PHOTOSYNTHESIS

1. Photosynthesis: Photosynthetic pigments, photosynthetic light reactions, photo- phosphorylation, carbon assimilation pathways: C3, C4, and CAM (briefaccount)
2. Photorespiration and itssignificance.
3. Translocation of organic solutes: mechanism of phloem transport,source- sinkrelationships.

UNIT – IV:RESPERATION&LIPIDMETABOLISM

1. Respiration: Glycolysis, anaerobic respiration, TCA cycle, electrontransport system. Mechanism of oxidativephosphorylation.
2. Lipid Metabolism**:** Types of lipids,Beta-oxidation.

UNIT –V: GROWTH AND DEVELOPMENT

1. Growth and development: definition, phases and kinetics ofgrowth.
2. Physiological effects of phytohormones - Auxins, Gibberellins,Cytokinins, ABA, Ethylene andBrassinosteroids.
3. Physiology of flowering -photoperiodism, role of phytochromein flowering;Vernalization.
4. Physiology of Scenescence andAgeing.

SEMESTER -5 paper-V

Paper-V: Cell Biology, Genetics and Plant Breeding

CO1: detailed study about ultra-structure of cell is possible
CO2: thestudent will understand the structure of DNA &RNA
CO3: detailed study about ultra-structure of cell is possible

CO4: plant genome study in structural and functional aspect is possible

Co5: the students can analyse the significance of mutations in molecular breeding.

Learning Outcomes:On Completion of the course, the students will be able to	**Knowledge level (Bloom's Taxonomy)**	**Average level weightage**
CO1: detailed study about ultra-structure of cell is possible	Level1(Knowledge) Level2(Understanding)	**1.5**
CO2: the student will understand the structure of DNA &RNA	Level1(Knowledge) Level2(Understanding) Level4(Analysing)	**2.3**
CO3: detailed study about ultra structure of the cell	Level1(Knowledge), Level2(Understanding) Level4(Analysing)	**2.3**
CO4: plant genome study in structural and functional aspect is possible	Level3(Application), Level4(Analysing) Level5(Evaluation)	**4**
Co5: the students can analyse the significance of mutations in molecular breeding	Level2(Understanding) Level3(Application), Level4(Analysing) Level5(Evaluation)	**3.5**

CO-PO Mapping
1-Low, 2-Moderate, 3-High, '-' No Correlation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	**2**	**1**	**1**	**1**	**0**	**2**	**1**	**1**	**3**
CO2	**0**	**0**	**1**	**1**	**1**	**2**	**1**	**2**	**1**
CO3	**1**	**1**	**0**	**2**	**2**	**0**	**1**	**0**	**2**
CO4	**1**	**1**	**1**	**1**	**0**	**2**	**1**	**0**	**2**
CO5	**3**	**2**	**2**	**2**	**2**	**2**	**3**	**2**	**2**

CO-PSO Mapping
1-Low, 2-Moderate, 3-High, '-' No Correlation

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	**3**	**2**	**1**	**2**	**2**	**1**
CO2	**1**	**2**	**1**	**2**	**1**	**2**
CO3	**2**	**1**	**1**	**3**	**2**	**1**
CO4	**1**	**1**	**2**	**2**	**1**	**1**
CO5	**2**	**1**	**1**	**1**	**1**	**3**

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	5.362286	2.681143	2.681143	2.681143	0	5.362286	2.681143	2.681143	8.043429
CO2	0	0	2.511086	2.511086	2.511086	5.022171	2.511086	5.022171	2.511086
CO3	2.511086	2.511086	0	5.022171	5.022171	0	2.511086	0	5.022171
CO4	2.149714	2.149714	2.149714	2.149714	0	4.299429	2.149714	0	4.299429
CO 5	6.768	4.512	4.512	4.512	4.512	4.512	6.768	4.512	4.512
FINAL ATTAINMENT	**2.398727**	**2.370789**	**2.370789**	**2.410873**	**2.409051**	**2.399486**	**2.374433**	**2.443063**	**2.438811**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	8.043429	5.362286	2.681143	5.362286	5.362286
CO2	2.511086	5.022171	2.511086	5.022171	2.511086
CO3	5.022171	2.511086	2.511086	7.533257	5.022171
CO4	2.149714	2.149714	4.299429	4.299429	2.149714
CO 5	4.512	2.256	2.256	2.256	2.256
FINAL ATTAINMENT	**2.470933**	**2.471608**	**2.376457**	**2.447314**	**2.471608**

III B. Sc - SEMESTER- V: BOTANY SYLLABUS
THEORY PAPE–V
Paper-V: Cell Biology, Genetics and Plant Breeding

UNIT – ICellBiology:

1. Cell, the unit of life- Cell theory, Prokaryotic and eukaryotic cells;Eukaryotic cellcomponents.
2. Ultra structure and functions of cell wall and cellmembranes.
3. Chromosomes**:** morphology, organization of DNA in achromosome (nucleosome model), Euchromatin andheterochromatin.

UNIT – II GeneticMaterial:

DNA as the genetic material: Griffith's and Avery'stransformation experiment, Hershey – Chase bacteriophageexperiment.

1. DNA structure (Watson & Crick model) and replication of DNA(semi-conservative)
2. Different forms of DNA (A-DNA, B-DNA,Z-DNA)
3. Types of RNA (mRNA, tRNA, rRNA), their structure andfunction.

UNIT – IIIMendelianInheritance:

1. Mendel's laws of Inheritance (Mono- and Di- hybrid crosses); backcrossand testcross.
2. Chromosome theory ofInheritance.
3. Linkage: concept, complete and incomplete linkage, coupling and repulsion; linkage mapsbased on two and three factorcrosses.
4. Crossing Over: concept &significance.

UNIT – IVPlantBreeding:

1. Introduction and Objectives of plantbreeding.
2. Methods of crop improvement: Procedure, advantages andlimitations of Introduction, Selection, and Hybridization (outlinesonly).

UNIT – V Breeding, Crop ImprovementandBiotechnology:

1. Role of mutations in cropimprovement.
2. Role of somaclonal variations in cropimprovement.
3. Molecular breeding – use of DNA markers in plant breeding and cropimprovement (RAPD,RFLP).

SEMESTER-V

PAPER-VI: PLANT ECOLOGY& PHYTOGEOGRAPHY

CO1: knowledge created about ecological plant species, ecotypes
CO2: awareness created about geographical distribution of plant species
CO3 :Analyse the bio geo chemical cycles.
Co4 They can learn about the concepts of population ecology
Co5: they can understand about the bio diversity conservation methods

Learning Outcomes: On Completion of the course, the students will be able to	Knowledge level (Bloom's Taxonomy)	Average level weightage
CO1: knowledge created about ecological plant species, ecotypes	Level1(Knowledge) Level2(Understanding)	**1.5**
CO2: Gets knowledge and Understanding on Ecosystem, Plant Succession and importance	Level1(Knowledge) Level2(Understanding) Level3(Application),	**2**
CO3 :Analyse the bio geo chemical cycles.	Level1(Knowledge), Level2(Understanding) Level4(Analysing)	**2.3**
Co4 They can learn about the concepts of population ecology	Level4(Analysing) Level5(Evaluation)	**4.5**
Co5: they can understand about the bio diversity and conservation methods	Level2(Understanding) Level3(Application), Level4(Analysing) Level5(Evaluation)	**3.5**

CO-PO Mapping
1-Low, 2-Moderate, 3-High, '-' No Correlation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	**2**	**0**	**1**	**1**	**1**	**2**	**1**	**1**	**3**
CO2	**1**	**0**	**1**	**0**	**0**	**2**	**1**	**2**	**1**
CO3	**1**	**1**	**2**	**2**	**2**	**0**	**0**	**1**	**2**
CO4	**1**	**1**	**1**	**1**	**2**	**2**	**1**	**0**	**3**
CO5	**3**	**2**	**2**	**2**	**2**	**2**	**3**	**2**	**2**

CO-PSO Mapping
1-Low, 2-Moderate, 3-High, '-' No Correlation

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	**3**	**3**	**1**	**2**	**2**	**1**
CO2	**1**	**2**	**1**	**1**	**1**	**1**
CO3	**2**	**1**	**2**	**3**	**1**	**1**
CO4	**1**	**1**	**1**	**2**	**1**	**1**
CO5	**2**	**1**	**1**	**1**	**2**	**3**

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	5.434286	0	2.717143	2.717143	2.717143	5.434286	2.717143	2.717143	8.151429
CO2	2.622857	0	2.622857	0	0	5.245714	2.622857	5.245714	2.622857
CO3	2.566286	2.566286	5.132571	5.132571	5.132571	0	0	2.566286	5.132571
CO4	2.151429	2.151429	2.151429	2.151429	4.302857	4.302857	2.151429	0	6.454286
CO 5	7.02	4.68	4.68	4.68	4.68	4.68	7.02	4.68	4.68
FINAL ATTAINMENT	**2.474357**	**2.349429**	**2.472**	**2.446857**	**2.404653**	**2.457857**	**2.418571**	**2.534857**	**2.458286**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	8.151429	8.151429	2.717143	5.434286	5.434286
CO2	2.622857	5.245714	2.622857	2.622857	2.622857
CO3	5.132571	2.566286	5.132571	7.698857	2.566286
CO4	2.151429	2.151429	2.151429	4.302857	2.151429
CO 5	4.68	2.34	2.34	2.34	4.68
FINAL ATTAINMENT	**2.526476**	**2.556857**	**2.494**	**2.488762**	**2.493551**

III B. Sc - SEMESTER- V: BOTANY THEORY SYLLABUS PAPER-VI: PLANT ECOLOGY& PHYTOGEOGRAPHY

UNIT – I. ElementsofEcology

Climatic Factors: Light, Temperature,precipitation.

1. Edaphic Factor: Origin, formation, composition and soil profile.
2. Biotic Factor: Interactions between plants andanimals.

UNIT– II.EcosystemEcology

1. Ecosystem: Concept and components, energy flow, Food chain, Food web, Ecologicalpyramids.
2. Productivity of ecosystem-Primary, Secondary and Net productivity.
3. Biogeochemical cycles- Carbon, Nitrogen andPhosphorous.

UNIT – II Population&CommunityEcology

1. Population -definition, characteristics and importance, outlines–ecotypes.
2. Plant communities- characters of a community, outlines – Frequency,density, cover, life forms,competition.
3. Interaction between plants growing in acommunity.

UNIT –IV Phytogeography

Principles of Phytogeography, Distribution (wides, endemic, discontinuousspecies)

1. Phytogeographic regions ofIndia.
2. Phytogeographic regions ofWorld.
3. Endemism – types andcauses

UNIT- V: Plant Biodiversity andits importance

1. Definition, levels of biodiversity-genetic, species andecosystem.
2. Biodiversity hotspots- Criteria, Biodiversity hotspots ofIndia.
3. Loss of biodiversity – causes and conservation (*In-situ* and *ex-situ*methods).
4. Seed banks - conservation of genetic resources and theirimpor

SEMESTER – 6

Paper VII-(B): Nursery, Gardening and Floriculture.

CO1: students understand different vegetative propagagtive methods
CO2: they develop skill towars floriculture
CO3: they learn about Nursery management methods
CO4: Ornamental plants study is possible
Co5: different land scapeing methods.

Learning Outcomes:On Completion of the course, the students will be able to	**Knowledge level (Bloom's Taxonomy)**	**Average level weightage**
CO1: students understand different vegetative propagagtive methods	Level1(Knowledge) Level2(Understanding) Level3(Application),	**2**
CO2: they develop skill towards floriculture	Level1(Knowledge) Level2(Understanding) Level3(Application), Level4(Analysing)	**2.5**
CO3: they learn about Nursery Management Methods	Level1(Knowledge), Level2(Understanding) Level4(Analysing)	**2.3**
CO4: Ornamental plants study is possible	Level4(Analysing) Level5(Evaluation)	**4.5**
Co5: different land scapeing methods	Level2(Understanding) **Level3(Application),** Level4(Analysing) Level5(Evaluation) Level6 (create)	**4.2**

CO-PO Mapping
1-Low, 2-Moderate, 3-High, ‘-‘ No Correlation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	**2**	**1**	**1**	**1**	**0**	**2**	**1**	**1**	**3**
CO2	**1**	**0**	**0**	**1**	**1**	**2**	**1**	**2**	**1**
CO3	**1**	**1**	**1**	**2**	**2**	**1**	**0**	**0**	**2**
CO4	**1**	**1**	**0**	**1**	**1**	**2**	**1**	**0**	**2**
CO5	**3**	**2**	**2**	**2**	**2**	**2**	**3**	**2**	**2**

CO-PSO Mapping
1-Low, 2-Moderate, 3-High, ‘-‘ No Correlation

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	**3**	**3**	**1**	**2**	**2**	**1**
CO2	**1**	**2**	**1**	**1**	**1**	**1**
CO3	**2**	**1**	**1**	**3**	**1**	**1**
CO4	**1**	**1**	**1**	**2**	**3**	**1**
CO5	**2**	**1**	**1**	**1**	**1**	**3**

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	4.889143	2.444571	2.444571	2.444571	0	4.889143	2.444571	2.444571	7.333714
CO2	2.305714	0	0	2.305714	2.305714	4.611429	2.305714	4.611429	2.305714
CO3	2.361257	2.361257	2.361257	4.722514	4.722514	2.361257	0	0	4.722514
CO4	1.750286	1.750286	0	1.750286	1.750286	3.500571	1.750286	0	3.500571
CO 5	5.5008	3.6672	3.6672	3.6672	3.6672	3.6672	5.5008	3.6672	3.6672
FINAL ATTAINMENT	**2.1009**	**2.044663**	**2.118257**	**2.127184**	**2.074286**	**2.1144**	**2.000229**	**2.14464**	**2.152971**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	7.333714	7.333714	2.444571	4.889143	4.889143
CO2	2.305714	4.611429	2.305714	2.305714	2.305714
CO3	4.722514	2.361257	2.361257	7.083771	2.361257
CO4	1.750286	1.750286	1.750286	3.500571	5.250857
CO 5	3.6672	1.8336	1.8336	1.8336	1.8336
FINAL ATTAINMENT	**2.197714**	**2.236286**	**2.139086**	**2.1792**	**2.080071**

B. Sc - BOTANY SYLLABUS SEMESTER- VI PAPER – VII – ELECTIVE

Paper VII-(B): Nursery, Gardening and Floriculture.

UnitI: Nursery**:**

Definition, objectives, scope and building up of infrastructure for nursery.

1. Planning and seasonal activities - Planting - direct seeding andtransplants.
2. Nursery Management and Routine GardenOperations.

UnitIII:Gardening

1. Definition, objectives and scope - different types ofgardening.
2. Landscape and home gardening - parks and its components, plantmaterials and design.Computer applications inlandscaping and design..
3. Gardening operations: soil laying, manuring,watering.
4. Landscaping Places of Public Importance: Landscaping highways and Educational Institutions)
5. Some Famous gardens of India.

Unit III: Propagation methods

1.seedlings, transplanting of seedlings.
2. layering, cutting, selection of cutting ,propagule collecting season,
3.cutting rooting medium and planting of cuttings – Hardeningofplants.
4. Propagation of ornamental plants by rhizomes, corms tubers, bulbs andbulbils.
5. Green house - mist chamber, shed root, shade house and Glasshouse for propagation.

UnitIV:Floriculture:

1.Ornamental Plants: Flowering annuals; herbaceous, perennials; Divinevines; Shade and ornamentaltrees.

1. Ornamental bulbous and foliage plants; Cacti andsucculents.

2. Ornamentals-palms.

3. Cultivation of plants in pots; Indoor gardening;Bonsai.

Unit V:CommercialFloriculture

1. Factors affecting flower production; Production and packaging of cut flowers; Flower arrangements; Methods to prolong vase life of flowers

3. Cultivation of Important cut flowers (Carnation, Aster,Dahlia, Gerbera, Anthuriams, Gladiolous, Marigold, Rose,Lilium)

4. Management of pests, diseases and harvesting.

Semester-VI Paper VIII, CLUSTER ELECTIVE, Cluster-A,

Paper VIII-A-1 : PLANT DIVERSITY AND HUMAN WELFARE

CO1:understand the significance of plants in human welfare
CO2: learn about bio diversity conservation
Co3:anlyse the commercial importance of wood
Co4 understad the sustainable methods and their significance
Co5: anlyse the concept of ecological foot print

Learning Outcomes:On Completion of the course, the students will be able to	Knowledge level (Bloom's Taxonomy)	Average level weightage
CO1:understand the significance of plants in human welfare	Level1(Knowledge) Level2(Understanding) Level3(Application),	**2**
CO2: learn about bio diversity conservation	Level1(Knowledge) Level2(Understanding) Level4(Analysing) Level5(Evaluation)	**3**
Co3:anlyse the commercial importance of wood	Level1(Knowledge), Level2(Understanding) Level4(Analysing)	**2.3**
Co4 understad the sustainable methods and their significance	Level3(Application), Level4(Analysing) Level5(Evaluation)	**4**
Co5: anlyse the concept of ecological foot print	Level2(Understanding) **Level3(Application),** Level4(Analysing) Level5(Evaluation) Level6 (create)	**4.2**

CO-PO Mapping
1-Low, 2-Moderate, 3-High, '-' No Correlation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	**2**	**1**	**1**	**1**	**0**	**2**	**1**	**1**	**3**
CO2	**0**	**2**	**1**	**1**	**0**	**2**	**1**	**2**	**1**
CO3	**1**	**1**	**1**	**2**	**2**	**0**	**0**	**3**	**2**
CO4	**1**	**1**	**0**	**1**	**1**	**2**	**1**	**0**	**2**
CO5	**3**	**1**	**2**	**1**	**2**	**1**	**3**	**2**	**2**

CO-PSO Mapping
1-Low, 2-Moderate, 3-High, '-' No Correlation

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	**3**	**3**	**1**	**2**	**2**	**1**
CO2	**1**	**1**	**1**	**2**	**1**	**1**
CO3	**2**	**2**	**1**	**2**	**1**	**1**
CO4	**1**	**1**	**1**	**2**	**1**	**1**
CO5	**2**	**1**	**1**	**1**	**2**	**3**

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	4.891429	2.445714	2.445714	2.445714	0	4.891429	2.445714	2.445714	7.337143
CO2	0	4.725143	2.362571	2.362571	0	4.725143	2.362571	4.725143	2.362571
CO3	2.362571	2.362571	2.362571	4.725143	4.725143	0	0	7.087714	4.725143
CO4	1.891429	1.891429	0	1.891429	1.891429	3.782857	1.891429	0	3.782857
CO 5	5.508	1.836	3.672	1.836	3.672	1.836	5.508	3.672	3.672
FINAL ATTAINMENT	2.093347	2.210143	2.168571	2.210143	2.057714	2.17649	2.034619	2.241321	2.187971

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	7.337143	7.337143	2.445714	4.891429	4.891429
CO2	2.362571	2.362571	2.362571	4.725143	2.362571
CO3	4.725143	4.725143	2.362571	4.725143	2.362571
CO4	1.891429	1.891429	1.891429	3.782857	1.891429
CO 5	3.672	1.836	1.836	1.836	3.672
FINAL ATTAINMENT	2.220921	2.269036	2.179657	2.217841	2.168571

CLUSTERELECTIVES

III B.Sc.: BOTANY SYLLABUS SEMESTER- VI

Paper VIII, CLUSTER ELECTIVE, Cluster-A,
Paper VIII-A-1 : PLANT DIVERSITY AND HUMAN WELFARE

Unit- I: Plant diversity and its scope:

i. Genetic diversity, Species diversity, Plant diversity at the level ecosystem Agro biodiversity and cultivated plant taxa, wildtaxa.

a) Values and uses of biodiversity: Ethical andaesthetic

ii. values, Methodologies for valuation, Uses ofplants.

Unit -II: Loss of biodiversity:

i. Loss of genetic diversity, Loss of species diversity, Loss of ecosystem diversity, Loss of agro biodiversity, projectedscenario for biodiversity loss

ii. Management of plant biodiversity: Organizations associated withbiodiversity management-Methodology for execution-IUCN, UNEP, UNESCO, WWF,NBPGR;

Biodiversity legislation and conservations, Biodiversity information management and communication.

Unit-III: Contemporary practices inresource management:

i. Environmental Impact Assessment (EIA), GeographicalInformation System GIS, Participatory resourceappraisal, Ecologicalfootprint with emphasis on carbonfootprint,Resourceaccounting;

ii. Solid and liquid wastemanagement

Unit -IV: Conservation ofbiodiversity

i. Conservation of genetic diversity, species diversity and ecosystem diversity, *In situ* and *ex situ*conservation,

ii. Social approaches to conservation,Biodiversity awareness programmes, Sustainabledevelopment.

Unit- V: Role of plants in relation toHuman Welfare

Importance of forestry, their utilization and commercialaspects-

a)Avenue trees, b) ornamental plants of India.

c) Alcoholicbeverages through ages.

i. Fruits and nuts: Important fruit crops their commercial importance. Wood, fiber and their uses.

Semester-VI cluster-A2

Paper VIII-A-2 : ETHNOBOTANY AND MEDICINAL BOTANY

CO1:understand the significance ofMedicinal plants
CO2: learn about the concepts of Ayurveda sidda traditional medicinal practice syatems
Co3:understand about different medicinal plants and their significance
Co4 understad the conept of Ttraditional knowledge and IPR
Co5: analyse the importance of botanical garden in bio diversity conservation

Learning Outcomes:On Completion of the course, the students will be able to	**Knowledge level (Bloom's Taxonomy)**	**Average level weightage**
CO1:understand the significance of Medicinal plants	Level1(Knowledge) Level2(Understanding) Level3(Application),	**2**
CO2: learn about the concepts of Ayurveda sidda	Level1(Knowledge) Level2(Understanding) Level4(Analysing) Level5(Evaluation)	**3**
Co3:understand about different medicinal plants and their significance	Level1(Knowledge), Level2(Understang) Level3(Application), Level4(Analysing)	**2.5**
Co4 understad the conept of Ttraditional knowledge and IPR	Level3(Application), Level4(Analysing) Level5(Evaluation)	**4**
Co5: analyse the importance of botanical garden in bio diversity conservation	Level2(Understanding) **Level3(Application),** Level4(Analysing) Level5(Evaluation) Level6 (create)	**4.2**

CO-PO Mapping
1-Low, 2-Moderate, 3-High, '-' No Correlation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	**2**	**0**	**1**	**1**	**1**	**2**	**1**	**1**	**3**
CO2	**1**	**0**	**0**	**1**	**0**	**2**	**1**	**2**	**1**
CO3	**1**	**1**	**1**	**2**	**2**	**0**	**0**	**1**	**2**
CO4	**1**	**1**	**0**	**1**	**0**	**2**	**1**	**1**	**2**
CO5	**3**	**2**	**2**	**2**	**2**	**2**	**3**	**2**	**2**

CO-PSO Mapping
1-Low, 2-Moderate, 3-High, '-' No Correlation

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	**3**	**3**	**1**	**2**	**2**	**1**
CO2	**1**	**2**	**2**	**1**	**1**	**1**
CO3	**2**	**2**	**1**	**3**	**1**	**1**
CO4	**1**	**1**	**1**	**1**	**1**	**1**
CO5	**2**	**1**	**1**	**1**	**1**	**3**

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	5.465046	0	2.732523	2.732523	2.732523	5.465046	2.732523	2.732523	8.197568
CO2	2.598784	0	0	2.598784	0	5.197568	2.598784	5.197568	2.598784
CO3	2.665653	2.665653	2.665653	5.331307	5.331307	0	0	2.665653	5.331307
CO4	2.465046	2.465046	0	2.465046	0	4.930091	2.465046	2.465046	4.930091
CO 5	7.314894	4.876596	4.876596	4.876596	4.876596	4.876596	7.314894	4.876596	4.876596
FINAL ATTAINMENT	2.563678	2.501824	2.568693	2.572036	2.588085	2.558663	2.518541	2.562484	2.593435

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	8.197568	8.197568	2.732523	5.465046	5.465046
CO2	2.598784	5.197568	5.197568	2.598784	2.598784
CO3	5.331307	5.331307	2.665653	7.99696	2.665653
CO4	2.465046	2.465046	2.465046	2.465046	2.465046
CO 5	4.876596	2.438298	2.438298	2.438298	2.438298
FINAL ATTAINMENT	2.6077	2.625532	2.583181	2.620517	2.605471

III B. Sc - BOTANY SYLLABUS SEMESTER- VIII :
CLUSTER ELECTIVE -A

Paper VIII-A-2 : ETHNOBOTANY AND MEDICINAL BOTANY

Unit –I:Ethnobotany

i. Introduction, concept, scope and objectives; Ethnobotany as an interdisciplinary science. The relevance of ethnobotany inthe present context

ii. Major and minor ethnic groups or Tribals of India, and their lifestyles.

iii. Plants used by the tribal populations: a) Food plants, b) intoxicants and beverages, c) Resins and oils and miscellaneoususes.

Unit -II: Role of ethnobotany inmodern Medicine:

i. Role of ethnobotany in modern medicine with special example *Rauvolfiasepentina, Trichopuszeylanicus, Artemisia annua, Withaniasomnifera.*

ii. Medico-ethnobotanical sources in India

iii. Significance of the following plants in ethnobotanical practices (along with their habitat andmorphology)

a) *Azadirachtaindica*, b) *Ocimum sanctum*, c) *Vitexnegundo*, d)*Gloriosasuperba*, e) *Tribulusterrestris*,f)*Phyllanthusniruri* ,g)*Cassauriculata*, h) *Indigoferatinctoria* , i) *Sennauriculata*j).*Curcuma longa*

iv. Role of ethnic groups in the conservation of plant genetic resource

Unit-III: Ethnobotany as a tool to protect interests of ethnic

i. Sharing of wealth concept with few examples fromIndia.

Biopiracy, Intellectual Property Rights and TraditionalKnowledge.

Unit -IV: History, Scope and Importance of Medicinal Plants. indigenousMedicinalSciences

i. Definition and Scope-**Ayurveda**: History, origin, panchamahabhutas, saptadhatu and tridosha concepts, Rasayana, plants used in ayurvedictreatments.

ii. **Siddha**: Origin of Siddha medicinal systems, Basisof Siddha system, plants used in Siddhamedicine.

iii. **Unani**: History, concept: Umoor-e- tabiya, tumors treatments/ therapy, polyherbal formulations (inbrief).

Unit -V: Conservation of endangered and endemic medicinal plants:

i. Definition: endemic and endangered medicinalplants,

ii. Red listcriteria

iii. *In situ* conservation: Biosphere reserves,sacred groves, NationalParks

iv. *Ex situ* conservation: BotanicalGardens.

Semester-VI cluster-A3

Paper VIII-A-3: Pharmacognosy and Phytochemistry

CO1:understand the significance of secondary metabolites
CO2: learn about the Drug evalution methods
Co3:understand about different medicinal plants and their significance
Co4 : learn about Different groups of Alkaloids, biosynthesis, bioactivity.
Co5: analyse the Pharmacological action of plant drugs – tumor inhibitors,PAF antagonists, antioxidants

Learning Outcomes:On Completion of the course, the students will be able to	Knowledge level (Bloom's Taxonomy)	Average level weightage
CO1:understand the significance of secondary metabolites	Level1(Knowledge) Level2(Understanding)	**1.5**
CO2: learn about the Drug evalution methods	Level1(Knowledge) Level2(Understanding) Level4(Analysing) Level5(Evaluation)	**3**
Co3:understand about different medicinal plants and their significance	Level2(Understang) Level3(Application), Level4(Analysing)	**3**
Co4 : learn about Different groups of Alkaloids, biosynthesis, bioactivity.	Level3(Application), Level4(Analysing) Level5(Evaluation)	**4**
Co5: analyse the Pharmacological action of plant drugs – tumor inhibitors,PAF antagonists, antioxidants	Level2(Understanding) **Level3(Application),** Level4(Analysing) Level5(Evaluation) Level6 (create)	**4.2**

CO-PO Mapping
1-Low, 2-Moderate, 3-High, '-' No Correlation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	**2**	**0**	**1**	**1**	**1**	**2**	**1**	**1**	**3**
CO2	**0**	**1**	**2**	**1**	**0**	**2**	**1**	**2**	**1**
CO3	**1**	**1**	**0**	**2**	**2**	**0**	**0**	**1**	**2**
CO4	**1**	**1**	**2**	**1**	**1**	**2**	**1**	**0**	**2**
CO5	**3**	**2**	**2**	**2**	**2**	**2**	**3**	**2**	**2**

CO-PSO Mapping
1-Low, 2-Moderate, 3-High, '-' No Correlation

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	**3**	**3**	**1**	**2**	**2**	**1**
CO2	**1**	**2**	**1**	**2**	**2**	**1**
CO3	**2**	**1**	**1**	**3**	**1**	**1**
CO4	**1**	**1**	**1**	**3**	**1**	**1**
CO5	**2**	**1**	**1**	**1**	**2**	**3**

ATTAINMENT OF POs

PROGRAM OUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO 1	5.271	0	2.6355	2.6355	2.6355	5.271	2.6355	2.6355	7.9065
CO2	0	2.271	4.542	2.271	0	4.542	2.271	4.542	2.271
CO3	2.271	2.271	0	4.542	4.542	0	0	2.271	4.542
CO4	2.028	2.028	4.056	2.028	2.028	4.056	2.028	0	4.056
CO 5	5.9382	3.9588	3.9588	3.9588	3.9588	3.9588	5.9382	3.9588	3.9588
FINAL ATTAINMENT	2.215457	2.10576	2.170329	2.205043	2.19405	2.228475	2.14545	2.23455	2.27343

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	7.9065	7.9065	2.6355	5.271	5.271
CO2	2.271	4.542	2.271	4.542	4.542
CO3	4.542	2.271	2.271	6.813	2.271
CO4	2.028	2.028	2.028	6.084	2.028
CO 5	3.9588	1.9794	1.9794	1.9794	3.9588
FINAL ATTAINMENT	2.3007	2.340863	2.23698	2.244491	2.25885

III B. Sc - BOTANY SYLLABUS
SEMESTER- VIII CLUSTER
ELECTIVE, Paper VIII-A-3

Paper VIII-A-3: Pharmacognosy and Phytochemistry

Unit-I:Pharmacognosy

Definition, Importance, Classification of drugs - Chemical and Pharmacological, Drug evaluation methods

Unit –II: Organoleptic andmicroscopicstudies:

Organoleptic and microscopic studies with reference to nature of active principles and common adulterants

Adhatodavasica(leaf),*Strychnosnuxvomica*(seed),R*auwolfiaserpentina*(root) and

Zinziberofficinalis C*atharanth us roseus.*

Unit-III:SecondaryMetabolites:

i. Definition of primary and secondary metabolites and their differences, majortypes - terpenes, phenolics, alkaloids, terpenoids, steroids.

ii. A brief idea about extraction of alkaloids.Origin of secondary metabolites – detailed account of acetate pathway, mevalonate pathway, shikimatepathway.

UNIT-IV:Phytochemistry:

Biosynthesis and sources of drugs:

(i) Phenols and phenolic glycosides : structural types, biosynthesis, importanceof simple phenolic compounds, tannins, anthraquinones, coumarins and furanocoumarins, flavones and related flavonoid glycosides, anthocyanins, betacyanins, stilbenes, lignins andlignans).

(ii) Steroids, sterols, saponins, withanolides, ecdysones,cucurbitacins:

(iii) Alkaloids: Different groups, biosynthesis, bioactivity.

(v) Volatile oils,aromatherapy.

UNIT-V: Enzymes, proteins and amino acidsasdrugs:

i. Vaccines, toxins and toxoids, antitoxins, immune globulins,antiserums,

ii. Vitamins, Antibiotics – chemical nature, mode ofaction.

iii. Pharmacological action of plant drugs – tumor inhibitors,PAF antagonists, antioxidants, phytoestrogen andothers.

iv. Role of different enzymeinhibitors.

Dr. V. S. KRISHNA GOVT. DEGREE COLLEGE (A)

VISAKHAPATNAM

DEPARTMENT OF COMMERCE

2018-2019

CO – PO MAPPING AND ATTAINMENT

Dr.V.S.Krishna Govt. Degree College (Autonomous)

(Accredited with 'A' Grade by NAAC)

Visakhapatnam

530013, ANDHRA PRADESH

CO – PO ATTAINMENT METHODOLOGY

- Step 1

Calculation of Course Outcome Weighted Average (COWA)

The performance of the students assessed by two methods

(a) Direct Assessment: The weightage for internal exams is 30% and for semester end exams is 60%
(b) Indirect assessment: 5% weightage for exit survey and 5% for extracurricular activities

The performance of the student is categorised in four levels

S,No	Percentage obtained by the student in DA and IDA	Level weightage
1	Less than 35%	0
2	Between 35% and 50%	1
3	Between 51% and 70%	2
4	Above 70%	3

The average level of all students for a particular course is found. It is called as course outcome weighted average (COWA).

$$\mathbf{COWA} = \frac{\boldsymbol{some\ of\ the\ level\ weitage\ of\ all\ students\ of\ a\ course}}{\boldsymbol{total\ number\ of\ students}}$$

- Step 2:

Calculation of Course outcome level index (COLLI):

To Map the course outcomes (COs) of a course with Blooms levels (1 to 6) by using action verbs used in CO' s. A course outcome may be mapped to multiple Blooms levels; hence we need to calculate the average Blooms level weightage (ABLW).

$$\mathbf{COLLI} = \frac{\boldsymbol{Sum\ of\ the\ weigtages\ of\ \ blooms\ levels\ mapped}}{\boldsymbol{number\ of\ levels\ mapped}}$$

- Step 3:

CO-PO mapping and CO-PSO mapping

Map each course outcome with POs and PSOs in levels 0,1,2,3. A CO may be mapped to multiple POs or PSOs with different levels 1,2,3. The weighted average of each PO is to be calculated.

- Step 4:

Calculation of CO attainment:

The formula for Course Outcome Attainment (CO Attainment) can be calculated by using below formula

$$\textbf{CO attainment} = \textbf{COWA} + \left\{(\mathbf{3} - \boldsymbol{COWA}) \times \left(\mathbf{1} - \frac{\boldsymbol{COLLI}}{\mathbf{3.5}}\right)\right\}$$

(Blooms Level Weighted Average value $= 3.5$)

- Step 5:

Calculation of PO attainment:

The formula for Programme Outcome Attainment (PO Attainment) can be calculated by using below formula

$$\textbf{PO Attainment} = \frac{\boldsymbol{\Sigma(CO\ attainment)(PO\ level\ mapped\ with\ CO)}}{\boldsymbol{Sum\ of\ the\ PO\ levels\ mapped\ with\ CO}}$$

PSO attainment:

The formula for Programme Specific Outcome Attainment (PSO Attainment) can be calculated by using below formula

$$\textbf{PSO Attainment} = \frac{\boldsymbol{\Sigma(CO\ attainment)(PSO\ level\ mapped\ with\ CO)}}{\boldsymbol{Sum\ of\ the\ PSO\ levels\ mapped\ with\ CO}}$$

Dr.V.S.KRISHNA GOVT. DEGREE COLLEGE (A)

VISAKHAPATNAM

DEPARTMENT OF COMMERCE

PROPOSED SYLLABUS FOR B.Com COMMERCE
IN UNDERGRADUATE DEGREE PROGRAMME
UNDER AUTONOMY

2018-2019

BOARD OF STUDIES
IN
B.Com COMMERCE

SYLLABUS FOR B.Com GENERAL

Approved in B.O.S for the Academic Year 2018-2019

(Date: 27 - 07 – 2018)

Dr.V.S.Krishna Govt. Degree College (Autonomous),

(Accredited with 'A' Grade by NAAC)
Visakhapatnam
530013, ANDHRA PRADESH

Dr.V.S.Krishna Govt. Degree College (Autonomous), Visakhapatnam
Resolutions/Minutes of the 5th Board of Studies-March 2018

Subject: Commerce **Department: Commerce**

In pursuance of conferment of Autonomous status to Dr.V.S.Krishna Govt. Degree College(A), Visakhapatnam by the UGC vide letter No.F22-1/2011(AC) dated 20.07.2011 from Dr. Manju Singh, Joint Secretary, UGC, New Delhi and Proceedings No. C-II (CDC) /Dr.VSK.Govt.College/BOS/2018 dt. 27-07-2018 of The Vice-Chancellor, Andhra University, Visakhapatnam, the **5th Board of Studies in Commerce** Subject is conducted on 10-10-2018 at 10:00 AM with the following members. The Changes will be implemented from 2019-20 academic year onwards.

MEMBER	NAME & DESIGNATION	SIGNATURE
Head of the Department (Chairman)	**Dr.K.Ravikumar**	
Faculty Members	**List Of Lecturers of the Department** **1.Sri.R.Ramarao** **2.Dr.Ch.Vishnu Murthy** **3.Dr.V.Chittabai** **4.Sri.B.Ramachandra Rao** **5.Sri V.S.J.R.C.Murthy**	
Subject Expert (University Nominee)	Prof P.Viswanadham	
Subject Experts (from outside the parent university)	Smt Y.Lakshmi Lecturer In Commerce GDC Srikakulam	
	Sri. L. Krishna Rao,(HOD) Lecturer In Commerce GDC Srikakulam	
Representative Member From Industry / Corporate / Allied Area relating to placement	Smt.P.V.Lakshmi, MBA ,BL, Divisional Office LIC Visakhapatnam	
Member from Alumni	Sri.C.V.S.Ravendra Nadh , Lecturer In English Dr.V.S.K GDC VSP.	
Coordinator, Academic Council	Dr.Sravan Kumar (HOD) Physics Dr.V.S.K.GDC Vsp	
Chairperson, Academic Council	Dr.V.Chandra Sekhar Principal	

Dr V.S.KRISHNA GOVT.DEGREE COLLEGE(A),VISAKHAPATNAM
ALLOCATION OF CREDITS FOR B.COM PROGRAMME FOR THE YEAR
SUBJECT: COMMERCE

S.No.	Subject	Sem-1	Sem-2	Sem-3	Sem-4	Sem-5	Sem-6	Total	Remarks
1	English	3	3	3	3			12	
2	Telugu/ Hindi/ Sanskrit	3	3	3	3			12	
3	HVPE	1						1	
4	Environmental Studies	1						1	
5	ICT- I		1					1	
6	CSS - I		1					1	
7	ICT- II			1				1	
8	CSS - II			1				1	
9	Analytical Skills				1			1	
10	Entreprenuership				1			1	
11	Fundamentals of Accounting- I	5						5	
12	Business Organization	5						5	
13	Business Economics- I	5						5	
14	Fundamentals of Accounting- II		5					5	
15	Business Environment		5					5	
16	Business Economics- II		5					5	
17	Corperate Accounting			5				5	
18	Business Statistics			5				5	
19	Banking Theory & Practice			5				5	
20	Accounting for Service Organisation				5			5	
21	Business Law				5			5	
22	Income Tax				5			5	
23	Cost Accounting + Retailing					5+5		10	
24	Indirect Taxes + Banking & Financial Services					5+5		10	
25	Commercial Geography + Taxation					5+5		10	
26	Marketing + Retailing						5+5	10	
27	Auditing + Banking & Financial Services						5+5	10	
28	Management Accounting + Taxation						5+5	10	
29	Community Services & Extra Curricular		1		1		1	3	
30	PROJECT WORK						1	1	
	Total	23	24	23	24	30	32	156	

Dr. V.S. KRISHNA GOVT. DEGREE COLLEGE
(AUTONOMOUS)
NAAC REACCREDITED 'A' GRADE INSTITUTION
NODAL RESOURCE CENTRE & AU CENTRE FOR RESEARCH
Maddilapalem, Visakhapatnam - 530 013. Andhra Pradesh.
0891-2553202, https://www.drvskrishnagdc.edu.in

POS & COS MAPING

2018 -2019

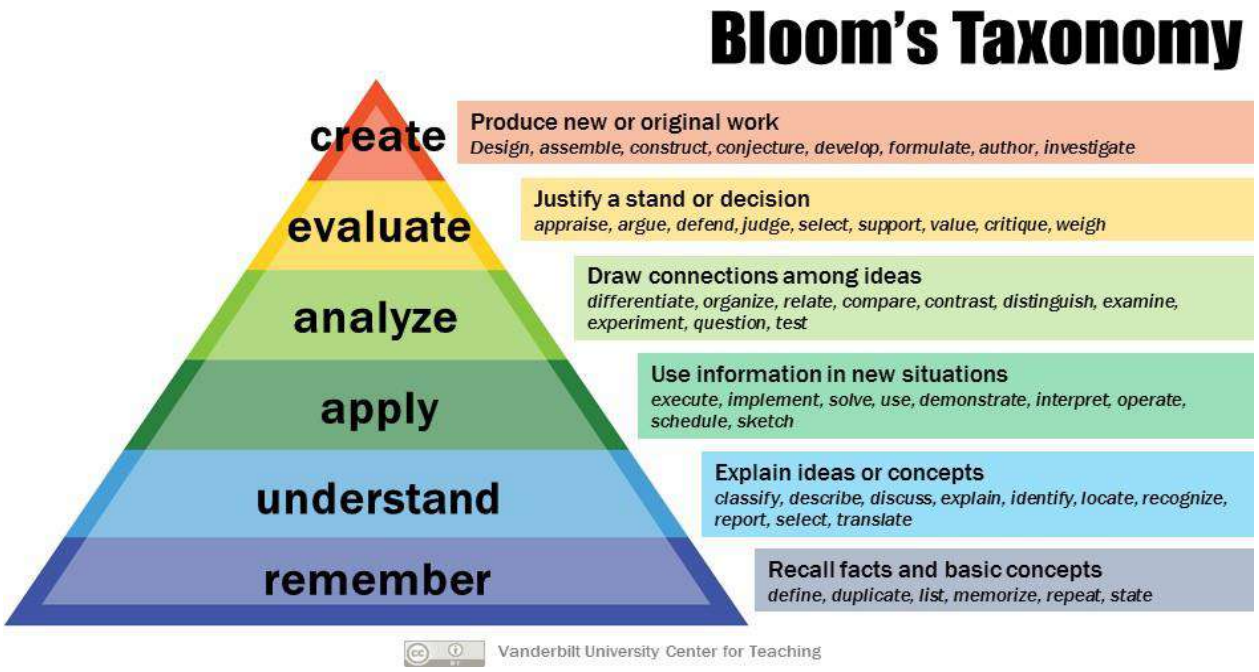
DEPARTMENT OF COMMERCE

2018-2019

DepartmentofCommerce
ProgrammeName:**B.Com**

LevelsofBloom'sTaxonomoy

Level-1	**Knowledge/Remember**
Level-2	**Understand**
Level-3	**Application**
Level-4	**Analyze**
Level-5	**Evaluation**
Level-6	**Create**



POs	ProgrammeOutcomes
PO1	**CriticalThinking:** Ability to take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate andvalid,andlookingatourideasanddecisions(intellectual,organizational,and personal) from different perspectives.
PO2	**EffectiveCommunication:** Ability to speak, read, writes, and listens clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media, and technology.
PO3	**SocialInteraction:** Ability to elicit views of others, mediate disagreements and help reach conclusions in group settings.
PO4	**EffectiveCitizenship:** Ability todemonstrateempatheticsocialconcernandequity centered national development, and the abilitytoactwithaninformedawarenessofissuesand participate in civic life through volunteering.
PO5	**Ethics:** Abilitytorecognizedifferentvaluesystemsincludingyourown,understandthe moral dimensions of your decisions, and accept responsibility for them.
PO6	**EnvironmentandSustainability:** AbilitytounderstandtheissuesofenvironmentalcontextsandsustainableDevelopment.
PO7	**Employabilityskills:** Equippinggraduateswiththeessentialabilitiesandknowledgetoexcelintheirchosen careers.
PO8	**Entrepreneurshipskills:** Seeks to empower students with the competencies needed to be successful entrepreneurs, enabling them to launch, operate, and innovate in their own businesses or entrepreneurial ventures.
PO9	**Self-directedandLife-long Learning:** Acquiretheabilitytoengageinindependentandlife-longlearninginthebroadest context socio-technological changes.

PROGRAM SPECIFIC OUTCOMES(PS0s)

PSOs	ProgramSpecificOutcomes(PSO)
PSO1	Understand application of knowledge of commerce in business service sector, industry, marketing, finance, entrepreneurship development etc.
PSO2.	Develop communication skills and computer awareness and practical application of income tax
PSO3	Designed to equip the students for a career in financial analysis, personal financial advisor, consultants etc.
PSO4	Opens scope for graduates to pursue courses such as CA, M.Com, MBA, CMA, CS, CPA etc.
PSO5	Empower knowledge and decision making to excel as entrepreneurs and managers.
PSO6	Applying both quantitative and qualitative knowledge in their careers.

I B.Com. -General-I/ I Semester End

FUNDAMENTALS OF ACCOUNTING-I

COURSE OUTCOMES

CO1: Exemplify to prepare and analyze the financial statements.
CO2: Acquire the basic concept of accounting terms.
CO3: Journalize the ability to rectify the errors in bank reconciliation statement.
CO4: Demonstrate insight into single and double entry system of accounting.
Co5: Determine the basics concepts of financial accounting

Unit-I – Introduction to Accounting

Need for Accounting – Definition – Objectives, Advantages – Book keeping and Accounting– Accounting concepts and conventions - Accounting Cycle - Classification of Accounts and its rules - Double Entry Book-keeping - Journalization - Posting to Ledgers, Balancing of ledger Accounts (problems).

Unit –II: Subsidiary Books:

Types of Subsidiary Books - Cash Book, Three-column Cash Book- Petty cash Book (Problems).

Unit-III: Bills of Exchange

Meaning of Bill –Features of bill – Parties in the Bill – Discounting of Bill – Renewal of Bill – Entries in the books of Drawer and Drawer (Problems).

Unit-IV- Bank Reconciliation Statement:

Need for bank reconciliation - Reasons for difference between Cash Book and Pass Book Balances- Preparation of Bank Reconciliation Statement- Problems on both favorable and unfavorable balances.

Unit -V: Trail balance - Preparation of trail balance & Final Accounts:

Preparation of Final Accounts: Trading account – Profit and Loss account – Balance Sheet – Final Accounts with adjustments (Problems).

CO-POMapping
1-Low,2-Moderate,3-High, ‘-‘ NoCorrelation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	0	1	1	0	2	1	1	3
CO2	2	0	0	0	1	2	1	2	1
CO3	1	1	0	2	2	1	1	0	2
CO4	1	1	0	1	1	2	1	0	2
CO5	3	2	2	2	2	2	3	2	2

CO-POS Mapping
1-Low,2-Moderate,3-High,‘-‘NoCorrelation

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	3	3	1	2	2	1
CO2	1	2	1	2	1	1
CO3	2	2	1	3	1	1
CO4	1	1	1	2	1	1
CO5	2	1	1	1	1	3

ATTAINMENT OF POs

PROGRAMOUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	7.7521	2.5840	5.1681	0	0	5.1681	2.5841	2.5841	2.5841
C02	4.3362	6.5043	4.3362	2.1681	2.1681	4.3362	2.1681	4.3362	4.3362
CO3	4.6689	4.6689	2.3344	4.6689	2.3344	7.0034	2.3344	4.6689	4.6689
CO4	7.2530	4.8353	2.4176	2.4176	0	2.4176	4.8353	4.8353	7.25304
CO5	2.4176	2.4176	4.8353	7.253	0	0	4.8353	2.4176	4.8353
FINAL ATTAINMENT	**2.4025**	**2.3344**	**2.3864**	**2.3582**	**2.2513**	**2.3656**	**2.3939**	**2.3552**	**2.3677**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	7.940952	7.940952	2.646984	5.293968	5.293968
C02	2.646984	5.293968	2.646984	5.293968	2.646984
CO3	5.058624	5.058624	2.529312	7.587936	2.529312
CO4	2.058624	2.058624	2.058624	4.117248	2.058624
CO5	4.352592	2.176296	2.176296	2.176296	2.176296
FINAL ATTAINMENT	**2.450864**	**2.503163**	**2.41164**	**2.446942**	**2.450864**

COURSE OUTCOME WEIGHTED AVERAGE: 2.176296114

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning LevelIndex	CO Attainment
CO 1	CO1: Exemplify to prepare and analyze the financial statements.	Level1(Knowledge) Level2(Understanding)	1.5	2.646984049
CO2	CO2: Acquire the basic concept of accounting terms.	Level1(Knowledge) Level2(Understanding)	1.5	2.646984049
CO3	CO3: Journalize the ability to rectify the errors in bank reconciliation statement.	Level1(Knowledge) Level2(Understanding) Level3(Application)	2	2.529312065
CO4	CO-4: Demonstrate insight into single and double entry system of accounting.	Level3(Application) Level4(Analysing) Level5(Evaluation)	4	2.05862413
CO5	CO-5: Determine the basics concepts of financial accounting	Level2(Understanding) Level3(Applying) Level4(Analysing) Level5(Evaluation)	3.5	2.176296114

I B.Com. -General-I/ I Semester End

BUSINESS ORGANIZATION

COURSE OUTCOMES

CO1: Examine the dynamics of the most suitable form of business organization in different situations.
CO2: Evaluate the various elements affecting the business environment.
CO3: Analyze business models for different organizations.
CO4: Record and report emerging issues and challenges of business organizations.
Co5: Evaluate changes in the working pattern of modern organizations

Unit-I – Introduction

Concepts of Business, Trade, Industry and Commerce – Features of Business -Trade Classification - Aids to Trade – Industry – Classification – Relationship of Trade, Industry and Commerce.

Unit II- Business Functions and Entrepreneurship

Functions of Business and their relationship - Factors influencing the choice of suitable form of organization – Meaning of Entrepreneurship – Characteristics of a good entrepreneur - Types – Functions of Entrepreneurship.

Unit –III – Forms of Business Organizations

Sole Proprietorship – Meaning – Characteristics – Advantages and Disadvantages – Partnership - Meaning – Characteristics- Kinds of partners – Advantages and Disadvantages – Partnership Deed.

Unit-IV- Joint Stock Company

Joint Stock Company – Meaning – Characteristics –Advantages – Kinds of Companies - Differences between Private Ltd and Public Ltd Companies.

Unit-V- Company Incorporation

Preparation of important Documents for incorporation of Company – Memorandum of Association – Articles of Association – Differences Between Memorandum of Association and Articles of Association - Prospectus and its contents.

CO-PO Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	0	1	1	0	2	1	1	3
CO2	2	0	0	0	1	2	1	2	1
CO3	1	1	0	2	2	1	1	0	2
CO4	1	1	0	1	1	2	1	0	2
CO5	3	2	2	2	2	2	3	2	2

CO-POS Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	3	3	1	2	2	1
CO2	1	2	1	2	1	1
CO3	2	2	1	3	1	1
CO4	1	1	1	2	1	1
CO5	2	1	1	1	1	3

ATTAINMENT OF POs

PROGRAMOUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	5.430609	0	2.715304	2.715304	0	5.430609	2.715304	2.715304	8.145913
C02	5.430609	0	0	0	2.715304	5.430609	2.715304	5.430609	2.715304
CO3	2.620406	2.620406	0	5.240811	5.240811	2.620406	2.620406	0	5.240811
CO4	2.240811	2.240811	0	2.240811	2.240811	4.481623	2.240811	0	4.481623
CO5	7.00713	4.67142	4.67142	4.67142	4.67142	4.67142	7.00713	4.67142	4.67142
FINAL ATTAINMENT	**2.525507**	**2.383159**	**2.462241**	**2.478058**	**2.478058**	**2.514963**	**2.471279**	**2.563467**	**2.525507**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	8.145913	8.145913	2.715304	5.430609	5.430609
C02	2.715304	5.430609	2.715304	5.430609	2.715304
CO3	5.240811	5.240811	2.620406	7.861217	2.620406
CO4	2.240811	2.240811	2.240811	4.481623	2.240811
CO5	4.67142	2.33571	2.33571	2.33571	2.33571
FINAL ATTAINMENT	**2.55714**	**2.599317**	**2.525507**	**2.553977**	**2.55714**

COURSE OUTCOME WEIGHTED AVERAGE: 2.335710033

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning LevelIndex	CO Attainment
CO 1	CO1: Examine the dynamics of the most suitable form of business organisation in different situations.	Level1(Knowledge) Level2(Understanding)	1.5	2.7153043
CO2	CO2: Evaluate the various elements affecting the business environment.	Level1(Knowledge) Level2(Understanding)	1.5	2.7153043
CO3	CO3: Analyse business models for different organisations.	Level1(Knowledge) Level2(Understanding) Level3(Application)	2	2.620405733
CO4	CO-4: Record and report emerging issues and challenges of business organisations.	Level3(Application) Level4(Analysing) Level5(Evaluation)	4	2.240811467
CO5	CO-5: Evaluate changes in the working pattern of modern organisations	Level2(Understanding) Level3(Applying) Level4(Analysing) Level5(Evaluation)	3.5	2.335710033

I B.Com. -General-I/ I Semester End

BUSINESS ECONOMICS– I

COURSE OUTCOMES

CO1: Students will be able to understand and identify the economic variables in general business atmosphere.

CO2: Students will perceive the knowledge about Economics at Micro level and various economic concepts such as Opportunity cost, Marginal Concepts and Demand Function

CO3: Learners will comprehend the relationship between various policies of business.

CO4: Describe how changes in demand and supply affect markets and Explain relationships between production and costs

Co5: Describe the different types of Cost and its behaviour and Evaluate the Break-Even Analysis

Unit-I- Introduction

Meaning and Definitions of Business Economics - Nature and scope of Business Economics- Micro and Macro Economics and their differences.

Unit-II- Demand Analysis

Meaning and Definition of Demand - Determinants of Demand -- Demand function – Law of demand- Demand Curve - Exceptions to Law of Demand.

Unit –III- Elasticity of Demand

Meaning and Definition of Elasticity of Demand – Types of Elasticity of Demand – Measurements of Price elasticity of demand – Total outlay Method – Point Method – Arc Method.

Unit – IV- Cost and Revenue Analysis

Classification of Costs – Total - Average – Marginal and Cost function – Long-run – Short-run – Total Revenue - Average revenue – Marginal Revenue.

Unit-V- Break-Even Analysis

Type of Costs – Fixed Cost – Semi-variable Cost – Variable Cost– Cost behaviour - Breakeven Analysis - Its Uses and limitations.

CO-PO Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	0	1	1	0	2	1	1	3
CO2	2	0	0	0	1	2	1	2	1
CO3	1	1	0	2	2	1	1	0	2
CO4	1	1	0	1	1	2	1	0	2
CO5	3	2	2	2	2	2	3	2	2

CO-POS Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	3	3	1	2	2	1
CO2	1	2	1	2	1	1
CO3	2	2	1	3	1	1
CO4	1	1	1	2	1	1
CO5	2	1	1	1	1	3

ATTAINMENT OF POs

PROGRAMOUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	5.430609	0	2.715304	2.715304	0	5.430609	2.715304	2.715304	8.145913
C02	5.430609	0	0	0	2.715304	5.430609	2.715304	5.430609	2.715304
CO3	2.620406	2.620406	0	5.240811	5.240811	2.620406	2.620406	0	5.240811
CO4	2.240811	2.240811	0	2.240811	2.240811	4.481623	2.240811	0	4.481623
CO5	7.00713	4.67142	4.67142	4.67142	4.67142	4.67142	7.00713	4.67142	4.67142
FINAL ATTAINMENT	**2.525507**	**2.383159**	**2.462241**	**2.478058**	**2.478058**	**2.514963**	**2.471279**	**2.563467**	**2.525507**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	8.145913	8.145913	2.715304	5.430609	5.430609
C02	2.715304	5.430609	2.715304	5.430609	2.715304
CO3	5.240811	5.240811	2.620406	7.861217	2.620406
CO4	2.240811	2.240811	2.240811	4.481623	2.240811
CO5	4.67142	2.33571	2.33571	2.33571	2.33571
FINAL ATTAINMENT	**2.55714**	**2.599317**	**2.525507**	**2.553977**	**2.55714**

COURSE OUTCOME WEIGHTED AVERAGE: 2.176296114

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning LevelIndex	CO Attainment
CO 1	CO1: Students will be able to understand and identify the economic variables in general business atmosphere.	Level1(Knowledge) Level2(Understanding)	1.5	2.709652809
CO2	CO2: Students will perceive the knowledge about Economics at Micro level and various economic concepts such as Opportunity cost, Marginal Concepts, Demand Function and Law of Variable Proportion	Level1(Knowledge) Level2(Understanding)	1.5	2.709652809
CO3	CO3: Learners will comprehend the relationship between various policies of business.	Level1(Knowledge) Level2(Understanding) Level3(Application)	2	2.612870411
CO4	CO-4: Describe how changes in demand and supply affect markets and Explainrelationships between production and costs	Level3(Application) Level4(Analysing) Level5(Evaluation)	4	2.225740823
CO5	CO-5: Describe the different types of Cost and its behaviour and Evaluate the Break-Even Analysis	Level2(Understanding) Level3(Applying) Level4(Analysing) Level5(Evaluation)	3.5	2.32252322

SEMESTER – II

I B.Com General/ II Semester

FUNDAMENTALS OF ACCOUNTING – II

COURSE OUTCOMES

CO1: Understand the concept of consignment and learn the accounting treatment of the various aspects of consignment.

CO2: Analyze the accounting process and preparation of accounts in consignment and joint venture.

CO3: Distinguish Joint Venture and Partnership and to learn the methods of maintaining records under Joint Venture

CO4: Determine the useful life and value of the depreciable assets and maintenance of Reserves in business entities.

CO5: Design an accounting system for different models of businesses at his own using the principles of existing accounting system.

Unit-I: Trail Balance and Rectification of Errors:

Preparation of Trail balance - Errors – Meaning – Types of Errors – Rectification of Errors (Problems)

Unit-II: **Depreciation**

Meaning of Depreciation - Methods of Depreciation: Straight line - Written Down Value – Sum of the Years' Digits - Annuity and Depletion (Problems).

Unit-III: **Provisions and Reserves**

Meaning – Provision vs. Reserve – Preparation of Bad debts Account – Provision for Bad and doubtful debts – Provision for Discount on Debtors – Provision for discount on creditors - Repairs and Renewals Reserve A/c (Problems).

Unit-IV: **Consignment Accounts**

Consignment - Features - Proforma invoice - Account sales – Del-credre Commission - Accounting treatment in the books of consigner and consignee - Valuation of closing stock - Normal and Abnormal losses (Problems).

Unit-V: **Joint Venture Accounts**

Joint venture - Features - Differences between Joint-venture and consignment – Accounting procedure - Methods of keeping records (Problems).

CO-PO Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	0	1	1	0	2	1	1	3
CO2	2	0	0	0	1	2	1	2	1
CO3	1	1	0	2	2	1	1	0	2
CO4	1	1	0	1	1	2	1	0	2
CO5	3	2	2	2	2	2	3	2	2

CO-POS Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	3	3	1	2	2	1
CO2	1	2	1	2	1	1
CO3	2	2	1	3	1	1
CO4	1	1	1	2	1	1
CO5	2	1	1	1	1	3

ATTAINMENT OF POs

PROGRAMOUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	5.368626	0	2.684313	2.684313	0	5.368626	2.684313	2.684313	8.05294
C02	5.368626	0	0	0	2.684313	5.368626	2.684313	5.368626	2.684313
CO3	2.579084	2.579084	0	5.158169	5.158169	2.579084	2.579084	0	5.158169
CO4	2.158169	2.158169	0	2.158169	2.158169	4.316337	2.158169	0	4.316337
CO5	6.790193	4.526795	4.526795	4.526795	4.526795	4.526795	6.790193	4.526795	4.526795
FINAL ATTAINMENT	**2.473855**	**2.316012**	**2.403703**	**2.421241**	**2.421241**	**2.462163**	**2.413725**	**2.515947**	**2.473855**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	8.05294	8.05294	2.684313	5.368626	5.368626
C02	2.684313	5.368626	2.684313	5.368626	2.684313
CO3	5.158169	5.158169	2.579084	7.737253	2.579084
CO4	2.158169	2.158169	2.158169	4.316337	2.158169
CO5	4.526795	2.263398	2.263398	2.263398	2.263398
FINAL ATTAINMENT	**2.508932**	**2.5557**	**2.473855**	**2.505424**	**2.508932**

COURSE OUTCOME WEIGHTED AVERAGE: 2.263397563

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning LevelIndex	CO Attainment
CO 1	CO1: Understand the concept of consignment and learn the accounting treatment of the various aspects of consignment.	Level1(Knowledge) Level2(Understanding)	1.5	2.684313241
CO2	CO2: Analyze the accounting process and preparation of accounts in consignment and joint venture.	Level1(Knowledge) Level2(Understanding)	1.5	2.684313241
CO3	CO3: Distinguish Joint Venture and Partnership and to learn the methods of maintaining records under Joint Venture.	Level1(Knowledge) Level2(Understanding) Level3(Application)	2	2.579084322
CO4	CO-4: Determine the useful life and value of the depreciable assets and maintenance of Reserves in business entities.	Level3(Application) Level4(Analysing) Level5(Evaluation)	4	2.158168644
CO5	CO-5: Design an accounting system for different models of businesses at his own using the principles of existing accounting system.	Level2(Understanding) Level3(Applying) Level4(Analysing) Level5(Evaluation)	3.5	2.263397563

I B.Com General/ II Semester

BUSINESS ENVIRONMENT

COURSE OUTCOMES

CO1: Understand the concept of business environment.
CO2: Define Internal and External elements affecting business environment.
CO3: Explain the economic trends and its effect on Government policies.
CO4: Critically examine the recent developments in economic and business policies of the Government.
CO5: Evaluate and judge the best business policies in Indian business environment.

Unit – I: Overview of Business Environment

Business Environment – Meaning – Macro and Micro Dimensions of Business Environment – Economic – Political – Social – Technological – Legal – Ecological – Cultural – Demographic – Changing Scenario and implications – Indian Perspective – Global perspective.

Unit – II: Economic Growth

Meaning of Economic growth – Factors Influencing Development – Balanced Regional Development.

Unit – III - Development and Planning

Rostow's stages of economic development - Meaning – Types of plans – Main objects of planning in India – NITI Ayog and National Development Council – Five year plans.

Unit – IV : Economic Policies

Economic Reforms and New Economic Policy – New Industrial Policy – Competition Law – Fiscal Policy – Objectives and Limitations – Union budget – Structure and importance of Union budget – Monetary policy and RBI.

Unit – V -Social, Political and Legal Environment

Concept of Social Justice - Schemes - Political Stability - Leal Changes.

CO-PO Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	0	1	1	0	2	1	1	3
CO2	2	0	0	0	1	2	1	2	1
CO3	1	1	0	2	2	1	1	0	2
CO4	1	1	0	1	1	2	1	0	2
CO5	3	2	2	2	2	2	3	2	2

CO-POS Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	3	3	1	2	2	1
CO2	1	2	1	2	1	1
CO3	2	2	1	3	1	1
CO4	1	1	1	2	1	1
CO5	2	1	1	1	1	3

ATTAINMENT OF POs

PROGRAMOUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	5.275078	0	2.637539	2.637539	0	5.275078	2.637539	2.637539	7.912617
C02	5.275078	0	0	0	2.637539	5.275078	2.637539	5.275078	2.637539
CO3	2.516719	2.516719	0	5.033437	5.033437	2.516719	2.516719	0	5.033437
CO4	2.033437	2.033437	0	2.033437	2.033437	4.066874	2.033437	0	4.066874
CO5	6.462772	4.308515	4.308515	4.308515	4.308515	4.308515	6.462772	4.308515	4.308515
FINAL ATTAINMENT	**2.395898**	**2.214668**	**2.315351**	**2.335488**	**2.335488**	**2.382474**	**2.326858**	**2.444226**	**2.395898**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	7.912617	7.912617	2.637539	5.275078	5.275078
C02	2.637539	5.275078	2.637539	5.275078	2.637539
CO3	5.033437	5.033437	2.516719	7.550156	2.516719
CO4	2.033437	2.033437	2.033437	4.066874	2.033437
CO5	4.308515	2.154257	2.154257	2.154257	2.154257
FINAL ATTAINMENT	**2.436172**	**2.48987**	**2.395898**	**2.432144**	**2.436172**

COURSE OUTCOME WEIGHTED AVERAGE: 2.15425738857162

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning LevelIndex	CO Attainment
CO 1	CO1: Understand the concept of business environment.	Level1(Knowledge) Level2(Understanding)	1.5	2.637538881
CO2	CO2: Define Internal and External elements affecting business environment.	Level1(Knowledge) Level2(Understanding)	1.5	2.637538881
CO3	CO3: Explain the economic trends and its effect on Government policies.	Level1(Knowledge) Level2(Understanding) Level3(Application)	2	2.516718508
CO4	CO-4: Critically examine the recent developments in economic and business policies of the Government.	Level3(Application) Level4(Analysing) Level5(Evaluation)	4	2.033437016
CO5	CO-5: Evaluate and judge the best business policies in Indian business environment.	Level2(Understanding) Level3(Applying) Level4(Analysing) Level5(Evaluation)	3.5	2.154257389

I B.Com General/ II Semester

BUSINESS ECONOMICS – II

COURSE OUTCOMES

CO1: Identifying the relationship between production and costs and Economies of scale.

CO2: Understanding the features of perfect competition and price determination, price determination in monopoly.

CO3: To know the characteristics of monopolistic competition and price determination.

CO4: Describe the concepts of National Income and methods of measuring National Income.

CO5: Identifying the structural reforms i.e., LPG and its impact on Indian Economy.

Unit-I: Production and Costs: Techniques of Maximization of output, Minimization of costs andMaximization of profit - Scale of production - Economies and Dis-economies of Scale - Costs of Production – Cobb-Douglas Production Function.

Unit-II: Market Structure-I: Concept of Market - Market structure - Characteristics - Perfectcompetition - characteristics equilibrium price - profit maximizing output in the short and long run Monopoly-characteristics - Profit maximizing out-put in the short and long run - Defects of Monopoly – Distinction between Perfect competition and Monopoly.

Unit-III Market Structure-II: Monopolistic Competition - Characteristics - Productdifferentiation - Profit maximization - Price and output in the short and long - run – Oligopoly - characteristics - Price rigidity - Kinked Demand Curve - Distribution - Concepts - Marginal Productivity - Theory of Distribution.

Unit-IV National Income And Economic Systems: National Income - Definition Measurement -GDP - Meaning Fiscal deficit - Economic systems - Socialism - Mixed Economic System - Free Market economy.

Unit-V Structural Reforms: Concepts of Economic liberalization, Privatization, Globalization -WTO Objectives Agreements - Functions - Trade cycles - Meaning - Phases - Benefits of International Trade - Balance of Trade and Balance of payments.

CO-PO Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	0	1	1	0	2	1	1	3
CO2	2	0	0	0	1	2	1	2	1
CO3	1	1	0	2	2	1	1	0	2
CO4	1	1	0	1	1	2	1	0	2
CO5	3	2	2	2	2	2	3	2	2

CO-POS Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	3	3	1	2	2	1
CO2	1	2	1	2	1	1
CO3	2	2	1	3	1	1
CO4	1	1	1	2	1	1
CO5	2	1	1	1	1	3

ATTAINMENT OF POs

PROGRAMOUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	5.464518	0	2.732259	2.732259	0	5.464518	2.732259	2.732259	8.196776
C02	5.464518	0	0	0	2.732259	5.464518	2.732259	5.464518	2.732259
CO3	2.643012	2.643012	0	5.286023	5.286023	2.643012	2.643012	0	5.286023
CO4	2.286023	2.286023	0	2.286023	2.286023	4.572047	2.286023	0	4.572047
CO5	7.125811	4.750541	4.750541	4.750541	4.750541	4.750541	7.125811	4.750541	4.750541
FINAL ATTAINMENT	**2.553765**	**2.419894**	**2.494267**	**2.509141**	**2.509141**	**2.543848**	**2.502766**	**2.589463**	**2.553765**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	8.196776	8.196776	2.732259	5.464518	5.464518
C02	2.732259	5.464518	2.732259	5.464518	2.732259
CO3	5.286023	5.286023	2.643012	7.929035	2.643012
CO4	2.286023	2.286023	2.286023	4.572047	2.286023
CO5	4.750541	2.37527	2.37527	2.37527	2.37527
FINAL ATTAINMENT	**2.583514**	**2.623179**	**2.553765**	**2.580539**	**2.583514**

COURSE OUTCOME WEIGHTED AVERAGE: 2.375270473

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning LevelIndex	CO Attainment
CO 1	CO1: Identifying the relationship between production and costs and Economies of scale.	Level1(Knowledge) Level2(Understanding)	1.5	2.732258774
CO2	CO2: Understanding the features of perfect competition and price determination, price determination in monopoly.	Level1(Knowledge) Level2(Understanding)	1.5	2.732258774
CO3	CO3: To know the characteristics of monopolistic competition and price determination.	Level1(Knowledge) Level2(Understanding) Level3(Application)	2	2.643011699
CO4	CO-4: Describe the concepts of National Income and methods of measuring National Income.	Level3(Application) Level4(Analysing) Level5(Evaluation)	4	2.286023398
CO5	CO-5: Identifying the structural reforms i.e., LPG and its impact on Indian Economy.	Level2(Understanding) Level3(Applying) Level4(Analysing) Level5(Evaluation)	3.5	2.375270473

SEMESTER-III

II B.Com - SEMESTER –III
CORPORATE ACCOUNTING

COURSE OUTCOMES

CO1: Students will understand the characteristics of the joint stock company and issue, forfeiture and re-issue of shares.

CO2: Students will learn the procedure of issue of debentures, redemptions of debentures through sinking fund.

CO3: The leaner able to be understand the valuation of goodwill in normal profit method, super profit method, capitalization method and annuity method

CO4: The student will know various methods of valuation of shares such as market value, intrinsic value, fair value and yield value methods etc.

CO5: The learner will understand the company act procedures in preparing the final accounts.

Unit-I: Accounting for Share Capital:

Issue, forfeiture and reissue of forfeited shares- concept & process of book building - Issue of rights and bonus shares - Buyback of shares (preparation of Journal and Ledger).

Unit-II: Issue and Redemption of Debentures:

Employee Stock Options – Accounting Treatment for Convertible and Non-Convertible debentures (preparation of Journal and Ledger).

Unit –III: Valuation of Goodwill:

Need and methods - Normal Profit Method, Super Profits Method – Capitalization Method.

Unit –IV:Valuation of shares:

Need for Valuation - Methods of Valuation - Net assets method, Yield basis method, Fair value method (including problems).

UNIT – V: Company Final Accounts &Provisions of the Companies Act, 2013:

Preparation of Final Accounts – Adjustments relating to preparation of final accounts – Profit and loss account and balance sheet.

CO-PO Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	0	1	1	0	2	1	1	3
CO2	2	0	0	0	1	2	1	2	1
CO3	1	1	0	2	2	1	1	0	2
CO4	1	1	0	1	1	2	1	0	2
CO5	3	2	2	2	2	2	3	2	2

CO-POS Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	3	3	1	2	2	1
CO2	1	2	1	2	1	1
CO3	2	2	1	3	1	1
CO4	1	1	1	2	1	1
CO5	2	1	1	1	1	3

ATTAINMENT OF POs

PROGRAMOUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	5.658821	0	2.82941	2.82941	0	5.658821	2.82941	2.82941	8.488231
C02	5.658821	0	0	0	2.82941	5.658821	2.82941	5.658821	2.82941
CO3	2.772547	2.772547	0	5.545094	5.545094	2.772547	2.772547	0	5.545094
CO4	2.545094	2.545094	0	2.545094	2.545094	5.090188	2.545094	0	5.090188
CO5	7.805872	5.203915	5.203915	5.203915	5.203915	5.203915	7.805872	5.203915	5.203915
FINAL ATTAINMENT	**2.715684**	**2.630389**	**2.677775**	**2.687252**	**2.687252**	**2.709366**	**2.683191**	**2.738429**	**2.715684**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	8.488231	8.488231	2.82941	5.658821	5.658821
C02	2.82941	5.658821	2.82941	5.658821	2.82941
CO3	5.545094	5.545094	2.772547	8.317641	2.772547
CO4	2.545094	2.545094	2.545094	5.090188	2.545094
CO5	5.203915	2.601957	2.601957	2.601957	2.601957
FINAL ATTAINMENT	**2.734638**	**2.759911**	**2.715684**	**2.732743**	**2.734638**

COURSE OUTCOME WEIGHTED AVERAGE: 2.176296114

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning LevelIndex	CO Attainment
CO 1	Students will understand the characteristics of the joint stock company and issue, forfeiture and re-issue of shares.	Level1(Knowledge) Level2(Understanding)	1.5	2.829410283
CO2	Students will learn the procedure of issue of debentures, redemptions of debentures through sinking fund.	Level1(Knowledge) Level2(Understanding)	1.5	2.829410283
CO3	The leaner able to be understand the valuation of goodwill in normal profit method, super profit method, capitalization method and annuity method	Level1(Knowledge) Level2(Understanding) Level3(Application)	2	2.772547044
CO4	The student will know various methods of valuation of shares such as market value, intrinsic value, fair value and yield value methods etc.	Level3(Application) Level4(Analysing) Level5(Evaluation)	4	2.545094088
CO5	The learner will understand the company act procedures in preparing the final accounts.	Level2(Understanding) Level3(Applying) Level4(Analysing) Level5(Evaluation)	3.5	2.601957327

II B.Com - SEMESTER –III

BUSINESS STATISTICS

COURSE OUTCOMES

CO1: Understand the importance of Statistics in real life

CO2: Formulate complete, concise, and correct mathematical proofs.

CO3: Frame problems using multiple mathematical and statistical tools, measuring relationships by using standard techniques.

CO4: Build and assess data-based models.

CO5: Learn and apply the statistical tools in day life.

Unit 1: Introduction to Statistics:

Definition, importance and limitations of statistics - Collection of data - Schedule and questionnaire – Frequency distribution – Tabulation -Diagrammatic and graphic presentation of data using Computers (Excel).

Unit 2: Measures of Central Tendency:

Characteristics of measures of Central Tendency-Types of Averages – Arithmetic Mean, Geometric Mean, Harmonic Mean, Median, Mode, Deciles, Percentiles, Properties of averages and their applications.

Unit 3: Measures of dispersion and Skewness:

Properties of dispersion-Range-Quartile Deviation –Mean Deviation-Standard Deviation- Coefficient of Variation-Skewness definition-Karl Pearson's and Bowley's Measures of skewness-Normal Distribution.

Unit 4: Measures of Relation:

Meaning and use of correlation – Types of correlation-Karlpearson's correlation coefficient – Spearman's Rank correlation-probable error-Calculation of Correlation by Using Computers.

Regression analysis comparison between correlation and Regression – Regression Equations-Interpretation of Regression Co-efficient.

Unit 5: Analysis of Time Series & Index Numbers:

Components of Time series- Measurement of trend and Seasonal Variations – Index Numbers-Methods of Construction of Index Numbers – Price Index Numbers – Quantity Index Numbers –Tests of Adequacy of Index Numbers – Cost of Index Numbers-Limitations of Index Numbers – Use of Computer Software.

CO-PO Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	0	1	1	0	2	1	1	3
CO2	2	0	0	0	1	2	1	2	1
CO3	1	1	0	2	2	1	1	0	2
CO4	1	1	0	1	1	2	1	0	2
CO5	3	2	2	2	2	2	3	2	2

CO-POS Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	3	3	1	2	2	1
CO2	1	2	1	2	1	1
CO3	2	2	1	3	1	1
CO4	1	1	1	2	1	1
CO5	2	1	1	1	1	3

ATTAINMENT OF POs

PROGRAMOUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	5.45184	0	2.72592	2.72592	0	5.45184	2.72592	2.72592	8.17776
C02	5.45184	0	0	0	2.72592	5.45184	2.72592	5.45184	2.72592
CO3	2.63456	2.63456	0	5.26912	5.26912	2.63456	2.63456	0	5.26912
CO4	2.26912	2.26912	0	2.26912	2.26912	4.53824	2.26912	0	4.53824
CO5	7.08144	4.72096	4.72096	4.72096	4.72096	4.72096	7.08144	4.72096	4.72096
FINAL ATTAINMENT	**2.5432**	**2.40616**	**2.482293**	**2.49752**	**2.49752**	**2.533049**	**2.490994**	**2.579744**	**2.5432**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	8.17776	8.17776	2.72592	5.45184	5.45184
C02	2.72592	5.45184	2.72592	5.45184	2.72592
CO3	5.26912	5.26912	2.63456	7.90368	2.63456
CO4	2.26912	2.26912	2.26912	4.53824	2.26912
CO5	4.72096	2.36048	2.36048	2.36048	2.36048
FINAL ATTAINMENT	**2.573653**	**2.614258**	**2.5432**	**2.570608**	**2.573653**

COURSE OUTCOME WEIGHTED AVERAGE: 2.176296114

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning LevelIndex	CO Attainment
CO 1	Understand the importance of Statistics in real life	Level1(Knowledge) Level2(Understanding)	1.5	2.725919981
CO2	Formulate complete, concise, and correct mathematical proofs	Level1(Knowledge) Level2(Understanding)	1.5	2.725919981
CO3	Frame problems using multiple mathematical and statistical tools, measuring relationships by using standard techniques.	Level1(Knowledge) Level2(Understanding) Level3(Application)	2	2.634559975
CO4	Build and assess data-based models.	Level3(Application) Level4(Analysing) Level5(Evaluation)	4	2.26911995
CO5	Learn and apply the statistical tools in day life.	Level2(Understanding) Level3(Applying) Level4(Analysing) Level5(Evaluation)	3.5	2.360479956

II B.Com - SEMESTER –III

BANKING THEORY & PRACTICE

COURSE OUTCOMES

CO1: Understand the basic concepts of banks and functions of commercial banks.

CO2: Demonstrate an awareness of law and practice in a banking context.

CO3: Engage in critical analysis of the practice of banking law.

CO4: Organize information as it relates to the regulation of banking products and services.

CO5: Critically examine the current scenario of Indian Banking system.

Unit-I: Introduction

Meaning & Definition of Bank – Functions of Commercial Banks – Kinds of Banks - Central Banking Vs. Commercial Banking.

Unit-II: Banking Systems

Unit Banking , Branch Banking, Investment Banking- Innovations in banking – E banking - Online and Offshore Banking , Internet Banking - Anywhere Banking - ATMs - RTGS.

Unit-III: Banking Development

Indigenous Banking - Cooperative Banks, Regional Rural banks, SIDBI, NABARD - EXIM Bank.

Unit-IV: Banker and Customer **–**

Meaning and Definition of Banker and customer – Types of Customers - General Relationship and Special Relationship between Banker and Customer - KYC Norms.

Unit-V: Collecting Banker and Paying Banker

Concepts - Duties & Responsibilities of Collecting Banker – Holder for Value – Holder in Due Course – Statutory Protection to Collecting Banker - Responsibilities of Paying Banker - Payment Gateways.

CO-PO Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	0	1	1	0	2	1	1	3
CO2	2	0	0	0	1	2	1	2	1
CO3	1	1	0	2	2	1	1	0	2
CO4	1	1	0	1	1	2	1	0	2
CO5	3	2	2	2	2	2	3	2	2

CO-POS Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	3	3	1	2	2	1
CO2	1	2	1	2	1	1
CO3	2	2	1	3	1	1
CO4	1	1	1	2	1	1
CO5	2	1	1	1	1	3

ATTAINMENT OF POs

PROGRAMOUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	5.45184	0	2.72592	2.72592	0	5.45184	2.72592	2.72592	8.17776
C02	5.45184	0	0	0	2.72592	5.45184	2.72592	5.45184	2.72592
CO3	2.63456	2.63456	0	5.26912	5.26912	2.63456	2.63456	0	5.26912
CO4	2.26912	2.26912	0	2.26912	2.26912	4.53824	2.26912	0	4.53824
CO5	7.08144	4.72096	4.72096	4.72096	4.72096	4.72096	7.08144	4.72096	4.72096
FINAL ATTAINMENT	**2.5432**	**2.40616**	**2.482293**	**2.49752**	**2.49752**	**2.533049**	**2.490994**	**2.579744**	**2.5432**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	8.17776	8.17776	2.72592	5.45184	5.45184
C02	2.72592	5.45184	2.72592	5.45184	2.72592
CO3	5.26912	5.26912	2.63456	7.90368	2.63456
CO4	2.26912	2.26912	2.26912	4.53824	2.26912
CO5	4.72096	2.36048	2.36048	2.36048	2.36048
FINAL ATTAINMENT	**2.573653**	**2.614258**	**2.5432**	**2.570608**	**2.573653**

COURSE OUTCOME WEIGHTED AVERAGE: 2.32252322

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning LevelIndex	CO Attainment
CO 1	Understand the basic concepts of banks and functions of commercial banks.	Level1(Knowledge) Level2(Understanding)	1.5	2.709652809
CO2	Demonstrate an awareness of law and practice in a banking context.	Level1(Knowledge) Level2(Understanding)	1.5	2.709652809
CO3	Engage in critical analysis of the practice of banking law.	Level1(Knowledge) Level2(Understanding) Level3(Application)	2	2.612870411
CO4	Organize information as it relates to the regulation of banking products and services.	Level3(Application) Level4(Analysing) Level5(Evaluation)	4	2.225740823
CO5	Critically examine the current scenario of Indian Banking system.	Level2(Understanding) Level3(Applying) Level4(Analysing) Level5(Evaluation)	3.5	2.32252322

SEMESTER – IV

II B.Com - SEMESTER –IV

ACCOUNTING FOR SERVICE ORGANIZATIONS

COURSE OUTCOMES

CO1: To know the objectives and preparation of accounts of non-trading concerns.

CO2: To observe the way of presenting balance sheet in Double Accounting System (electricity concerns).

CO3: To learn the bank accounting system, Audit of Accounts, Filling of Accounts, Publication of Accounts, Voucher system, voucher summary sheets, daily trial balance continuous checks, control accounts, Double Voucher System, etc.

CO4: To understand the Life Insurance companies, preparation of financial statements etc.,

CO5:To understand the difference between Life Insurance and general insurance, its accounting procedures

Unit-I: Non-Trading/ Service Organizations:

Concept - Types of Service Organizations – Section (8) and other Provisions of Companies Act, 2013.

Unit – II Electricity Supply Companies:

Accounts of Electricity supply companies: Double Accounting system – Revenue Account – Net Revenue Account – Capital Account – General Balance Sheet (including problems).

Unit – III - Bank Accounts

Bank Accounts – Books and Registers to be maintained by Banks – Banking Regulation Act, 1969 - Legal Provisions Relating to preparation of Final Accounts (including problems).

Unit-IV: Insurance Companies & General Insurance

Life Insurance Companies –Preparation of Revenue Account, Profit and Loss Account, Balance Sheet (including problems) – LIC Act, 1956

Unit-V: General Insurance

Principles– Preparation of final accounts – with special reference to fire and marine insurance (including problems) – GIC Act, 1972.

CO-PO Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	0	1	1	0	2	1	1	3
CO2	2	0	0	0	1	2	1	2	1
CO3	1	1	0	2	2	1	1	0	2
CO4	1	1	0	1	1	2	1	0	2
CO5	3	2	2	2	2	2	3	2	2

CO-POS Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	3	3	1	2	2	1
CO2	1	2	1	2	1	1
CO3	2	2	1	3	1	1
CO4	1	1	1	2	1	1
CO5	2	1	1	1	1	3

ATTAINMENT OF POs

PROGRAMOUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	5.816397	0	2.908198	2.908198	0	5.816397	2.908198	2.908198	8.724595
C02	5.816397	0	0	0	2.908198	5.816397	2.908198	5.816397	2.908198
CO3	2.877598	2.877598	0	5.755196	5.755196	2.877598	2.877598	0	5.755196
CO4	2.755196	2.755196	0	2.755196	2.755196	5.510392	2.755196	0	5.510392
CO5	8.357389	5.571593	5.571593	5.571593	5.571593	5.571593	8.357389	5.571593	5.571593
FINAL ATTAINMENT	**2.846997**	**2.801097**	**2.826597**	**2.831697**	**2.831697**	**2.843597**	**2.829511**	**2.859238**	**2.846997**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	8.724595	8.724595	2.908198	5.816397	5.816397
C02	2.908198	5.816397	2.908198	5.816397	2.908198
CO3	5.755196	5.755196	2.877598	8.632794	2.877598
CO4	2.755196	2.755196	2.755196	5.510392	2.755196
CO5	5.571593	2.785796	2.785796	2.785796	2.785796
FINAL ATTAINMENT	**2.857198**	**2.870798**	**2.846997**	**2.856178**	**2.857198**

COURSE OUTCOME WEIGHTED AVERAGE: 2.78579641164442

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning LevelIndex	CO Attainment
CO 1	To know the objectives and preparation of accounts of non-trading concerns.	Level1(Knowledge) Level2(Understanding)	1.5	2.908198462
CO2	To observe the way of presenting balance sheet in Double Accounting System (electricity concerns).	Level1(Knowledge) Level2(Understanding)	1.5	2.908198462
CO3	To learn the bank accounting system, Audit of Accounts, Filling of Accounts, Publication of Accounts, Voucher system, voucher summary sheets, daily trial balance continuous checks, control accounts, Double Voucher System, etc.	Level1(Knowledge) Level2(Understanding) Level3(Application)	2	2.87759795
CO4	To understand the Life Insurance companies, preparation of financial statements etc.,	Level3(Application) Level4(Analysing) Level5(Evaluation)	4	2.755195899
CO5	To understand the difference between Life Insurance and general insurance, its accounting procedures	Level2(Understanding) Level3(Applying) Level4(Analysing) Level5(Evaluation)	3.5	2.785796412

II B.Com - SEMESTER –IV

BUSINESS LAWS

COURSE OUTCOMES

CO1: To understand the relevance of business law to individuals and businesses and the role of law in an economic, political and social context.

CO2: To identify the fundamental legal principles behind contractual agreements.

CO3: To examine how businesses can be held liable in tort for the actions of their employees.

CO4: To understand the legal and fiscal structure of different forms of business organizations and their responsibilities as an employer.

CO5:To understand the importance of cyber law act 2000

Unit-1: Contract

Meaning and Definition of Contract-Essential elements of valid Contract -Valid, Void and Voidable Contracts - Indian Contract Act, 1872.

Unit-2: Offer and Acceptance

Definition of Valid Offer, Acceptance and Consideration -Essential elements of a Valid Offer, Acceptance and Consideration.

Unit-3: Capacity of the Parties and Contingent Contract

Rules regarding to Minors contracts - Rules relating to contingent contracts - Different modes of discharge of contracts-Rules relating to remedies to breach of contract.

Unit-4: Sale of Goods Act 1930

Contract of sale – Sale and agreement to sell – Implied conditions and warranties – Rights of unpaid vendor.

Unit-5:Cyber Law

Cyber Law and Contract Procedures - Digital Signature - Safety Mechanisms.

CO-PO Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	0	1	1	0	2	1	1	3
CO2	2	0	0	0	1	2	1	2	1
CO3	1	1	0	2	2	1	1	0	2
CO4	1	1	0	1	1	2	1	0	2
CO5	3	2	2	2	2	2	3	2	2

CO-POS Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	3	3	1	2	2	1
CO2	1	2	1	2	1	1
CO3	2	2	1	3	1	1
CO4	1	1	1	2	1	1
CO5	2	1	1	1	1	3

ATTAINMENT OF POs

PROGRAMOUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	5.77117	0	2.885585	2.885585	0	5.77117	2.885585	2.885585	8.656755
C02	5.77117	0	0	0	2.885585	5.77117	2.885585	5.77117	2.885585
CO3	2.847447	2.847447	0	5.694893	5.694893	2.847447	2.847447	0	5.694893
CO4	2.694893	2.694893	0	2.694893	2.694893	5.389786	2.694893	0	5.389786
CO5	8.199095	5.466063	5.466063	5.466063	5.466063	5.466063	8.199095	5.466063	5.466063
FINAL ATTAINMENT	**2.809308**	**2.752101**	**2.783883**	**2.790239**	**2.790239**	**2.805071**	**2.787515**	**2.824564**	**2.809308**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	8.656755	8.656755	2.885585	5.77117	5.77117
C02	2.885585	5.77117	2.885585	5.77117	2.885585
CO3	5.694893	5.694893	2.847447	8.54234	2.847447
CO4	2.694893	2.694893	2.694893	5.389786	2.694893
CO5	5.466063	2.733032	2.733032	2.733032	2.733032
FINAL ATTAINMENT	**2.822021**	**2.838971**	**2.809308**	**2.82075**	**2.822021**

COURSE OUTCOME WEIGHTED AVERAGE: 2.733031588

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning LevelIndex	CO Attainment
CO 1	To understand the relevance of business law to individuals and businesses and the role of law in an economic, political and social context.	Level1(Knowledge) Level2(Understanding)	1.5	2.646984049
CO2	To identify the fundamental legal principles behind contractual agreements.	Level1(Knowledge) Level2(Understanding)	1.5	2.646984049
CO3	To examine how businesses can be held liable in tort for the actions of their employees.	Level1(Knowledge) Level2(Understanding) Level3(Application)	2	2.529312065
CO4	To understand the legal and fiscal structure of different forms of business organizations and their responsibilities as an employer.	Level3(Application) Level4(Analysing) Level5(Evaluation)	4	2.05862413
CO5	To understand the importance of cyber law act 2000	Level2(Understanding) Level3(Applying) Level4(Analysing) Level5(Evaluation)	3.5	2.176296114

II B.Com - SEMESTER –IV

INCOME TAX

COURSE OUTCOMES

CO1: Acquire the complete knowledge of the tax evasion, tax avoidance and tax planning.
CO2: Understand the provisions and compute income tax for various sources.
CO3: Grasp amendments made from time to time in Finance Act.
CO4: Compute total income and define tax complications and structure
CO5:Prepare and File IT returns of individual at his own.

Unit-I

Introduction: Income Tax Law – Basic concepts: Income, Person, Assesse, Assessment year, Agricultural Income, Capital and revenue, Residential status, Income exempt from tax (theory only).

Unit-II

Income from salary: Allowances, perquisites, profits in lieu of salary, deductions from salary income, computation of salary income and qualified savings eligible for deduction u/s 80C (including problems).

Unit-III

Income from House Property: Annual value, let-out/self-occupied/deemed to be let-out house, deductions from annual value - computation of income from house property (including problems).

Unit-IV

Income from Capital Gains – Income from other sources – (from Individual point of view) - chargeability – and assessment (including problems).

Unit-V:

Computation of total income of an individual – Deductions under section - 80 (including problems).

CO-PO Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	0	1	1	0	2	1	1	3
CO2	2	0	0	0	1	2	1	2	1
CO3	1	1	0	2	2	1	1	0	2
CO4	1	1	0	1	1	2	1	0	2
CO5	3	2	2	2	2	2	3	2	2

CO-POS Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	3	3	1	2	2	1
CO2	1	2	1	2	1	1
CO3	2	2	1	3	1	1
CO4	1	1	1	2	1	1
CO5	2	1	1	1	1	3

ATTAINMENT OF Pos

PROGRAMOUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	5.306398	0	2.653199	2.653199	0	5.306398	2.653199	2.653199	7.959597
C02	5.306398	0	0	0	2.653199	5.306398	2.653199	5.306398	2.653199
CO3	2.537599	2.537599	0	5.075198	5.075198	2.537599	2.537599	0	5.075198
CO4	2.075198	2.075198	0	2.075198	2.075198	4.150395	2.075198	0	4.150395
CO5	6.572394	4.381596	4.381596	4.381596	4.381596	4.381596	6.572394	4.381596	4.381596
FINAL ATTAINMENT	**2.421999**	**2.248598**	**2.344932**	**2.364198**	**2.364198**	**2.409154**	**2.355941**	**2.468239**	**2.421999**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	7.959597	7.959597	2.653199	5.306398	5.306398
C02	2.653199	5.306398	2.653199	5.306398	2.653199
CO3	5.075198	5.075198	2.537599	7.612796	2.537599
CO4	2.075198	2.075198	2.075198	4.150395	2.075198
CO5	4.381596	2.190798	2.190798	2.190798	2.190798
FINAL ATTAINMENT	**2.460532**	**2.51191**	**2.421999**	**2.456679**	**2.460532**

COURSE OUTCOME WEIGHTED AVERAGE: 2.190797955

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning LevelIndex	CO Attainment
CO 1	Acquire the complete knowledge of the tax evasion, tax avoidance and tax planning.	Level1(Knowledge) Level2(Understanding)	1.5	2.653199124
CO2	Understand the provisions and compute income tax for various sources.	Level1(Knowledge) Level2(Understanding)	1.5	2.653199124
CO3	Grasp amendments made from time to time in Finance Act.	Level1(Knowledge) Level2(Understanding) Level3(Application)	2	2.537598832
CO4	Compute total income and define tax complications and structure	Level3(Application) Level4(Analysing) Level5(Evaluation)	4	2.075197663
CO5	Prepare and File IT returns of individual at his own.	Level2(Understanding) Level3(Applying) Level4(Analysing) Level5(Evaluation)	3.5	2.190797955

SEMESTER – V

III B.Com - SEMESTER –V

COST ACCOUNTING

COURSE OUTCOMES

CO1: Describe how cost accounting is used for decision making and performance evaluation.

CO2: Differentiate methods of **schedule, Costs** per Unit of production and analyze the basic cost flow model and be able to assign costs in a job cost system**.**

CO3: Demonstrate how Materials and Labor Costs are added to a product at each stage of the production cycle.

CO4: Understand the meaning of a contract and other terms used in Contract Costing.

CO5:Asses how Cost-Volume-Profit is related and use of CVP and BEP analysis as a planning and decision making aid.

Unit-I:Introduction: Distinguish between Financial Accounting, Cost Accounting and management accounting - Cost Concepts and Classification – Cost Centre and Cost Unit – Preparation of Cost Sheet.

Unit-II: Elements of Cost: Materials: Material control – Selective control, ABC technique – Methods of pricing issues – FIFO, LIFO, Weighted average, Base stock methods, choice of method (including problems).

Unit-III: Labour and Overheads: Labour: Control of labor costs – time keeping and time booking – Idle time –Methods of remuneration – labour incentives schemes - Overheads: Allocation and apportionment of overheads – Machine hour rate.

Unit-IV: Methods of Costing: Job costing – Process costs - treatment of normal and abnormal process losses – preparation of process cost accounts – treatment of waste and scrap, joint products and by products (including problems).

Unit -V: Costing Techniques: Marginal Costing – Standard costing – Variance Analysis (including problems).

CO-PO Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	0	1	1	0	2	1	1	3
CO2	2	0	0	0	1	2	1	2	1
CO3	1	1	0	2	2	1	1	0	2
CO4	1	1	0	1	1	2	1	0	2
CO5	3	2	2	2	2	2	3	2	2

CO-POS Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	3	3	1	2	2	1
CO2	1	2	1	2	1	1
CO3	2	2	1	3	1	1
CO4	1	1	1	2	1	1
CO5	2	1	1	1	1	3

ATTAINMENT OF Pos

PROGRAMOUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	5.41929	0	2.709645	2.709645	0	5.41929	2.709645	2.709645	8.128935
C02	5.41929	0	0	0	2.709645	5.41929	2.709645	5.41929	2.709645
CO3	2.61286	2.61286	0	5.22572	5.22572	2.61286	2.61286	0	5.22572
CO4	2.22572	2.22572	0	2.22572	2.22572	4.451441	2.22572	0	4.451441
CO5	6.967516	4.645011	4.645011	4.645011	4.645011	4.645011	6.967516	4.645011	4.645011
FINAL ATTAINMENT	**2.516075**	**2.370898**	**2.451552**	**2.467683**	**2.467683**	**2.505321**	**2.46077**	**2.554789**	**2.516075**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	8.128935	8.128935	2.709645	5.41929	5.41929
C02	2.709645	5.41929	2.709645	5.41929	2.709645
CO3	5.22572	5.22572	2.61286	7.83858	2.61286
CO4	2.22572	2.22572	2.22572	4.451441	2.22572
CO5	4.645011	2.322505	2.322505	2.322505	2.322505
FINAL ATTAINMENT	**2.548337**	**2.591352**	**2.516075**	**2.545111**	**2.548337**

OURSE OUTCOME WEIGHTED AVERAGE: 2.322505272

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning LevelIndex	CO Attainment
CO 1	Describe how cost accounting is used for decision making and performance evaluation.	Level1(Knowledge) Level2(Understanding)	1.5	2.709645117
CO2	Differentiate methods of schedule, Costs per Unit of production and analyze the basic cost flow model and be able to assign costs in a job cost system.	Level1(Knowledge) Level2(Understanding)	1.5	2.709645117
CO3	Demonstrate how Materials and Labor Costs are added to a product at each stage of the production cycle.	Level1(Knowledge) Level2(Understanding) Level3(Application)	2	2.612860156
CO4	Understand the meaning of a contract and other terms used in Contract Costing.	Level3(Application) Level4(Analysing) Level5(Evaluation)	4	2.225720311
CO5	Asses how Cost-Volume-Profit is related and use of CVP and BEP analysis as a planning and decision making aid.	Level2(Understanding) Level3(Applying) Level4(Analysing) Level5(Evaluation)	3.5	2.322505272

III B.Com - SEMESTER –V

COMMERCIAL GEOGRAPHY

COURSE OUTCOMES

CO1: To understand the scope and content of Commercial Geography in relation to spatial distribution of agriculture, forest resources and industrial production
CO2: To acquaint the students about dynamic aspects of Commercial Geography
CO3: To acquaint the students about dynamic nature of Industrial field in India
CO4: To make the students of commerce aware about the relationship between the geographical factors and economic activities.
CO5:To understand the water resources and rivers in India

Unit –I: The Earth: Internal structure of the Earth – Latitude – Longitude – Realms of the Earth – Evolution of the Earth – Environmental pollution - Global Warming - Measures to be taken to protect the Earth.

Unit -II: India – Agriculture: Land Use - Soils - Major crops – Food and Non-food Crops – Importance of Agriculture – Problems in Agriculture – Agriculture Development.

Unit -III: India – Forestry: Forests – Status of Forests in Andhra Pradesh – Forest (Conservation) Act, 1980 – Compensatory Afforestation Fund (CAF) Bill, 2015 - Forest Rights Act,2006 and its Relevance – Need for protection of Forestry.

Unit -IV: India – Minerals and Mining: Minerals – Renewable and non-Renewable – Use of Minerals – Mines – Coal, Barites, etc. – SingareniCoal mines and MangampetaBarites - District-wise Profile.

Unit-V: India – Water Resources – Rivers: Water resources - Rationality and equitable use of water – Protection measures - Rivers - Perennial and peninsular Rivers - Interlinking of Rivers - Experience of India and Andhra Pradesh.

CO-PO Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	0	1	1	0	2	1	1	3
CO2	2	0	0	0	1	2	1	2	1
CO3	1	1	0	2	2	1	1	0	2
CO4	1	1	0	1	1	2	1	0	2
CO5	3	2	2	2	2	2	3	2	2

CO-POS Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	3	3	1	2	2	1
CO2	1	2	1	2	1	1
CO3	2	2	1	3	1	1
CO4	1	1	1	2	1	1
CO5	2	1	1	1	1	3

ATTAINMENT OF Pos

PROGRAMOUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	5.604433	0	2.802217	2.802217	0	5.604433	2.802217	2.802217	8.40665
C02	5.604433	0	0	0	2.802217	5.604433	2.802217	5.604433	2.802217
CO3	2.736289	2.736289	0	5.472577	5.472577	2.736289	2.736289	0	5.472577
CO4	2.472577	2.472577	0	2.472577	2.472577	4.945155	2.472577	0	4.945155
CO5	7.615516	5.077011	5.077011	5.077011	5.077011	5.077011	7.615516	5.077011	5.077011
FINAL ATTAINMENT	**2.670361**	**2.571469**	**2.626409**	**2.637397**	**2.637397**	**2.663036**	**2.632688**	**2.696732**	**2.670361**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	8.40665	8.40665	2.802217	5.604433	5.604433
C02	2.802217	5.604433	2.802217	5.604433	2.802217
CO3	5.472577	5.472577	2.736289	8.208866	2.736289
CO4	2.472577	2.472577	2.472577	4.945155	2.472577
CO5	5.077011	2.538505	2.538505	2.538505	2.538505
FINAL ATTAINMENT	**2.692337**	**2.721638**	**2.670361**	**2.690139**	**2.692337**

COURSE OUTCOME WEIGHTED AVERAGE: 2.538505272

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning LevelIndex	CO Attainment
CO 1	To understand the scope and content of Commercial Geography in relation to spatial distribution of agriculture, forest resources and industrial production	Level1(Knowledge) Level2(Understanding)	1.5	2.802216545
CO2	To acquaint the students about dynamic aspects of Commercial Geography	Level1(Knowledge) Level2(Understanding)	1.5	2.802216545
CO3	To acquaint the students about dynamic nature of Industrial field in India	Level1(Knowledge) Level2(Understanding) Level3(Application)	2	2.736288727
CO4	To make the students of commerce aware about the relationship between the geographical factors and economic activities.	Level3(Application) Level4(Analysing) Level5(Evaluation)	4	2.472577454
CO5	To understand the water resources and rivers in India	Level2(Understanding) Level3(Applying) Level4(Analysing) Level5(Evaluation)	3.5	2.538505272

III B.Com - SEMESTER –V

BANKING AND FINANCIAL SERVICES

CENTRAL BANKING

COURSE OUTCOMES

CO1: Describe the evaluation and the functions of central bank and changes in central bank functions.
CO2: Understand the constitution and governance and recent developments in RBI Act.
CO3: Explain monitory control techniques and credit control measures under taken by RBI.
CO4: Analyze inflation and price control measures initiated by RBI.
CO5: Elucidate super vision and regulation of banking system by RBI.

Unit-I:Introduction: Evolution and Functions of Central Bank - Development of Central Banks in Developed and Developing countries - Trends in Central Bank Functions.

Unit-II: Central banking in India: Reserve Bank of India - Constitution and Governance, Recent Developments, RBI Act. -Interface between RBI and Banks.

Unit-III:Monetary and Credit Policies:Monetary policy statements of RBI - CRR - SLR - Repo Rates - Reverse Repo Rates - Currency in circulation - Credit control measures.

Unit-IV: Inflationand price control by BRI: Intervention mechanisms - Exchange rate stability - Rupee value - Controlling measures.

Unit-V: **Supervision and Regulation**: Supervision of Banks - Basle Norms, Prudential Norms, Effect of liberalization and Globalization -Checking of money laundering and frauds.

CO-PO Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	0	1	1	0	2	1	1	3
CO2	2	0	0	0	1	2	1	2	1
CO3	1	1	0	2	2	1	1	0	2
CO4	1	1	0	1	1	2	1	0	2
CO5	3	2	2	2	2	2	3	2	2

CO-POS Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	3	3	1	2	2	1
CO2	1	2	1	2	1	1
CO3	2	2	1	3	1	1
CO4	1	1	1	2	1	1
CO5	2	1	1	1	1	3

ATTAINMENT OF Pos

PROGRAMOUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	5.604433	0	2.802217	2.802217	0	5.604433	2.802217	2.802217	8.40665
C02	5.604433	0	0	0	2.802217	5.604433	2.802217	5.604433	2.802217
CO3	2.736289	2.736289	0	5.472577	5.472577	2.736289	2.736289	0	5.472577
CO4	2.472577	2.472577	0	2.472577	2.472577	4.945155	2.472577	0	4.945155
CO5	7.615516	5.077011	5.077011	5.077011	5.077011	5.077011	7.615516	5.077011	5.077011
FINAL ATTAINMENT	**2.670361**	**2.571469**	**2.626409**	**2.637397**	**2.637397**	**2.663036**	**2.632688**	**2.696732**	**2.670361**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	8.40665	8.40665	2.802217	5.604433	5.604433
C02	2.802217	5.604433	2.802217	5.604433	2.802217
CO3	5.472577	5.472577	2.736289	8.208866	2.736289
CO4	2.472577	2.472577	2.472577	4.945155	2.472577
CO5	5.077011	2.538505	2.538505	2.538505	2.538505
FINAL ATTAINMENT	**2.692337**	**2.721638**	**2.670361**	**2.690139**	**2.692337**

COURSE OUTCOME WEIGHTED AVERAGE: 2.541751973

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning LevelIndex	CO Attainment
CO 1	Describe the evaluation and the functions of central bank and changes in central bank functions.	Level1(Knowledge) Level2(Understanding)	1.5	2.803607988
CO2	Understand the constitution and governance and recent developments in RBI Act.	Level1(Knowledge) Level2(Understanding)	1.5	2.803607988
CO3	Explain monitory control techniques and credit control measures under taken by RBI.	Level1(Knowledge) Level2(Understanding) Level3(Application)	2	2.738143984
CO4	Analyze inflation and price control measures initiated by RBI.	Level3(Application) Level4(Analysing) Level5(Evaluation)	4	2.476287969
CO5	Elucidate super vision and regulation of banking system by RBI.	Level2(Understanding) Level3(Applying) Level4(Analysing) Level5(Evaluation)	3.5	2.541751973

IIIB.Com - SEMESTER –V

INDIRECT TAXES

COURSE OUTCOMES

CO1: To Understand various concepts of Goods & Service Tax act
CO2: To Understand various concepts of Customs Act
CO3: To Understand various concepts of Central Excise Procedures
CO4: To Understand various concepts of Service Tax-Levy and Collection
CO5: Tounderstand various concepts of Calculation of VAT Liability including input Tax Credits

Unit-I: Central Sales Tax/G.S.T (Goods and Services Tax): Objectives of CST Act, Dealer Business-Sales-Goods-Declared goods. Turnover - Sale Price Sales Exempt from Central Sales Tax, Interstate and Intra state sale, sales in the course of imports and exports, registration under CST Act.

Unit- II: Customs Act: Types of Custom Duties Valuation for Customs Duty Tariff Value- Customs Value-Methods of Valuation for Customs - Problems on Custom Duty Assessment.

Unit -III: Central Excise: Procedures relating to Levy, Valuation and Collection of Duty. Types of Excise Duties- Cenvat Credit- Classification of Excisable Goods- Valuation of Excisable Goods- Central Excise Procedures (including problems).

Unit-IV: Service Tax: Features of Service Tax-Levy and Collection = Service Tax Administration-Exemptions from Service Tax - Taxable Services Determination of Service Tax Liability (including problems)

Unit -V: VAT: Concept and Principles - Calculation of VAT Liability including input Tax Credits, Small Dealers and Composition Scheme, VAT Procedures.

CO-PO Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	0	1	1	0	2	1	1	3
CO2	2	0	0	0	1	2	1	2	1
CO3	1	1	0	2	2	1	1	0	2
CO4	1	1	0	1	1	2	1	0	2
CO5	3	2	2	2	2	2	3	2	2

CO-POS Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	3	3	1	2	2	1
CO2	1	2	1	2	1	1
CO3	2	2	1	3	1	1
CO4	1	1	1	2	1	1
CO5	2	1	1	1	1	3

ATTAINMENT OF POs

PROGRAMOUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	5.656668	0	2.828334	2.828334	0	5.656668	2.828334	2.828334	8.485002
C02	5.656668	0	0	0	2.828334	5.656668	2.828334	5.656668	2.828334
CO3	2.771112	2.771112	0	5.542224	5.542224	2.771112	2.771112	0	5.542224
CO4	2.542224	2.542224	0	2.542224	2.542224	5.084449	2.542224	0	5.084449
CO5	7.798339	5.198893	5.198893	5.198893	5.198893	5.198893	7.798339	5.198893	5.198893
FINAL ATTAINMENT	**2.713889**	**2.628057**	**2.675742**	**2.685279**	**2.685279**	**2.707532**	**2.681192**	**2.736779**	**2.71389**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	8.485002	8.485002	2.828334	5.656668	5.656668
C02	2.828334	5.656668	2.828334	5.656668	2.828334
CO3	5.542224	5.542224	2.771112	8.313337	2.771112
CO4	2.542224	2.542224	2.542224	5.084449	2.542224
CO5	5.198893	2.599446	2.599446	2.599446	2.599446
FINAL ATTAINMENT	**2.732964**	**2.758396**	**2.71389**	**2.731057**	**2.732964**

COURSE OUTCOME WEIGHTED AVERAGE: 2.599446297

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning LevelIndex	CO Attainment
CO 1	To Understand various concepts of Goods & Service Tax act	Level1(Knowledge) Level2(Understanding)	1.5	2.828334127
CO2	To Understand various concepts of Customs Act	Level1(Knowledge) Level2(Understanding)	1.5	2.828334127
CO3	To Understand various concepts of Central Excise Procedures	Level1(Knowledge) Level2(Understanding) Level3(Application)	2	2.77111217
CO4	To Understand various concepts of Service Tax-Levy and Collection	Level3(Application) Level4(Analysing) Level5(Evaluation)	4	2.542224339
CO5	To understand various concepts of Calculation of VAT Liability including input Tax Credits	Level2(Understanding) Level3(Applying) Level4(Analysing) Level5(Evaluation)	3.5	2.599446297

IIIB.Com - SEMESTER –V

RETAILING

PURCHASE MANAGEMENT

COURSE OUTCOMES

CO1: Demonstrate how procurement strategy can impact performance of the organization
CO2: Differentiate the strategic vs. tactical functions of procurement
CO3: Understand best practices in procurement organizations.
CO4: Understand techniques used to select and evaluate suppliers
CO5:Understand typical procurement process used in both manufacturing and service organizations.

Unit-I: Introduction: Purchase Function - Supply Management -- Sources of Purchase: Local vs. Global - Negotiation & Bargaining - Purchasing Methods - e-Procurement --DGS & D.

Unit-II: Purchasing Function: Right Quantity - Economic Order Quantity - Re-order ABC Analysis - Right Price, Time - Tendering: Single, Limited, Open, Global tenders. Levels -

Unit-III: Vendor Analysis: Identification of vendor -- Selection - Criteria and Methodology evaluation Vendor Rating - Maintenance of Vendor relations.

Unit-IV: Buyer-Supplier Relationships: Transformation of buyer-supplier relationships - Developing and managing collaborative and alliance relationships - joint problem solving, Information sharing.

Unit-V: Supply Chain Management: JIT in the supply management - Cross-Functional Teams: Cross-functional teams and supply management - challenges of cross-functional teams, prerequisites to success.

CO-PO Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	**2**	**0**	**1**	**1**	**0**	**2**	**1**	**1**	**3**
CO2	**2**	**0**	**0**	**0**	**1**	**2**	**1**	**2**	**1**
CO3	**1**	**1**	**0**	**2**	**2**	**1**	**1**	**0**	**2**
CO4	**1**	**1**	**0**	**1**	**1**	**2**	**1**	**0**	**2**
CO5	**3**	**2**	**2**	**2**	**2**	**2**	**3**	**2**	**2**

CO-POS Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	**3**	**3**	**1**	**2**	**2**	**1**
CO2	**1**	**2**	**1**	**2**	**1**	**1**
CO3	**2**	**2**	**1**	**3**	**1**	**1**
CO4	**1**	**1**	**1**	**2**	**1**	**1**
CO5	**2**	**1**	**1**	**1**	**1**	**3**

ATTAINMENT OF POs

PROGRAMOUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	7.7521	2.5840	5.1681	0	0	5.1681	2.5841	2.5841	2.5841
C02	4.3362	6.5043	4.3362	2.1681	2.1681	4.3362	2.1681	4.3362	4.3362
CO3	4.6689	4.6689	2.3344	4.6689	2.3344	7.0034	2.3344	4.6689	4.6689
CO4	7.2530	4.8353	2.4176	2.4176	0	2.4176	4.8353	4.8353	7.25304
CO5	2.4176	2.4176	4.8353	7.253	0	0	4.8353	2.4176	4.8353
FINAL ATTAINMENT	**2.4025**	**2.3344**	**2.3864**	**2.3582**	**2.2513**	**2.3656**	**2.3939**	**2.3552**	**2.3677**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	7.940952	7.940952	2.646984	5.293968	5.293968
C02	2.646984	5.293968	2.646984	5.293968	2.646984
CO3	5.058624	5.058624	2.529312	7.587936	2.529312
CO4	2.058624	2.058624	2.058624	4.117248	2.058624
CO5	4.352592	2.176296	2.176296	2.176296	2.176296
FINAL ATTAINMENT	**2.450864**	**2.503163**	**2.41164**	**2.446942**	**2.450864**

COURSE OUTCOME WEIGHTED AVERAGE: 2.176296114

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning LevelIndex	CO Attainment
CO 1	Demonstrate how procurement strategy can impact performance of the organization	Level1(Knowledge) Level2(Understanding)	1.5	2.646984049
CO2	Differentiate the strategic vs. tactical functions of procurement	Level1(Knowledge) Level2(Understanding)	1.5	2.646984049
CO3	Understand best practices in procurement organizations.	Level1(Knowledge) Level2(Understanding) Level3(Application)	2	2.529312065
CO4	Understand techniques used to select and evaluate suppliers	Level3(Application) Level4(Analysing) Level5(Evaluation)	4	2.05862413
CO5	Understand typical procurement process used in both manufacturing and service organizations.	Level2(Understanding) Level3(Applying) Level4(Analysing) Level5(Evaluation)	3.5	2.176296114

IIIB.Com - SEMESTER –V

TAXATION

COURSE OUTCOMES

CO1: Students would identify the technical terms related to Income Tax.
CO2: Students would identify the technical terms related to Income Tax.
CO3: Students would compute income from salaries, house property, business/profession, capital gains and income from other sources.
CO4: Students would discuss the various benefits/ deductions under Chapter VI-A of the Income tax act, 1961.
CO5:Students would compute the net total income of an individual, HUF and Partnership

Unit-I: Deductions u/s 80: Basic rules of deductions, deductions in computing total income.

Unit-II: Set off and Carry forward of Losses: Set off of loss from one source against income from another source, carry forward and set off of losses - brought forward of losses.

Unit-III: Assessment of Individuals: Computation of Total income of Individuals and Tax liability Rates of Income tax. College

Unit-IV: Assessment of Tax of HUF: Computation of Gross Total Income and Total Income of a Hindu Undivided Family - Rates of Income tax.

Unit-V: Assessment of Tax of Partnership Computation of Gross Total Income and Total Income of Partnership Firm – Deductions U/S 80.

CO-PO Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	0	1	1	0	2	1	1	3
CO2	2	0	0	0	1	2	1	2	1
CO3	1	1	0	2	2	1	1	0	2
CO4	1	1	0	1	1	2	1	0	2
CO5	3	2	2	2	2	2	3	2	2

CO-POS Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	3	3	1	2	2	1
CO2	1	2	1	2	1	1
CO3	2	2	1	3	1	1
CO4	1	1	1	2	1	1
CO5	2	1	1	1	1	3

ATTAINMENT OF Pos

PROGRAMOUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	5.425397	0	2.712698	2.712698	0	5.425397	2.712698	2.712698	8.138095
C02	5.425397	0	0	0	2.712698	5.425397	2.712698	5.425397	2.712698
CO3	2.616931	2.616931	0	5.233862	5.233862	2.616931	2.616931	0	5.233862
CO4	2.233862	2.233862	0	2.233862	2.233862	4.467724	2.233862	0	4.467724
CO5	6.988888	4.659259	4.659259	4.659259	4.659259	4.659259	6.988888	4.659259	4.659259
FINAL ATTAINMENT	**2.521164**	**2.377513**	**2.457319**	**2.47328**	**2.47328**	**2.510523**	**2.46644**	**2.559471**	**2.521164**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	8.138095	8.138095	2.712698	5.425397	5.425397
C02	2.712698	5.425397	2.712698	5.425397	2.712698
CO3	5.233862	5.233862	2.616931	7.850793	2.616931
CO4	2.233862	2.233862	2.233862	4.467724	2.233862
CO5	4.659259	2.329629	2.329629	2.329629	2.329629
FINAL ATTAINMENT	**2.553086**	**2.59565**	**2.521164**	**2.549894**	**2.553086**

COURSE OUTCOME WEIGHTED AVERAGE: 2.329629447

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning LevelIndex	CO Attainment
CO 1	Students would identify the technical terms related to Income Tax.	Level1(Knowledge) Level2(Understanding)	1.5	2.712698335
CO2	Students would identify the technical terms related to Income Tax.	Level1(Knowledge) Level2(Understanding)	1.5	2.712698335
CO3	Students would compute income from salaries, house property, business/profession, capital gains and income from other sources.	Level1(Knowledge) Level2(Understanding) Level3(Application)	2	2.616931113
CO4	Students would discuss the various benefits/ deductions under Chapter VI-A of the Income tax act, 1961.	Level3(Application) Level4(Analysing) Level5(Evaluation)	4	2.233862225
CO5	Students would compute the net total income of an individual, HUF and Partnership	Level2(Understanding) Level3(Applying) Level4(Analysing) Level5(Evaluation)	3.5	2.329629447

SEMESTER – VI

IIIB.Com - SEMESTER –VI

MARKETING

COURSE OUTCOMES

CO1: To examine the marketing concepts, advantages, scope and evolution of marketing
CO2: To discuss about the micro and macro business environment and importance of marketing research, MIS and also about importance and factors affecting Consumer Behavior.
CO3: To investigate the marketing mix, Product mix, Product Lifecycle, Branding – Packaging, Promotion.
CO4: To explain concepts of segmentation, e-marketing, internet marketing and various trends of marketing.
CO5:Toexplain the concepts of Direct marketing and Distribution Channels

Unit-I: **Introduction:** Concepts of Marketing: Product Concept – Selling Concept - Societal Marketing Concept – Marketing Mix-4 P's of Marketing – Marketing Environment.

Unit-II: **Consumer Markets and Buyer Behaviour:** Buying Decision Process – Stages – Buying Behaviour – Market Segmentation – Selecting Segments– Advantages of Segmentation.

Unit-III: Product Management: Product Life Cycle- New products, Product mix and Product line decisions - Design, Branding, Packaging and Labeling.

Unit-IV: PricingDecision: Factors influencing price determination, Pricing strategies: Skimming and Penetration pricing.

Unit-V: Promotion and Distribution: Promotion Mix - Advertising - Publicity – Public relations -Personal selling and Direct marketing -Distribution Channels – Online marketing- Global marketing.

CO-PO Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	0	1	1	0	2	1	1	3
CO2	2	0	0	0	1	2	1	2	1
CO3	1	1	0	2	2	1	1	0	2
CO4	1	1	0	1	1	2	1	0	2
CO5	3	2	2	2	2	2	3	2	2

CO-POS Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	3	3	1	2	2	1
CO2	1	2	1	2	1	1
CO3	2	2	1	3	1	1
CO4	1	1	1	2	1	1
CO5	2	1	1	1	1	3

ATTAINMENT OF Pos

PROGRAMOUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	5.604979	0	2.80249	2.80249	0	5.604979	2.80249	2.80249	8.407469
C02	5.604979	0	0	0	2.80249	5.604979	2.80249	5.604979	2.80249
CO3	2.736653	2.736653	0	5.473306	5.473306	2.736653	2.736653	0	5.473306
CO4	2.473306	2.473306	0	2.473306	2.473306	4.946612	2.473306	0	4.946612
CO5	7.617428	5.078285	5.078285	5.078285	5.078285	5.078285	7.617428	5.078285	5.078285
FINAL ATTAINMENT	**2.670816**	**2.572061**	**2.626925**	**2.637898**	**2.637898**	**2.663501**	**2.633195**	**2.697151**	**2.670816**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	8.407469	8.407469	2.80249	5.604979	5.604979
C02	2.80249	5.604979	2.80249	5.604979	2.80249
CO3	5.473306	5.473306	2.736653	8.209959	2.736653
CO4	2.473306	2.473306	2.473306	4.946612	2.473306
CO5	5.078285	2.539143	2.539143	2.539143	2.539143
FINAL ATTAINMENT	**2.692762**	**2.722022**	**2.670816**	**2.690567**	**2.692762**

COURSE OUTCOME WEIGHTED AVERAGE: 2.539142556

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning LevelIndex	CO Attainment
CO 1	To examine the marketing concepts, advantages, scope and evolution of marketing	Level1(Knowledge) Level2(Understanding)	1.5	2.802489667
CO2	To discuss about the micro and macro business environment and importance of marketing research, MIS and also about importance and factors affecting Consumer Behavior.	Level1(Knowledge) Level2(Understanding)	1.5	2.802489667
CO3	To investigate the marketing mix, Product mix, Product Lifecycle, Branding – Packaging, Promotion.	Level1(Knowledge) Level2(Understanding) Level3(Application)	2	2.736652889
CO4	To explain concepts of segmentation, e-marketing, internet marketing and various trends of marketing.	Level3(Application) Level4(Analysing) Level5(Evaluation)	4	2.473305778
CO5	To explain the concepts of Direct marketing and Distribution Channels	Level2(Understanding) Level3(Applying) Level4(Analysing) Level5(Evaluation)	3.5	2.539142556

IIIB.Com - SEMESTER –VI

AUDITING

COURSE OUTCOMES

CO1: Understanding the meaning and necessity of audit in modern era
CO2: Comprehend the role of auditor in avoiding the corporate frauds
CO3: Identify the steps involved in performing audit process
CO4: Determine the appropriate audit report for a given audit situation
CO5: Apply auditing practices to different types of business entities

Unit-I: Auditing: Meaning – Objectives – Importance of Auditing – Auditing as a Vigil Mechanism – Role of Auditor in checking corporate frauds.

Unit-II: Types of Audit: Based on Ownership and time -Independent, Financial, Internal, Cost, Tax, Government, Secretarial audits.

Unit-III: Planning of Audit: Steps to be taken at the commencement of a new audit - Audit programme - Audit note book - Internal check, internal audit and internal control.

Unit-IV: Vouching and Investigation: Vouching of cash and trading transactions - Investigation, Auditing vs. Investigation

Unit-V: Company Audit and Auditors Report: Auditor'sQualifications– Appointment and Reappointment – Rights, duties, liabilities and disqualifications - Audit report: Contents – Preparation - Relevant Provisions of Companies Act, 2013.

CO-PO Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	0	1	1	0	2	1	1	3
CO2	2	0	0	0	1	2	1	2	1
CO3	1	1	0	2	2	1	1	0	2
CO4	1	1	0	1	1	2	1	0	2
CO5	3	2	2	2	2	2	3	2	2

CO-POS Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	3	3	1	2	2	1
CO2	1	2	1	2	1	1
CO3	2	2	1	3	1	1
CO4	1	1	1	2	1	1
CO5	2	1	1	1	1	3

ATTAINMENT OF POs

PROGRAMOUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	5.604979	0	2.80249	2.80249	0	5.604979	2.80249	2.80249	8.407469
C02	5.604979	0	0	0	2.80249	5.604979	2.80249	5.604979	2.80249
CO3	2.736653	2.736653	0	5.473306	5.473306	2.736653	2.736653	0	5.473306
CO4	2.473306	2.473306	0	2.473306	2.473306	4.946612	2.473306	0	4.946612
CO5	7.617428	5.078285	5.078285	5.078285	5.078285	5.078285	7.617428	5.078285	5.078285
FINAL ATTAINMENT	**2.670816**	**2.572061**	**2.626925**	**2.637898**	**2.637898**	**2.663501**	**2.633195**	**2.697151**	**2.670816**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	8.407469	8.407469	2.80249	5.604979	5.604979
C02	2.80249	5.604979	2.80249	5.604979	2.80249
CO3	5.473306	5.473306	2.736653	8.209959	2.736653
CO4	2.473306	2.473306	2.473306	4.946612	2.473306
CO5	5.078285	2.539143	2.539143	2.539143	2.539143
FINAL ATTAINMENT	**2.692762**	**2.722022**	**2.670816**	**2.690567**	**2.692762**

COURSE OUTCOME WEIGHTED AVERAGE: 2.330153792

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning LevelIndex	CO Attainment
CO 1	Understanding the meaning and necessity of audit in modern era	Level1(Knowledge) Level2(Understanding)	1.5	2.712923054
CO2	Comprehend the role of auditor in avoiding the corporate frauds	Level1(Knowledge) Level2(Understanding)	1.5	2.712923054
CO3	Identify the steps involved in performing audit process	Level1(Knowledge) Level2(Understanding) Level3(Application)	2	2.617230738
CO4	Determine the appropriate audit report for a given audit situation	Level3(Application) Level4(Analysing) Level5(Evaluation)	4	2.234461476
CO5	Apply auditing practices to different types of business entities	Level2(Understanding) Level3(Applying) Level4(Analysing) Level5(Evaluation)	3.5	2.330153792

IIIB.Com - SEMESTER –VI

MANAGEMENT ACCOUNTING

COURSE OUTCOMES

CO1: Distinguish Financial Accounting, Cost Accounting and Management Accounting and describe the scope, limitations, functions and importance of Management Accounting.

CO2: Analysis and interpretation comparative, common size and trend analysis financial statements.

CO3: Analysis and interpretation of accounting ratios.

CO4: Understanding the importance of fund and learner can prepare the funds flow statement.

CO5:Understanding the movement of cash and preparation of cash flow statement

Unit–I: Management Accounting: Interface with Financial Accounting and Cost Accounting - Financial Statement analysis and interpretation: Comparative analysis – Common size analysis and trend analysis (including problems).

Unit–II:Ratio Analysis: Classification, Importance and limitations -Analysis and interpretation of Accounting ratios - Liquidity, profitability, activity and solvency ratios (including problems).

Unit–III:Fund Flow Statement: Concept of fund: Preparation of funds flow statement. Uses and limitations of funds flow analysis (including problems).

Unit–IV:CashFlow Statement: Concept of cash flow – Preparation of cash flow statement - Uses and limitations of cash flow analysis (including problems).

Unit–V:Break-EvenAnalysis and Decision Making: Calculation of Break-even point - Uses and limitations - Margin of safety – Make/Buy Decision - Lease/own Decision (including Problems).

CO-PO Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	0	1	1	0	2	1	1	3
CO2	2	0	0	0	1	2	1	2	1
CO3	1	1	0	2	2	1	1	0	2
CO4	1	1	0	1	1	2	1	0	2
CO5	3	2	2	2	2	2	3	2	2

CO-POS Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	3	3	1	2	2	1
CO2	1	2	1	2	1	1
CO3	2	2	1	3	1	1
CO4	1	1	1	2	1	1
CO5	2	1	1	1	1	3

ATTAINMENT OF POs

PROGRAMOUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	4.843428	0	2.421714	2.421714	0	4.843428	2.421714	2.421714	7.265142
C02	4.843428	0	0	0	2.421714	4.843428	2.421714	4.843428	2.421714
CO3	2.228952	2.228952	0	4.457904	4.457904	2.228952	2.228952	0	4.457904
CO4	1.457904	1.457904	0	1.457904	1.457904	2.915808	1.457904	0	2.915808
CO5	4.951997	3.301332	3.301332	3.301332	3.301332	3.301332	4.951997	3.301332	3.301332
FINAL ATTAINMENT	**2.03619**	**1.747047**	**1.907682**	**1.939809**	**1.939809**	**2.014772**	**1.92604**	**2.113295**	**2.03619**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	7.265142	7.265142	2.421714	4.843428	4.843428
C02	2.421714	4.843428	2.421714	4.843428	2.421714
CO3	4.457904	4.457904	2.228952	6.686856	2.228952
CO4	1.457904	1.457904	1.457904	2.915808	1.457904
CO5	3.301332	1.650666	1.650666	1.650666	1.650666
FINAL ATTAINMENT	**2.100444**	**2.186116**	**2.03619**	**2.094018**	**2.100444**

COURSE OUTCOME WEIGHTED AVERAGE: 1.65066579

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning LevelIndex	CO Attainment
CO 1	Distinguish Financial Accounting, Cost Accounting and Management Accounting and describe the scope, limitations, functions and importance of Management Accounting.	Level1(Knowledge) Level2(Understanding)	1.5	2.42171391
CO2	Analysis and interpretation comparative, common size and trend analysis financial statements.	Level1(Knowledge) Level2(Understanding)	1.5	2.42171391
CO3	Analysis and interpretation of accounting ratios.	Level1(Knowledge) Level2(Understanding) Level3(Application)	2	2.22895188
CO4	Understanding the importance of fund and learner can prepare the funds flow statement.	Level3(Application) Level4(Analysing) Level5(Evaluation)	4	1.45790376
CO5	Understanding the movement of cash and preparation of cash flow statement	Level2(Understanding) Level3(Applying) Level4(Analysing) Level5(Evaluation)	3.5	1.65066579

IIIB.Com - SEMESTER –VI

TAXATION

SERVICE TAX and VAT

COURSE OUTCOMES

CO1: Student will be equipped with the knowledge of basic concepts of Service Tax Systems
CO2: Student will learn the basic procedures of registration and revaluation of service tax
CO3: Student will be equipped with the knowledge of central sales tax.
CO4: Students will also learn about VAT and its procedural aspects and computation.
CO5:To understand the importance of assessment of service tax and filing of e-returns

Unit-I: Service Tax: Charge of Service Tax - Service Tax Systems: Central and State - Taxable Services, Valuation of taxable services - Collection and Payment of Service Tax.

Unit-II: Provisions: Registration Procedure, Service Receiver liability - Computation of Service Tax Revaluation of service tax.

Unit-III: Central Sales Tax: Tax on Inter- State Trade and Exports Registration-Rates of Tax, Assessment and Refunds - GST Act and Rules.

Unit-IV: Value Added Tax: Concept of VAT, Declared Goods, Registration and Procedural Aspects, Rate and Computation of VAT liability - Collection and Payment of VAT.

Unit-V: Assessment Procedure & Appeals: Assessment of Service Tax - Filing of e-Return - Service Tax Appeals - Service Tax Appellate Tribunal - Refund and penalties.

CO-PO Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	0	1	1	0	2	1	1	3
CO2	2	0	0	0	1	2	1	2	1
CO3	1	1	0	2	2	1	1	0	2
CO4	1	1	0	1	1	2	1	0	2
CO5	3	2	2	2	2	2	3	2	2

CO-POS Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	3	3	1	2	2	1
CO2	1	2	1	2	1	1
CO3	2	2	1	3	1	1
CO4	1	1	1	2	1	1
CO5	2	1	1	1	1	3

ATTAINMENT OF Pos

PROGRAMOUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	5.425397	0	2.712698	2.712698	0	5.425397	2.712698	2.712698	8.138095
C02	5.425397	0	0	0	2.712698	5.425397	2.712698	5.425397	2.712698
CO3	2.616931	2.616931	0	5.233862	5.233862	2.616931	2.616931	0	5.233862
CO4	2.233862	2.233862	0	2.233862	2.233862	4.467724	2.233862	0	4.467724
CO5	6.988888	4.659259	4.659259	4.659259	4.659259	4.659259	6.988888	4.659259	4.659259
FINAL ATTAINMENT	**2.521164**	**2.377513**	**2.457319**	**2.47328**	**2.47328**	**2.510523**	**2.46644**	**2.559471**	**2.521164**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	8.138095	8.138095	2.712698	5.425397	5.425397
C02	2.712698	5.425397	2.712698	5.425397	2.712698
CO3	5.233862	5.233862	2.616931	7.850793	2.616931
CO4	2.233862	2.233862	2.233862	4.467724	2.233862
CO5	4.659259	2.329629	2.329629	2.329629	2.329629
FINAL ATTAINMENT	**2.553086**	**2.59565**	**2.521164**	**2.549894**	**2.553086**

COURSE OUTCOME WEIGHTED AVERAGE: 2.329629447

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning LevelIndex	CO Attainment
CO 1	Student will be equipped with the knowledge of basic concepts of Service Tax Systems	Level1(Knowledge) Level2(Understanding)	1.5	2.712698335
CO2	Student will learn the basic procedures of registration and revaluation of service tax	Level1(Knowledge) Level2(Understanding)	1.5	2.712698335
CO3	Student will be equipped with the knowledge of central sales tax.	Level1(Knowledge) Level2(Understanding) Level3(Application)	2	2.616931113
CO4	Students will also learn about VAT and its procedural aspects and computation.	Level3(Application) Level4(Analysing) Level5(Evaluation)	4	2.233862225
CO5	To understand the importance of assessment of service tax and filing of e-returns	Level2(Understanding) Level3(Applying) Level4(Analysing) Level5(Evaluation)	3.5	2.329629447

IIIB.Com - SEMESTER –VI

BANKING & FINANCIAL SERVICES

FINANCIAL SERVICES

COURSE OUTCOMES

CO1: Differentiate activities of Banking and Non Banking companies.
CO2: Understanding the scope and importance of Merchant Banks and services rendered by Merchant Banks.
CO3: Describe the procedure of leasing and Hire purchasing.
CO4: Identify the credit rating agencies and its purpose.
CO5:Understanding factors and forfeiting services rendered by financial institutions.

Unit-I: Financial Services: Role of Financial Services - Banking and Non Banking Companies - Activities of Non Banking Finance Companies- Fund Based Activities - Fee Based Activities.

Unit-II: Merchant Banking Services: Scope and importance of merchant banking services - Venture Capital - Securitization - Demat services - Commercial Paper.

Unit-III: Leasing and Hire-Purchase: Types of Lease, Documentation and Legal aspects -Fixation of Rentals and Evaluation - Hire Purchasing- Securitization of debts - House Finance.

Unit-IV: Credit Rating: Purpose - Types Credit Rating Symbols- Agencies: CRISIL andCARE Equity Assessment vs. Grading -- Mutual funds.

Unit-V: Other Financial Services: Factoring and Forfeiting - Procedural and financial aspects Installment System - Credit Cards - Central Depository Systems NSDL CSDL.

CO-PO Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	0	1	1	0	2	1	1	3
CO2	2	0	0	0	1	2	1	2	1
CO3	1	1	0	2	2	1	1	0	2
CO4	1	1	0	1	1	2	1	0	2
CO5	3	2	2	2	2	2	3	2	2

CO-POS Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	3	3	1	2	2	1
CO2	1	2	1	2	1	1
CO3	2	2	1	3	1	1
CO4	1	1	1	2	1	1
CO5	2	1	1	1	1	3

ATTAINMENT OF POs

PROGRAMOUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	5.516825	0	2.758413	2.758413	0	5.516825	2.758413	2.758413	8.275238
C02	5.516825	0	0	0	2.758413	5.516825	2.758413	5.516825	2.758413
CO3	2.677883	2.677883	0	5.355767	5.355767	2.677883	2.677883	0	5.355767
CO4	2.355767	2.355767	0	2.355767	2.355767	4.711534	2.355767	0	4.711534
CO5	7.308888	4.872592	4.872592	4.872592	4.872592	4.872592	7.308888	4.872592	4.872592
FINAL ATTAINMENT	**2.597354**	**2.476561**	**2.543668**	**2.55709**	**2.55709**	**2.588407**	**2.551338**	**2.629566**	**2.597354**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	8.275238	8.275238	2.758413	5.516825	5.516825
C02	2.758413	5.516825	2.758413	5.516825	2.758413
CO3	5.355767	5.355767	2.677883	8.03365	2.677883
CO4	2.355767	2.355767	2.355767	4.711534	2.355767
CO5	4.872592	2.436296	2.436296	2.436296	2.436296
FINAL ATTAINMENT	**2.624197**	**2.659988**	**2.597354**	**2.621513**	**2.624197**

COURSE OUTCOME WEIGHTED AVERAGE: 2.436296114

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning LevelIndex	CO Attainment
CO 1	Differentiate activities of Banking and Non Banking companies.	Level1(Knowledge) Level2(Understanding)	1.5	2.75841262
CO2	Understanding the scope and importance of Merchant Banks and services rendered by Merchant Banks.	Level1(Knowledge) Level2(Understanding)	1.5	2.75841262
CO3	Describe the procedure of leasing and Hire purchasing.	Level1(Knowledge) Level2(Understanding) Level3(Application)	2	2.677883494
CO4	Identify the credit rating agencies and its purpose.	Level3(Application) Level4(Analysing) Level5(Evaluation)	4	2.355766987
CO5	Understanding factors and forfeiting services rendered by financial institutions.	Level2(Understanding) Level3(Applying) Level4(Analysing) Level5(Evaluation)	3.5	2.436296114

IIIB.Com - SEMESTER –VI

RETAILING

AGRICULTURAL AND RURAL MARKETING

COURSE OUTCOMES

CO1: To impart practical and value education and transformation of knowledge from class room to rural life.
CO2: To give input on inclusive growth and reduce regional imbalances and income inequalities.
CO3: Inculcate critical thinking to carry out strategies for agriculture and rural development.
CO4: Equip the student with skills to analyse problems and challenges of Agricultural Marketing.
CO5:To understand the role and importance of Govt and Non Govt agencies in the development of rural and agricultural marketing

Unit-I Concept of Rural Market: Rural market Characteristics - Rural markets and Environmental factors - Agricultural Market Yards.

Unit-II Rural Consumer Behavior: Rural vs. Urban Consumer - Relevance of Marketing mix for rural market/Consumers - Problems in rural market - Life Style Marketing - Rural market Segmentation.

Unit-III: Agricultural Marketing: Problems and Challenges in Agriculture Marketing Market Yards - Support prices - Rural Warehousing. College

Unit-IV: Agriculture Support Mechanism: Role of CCI, Tobacco Board, Spices Board, Coffee Board, Tea Board - Agriculture Price Commission.

Unit-V: Export potential forAgro-products: Role of Government and Non-Government, Agencies in the development of rural and agricultural Marketing – Strategies for supply of Seed, Fertilizers, Pesticides, Farm Equipment.

CO-PO Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	0	1	1	0	2	1	1	3
CO2	2	0	0	0	1	2	1	2	1
CO3	1	1	0	2	2	1	1	0	2
CO4	1	1	0	1	1	2	1	0	2
CO5	3	2	2	2	2	2	3	2	2

CO-POS Mapping
1-Low, 2-Moderate, 3-High, '-' NoCorrelation

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	3	3	1	2	2	1
CO2	1	2	1	2	1	1
CO3	2	2	1	3	1	1
CO4	1	1	1	2	1	1
CO5	2	1	1	1	1	3

ATTAINMENT OF POs

PROGRAMOUTCOMES ATTAINMENT									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	5.68254	0	2.84127	2.84127	0	5.68254	2.84127	2.84127	8.523809
C02	5.68254	0	0	0	2.84127	5.68254	2.84127	5.68254	2.84127
CO3	2.78836	2.78836	0	5.576719	5.576719	2.78836	2.78836	0	5.576719
CO4	2.576719	2.576719	0	2.576719	2.576719	5.153439	2.576719	0	5.153439
CO5	7.888888	5.259259	5.259259	5.259259	5.259259	5.259259	7.888888	5.259259	5.259259
FINAL ATTAINMENT	**2.73545**	**2.656084**	**2.700176**	**2.708995**	**2.708995**	**2.729571**	**2.705215**	**2.756614**	**2.73545**

ATTAINMENT OF PSOs

PROGRAM SPECIFIC OUTCOMES ATTAINMENT					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	8.523809	8.523809	2.84127	5.68254	5.68254
C02	2.84127	5.68254	2.84127	5.68254	2.84127
CO3	5.576719	5.576719	2.78836	8.365079	2.78836
CO4	2.576719	2.576719	2.576719	5.153439	2.576719
CO5	5.259259	2.629629	2.629629	2.629629	2.629629
FINAL ATTAINMENT	**2.753086**	**2.776602**	**2.73545**	**2.751323**	**2.753086**

COURSE OUTCOME WEIGHTED AVERAGE: 2.882962781

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning LevelIndex	CO Attainment
CO 1	To impart practical and value education and transformation of knowledge from class room to rural life	Level1(Knowledge) Level2(Understanding)	1.5	2.841269763
CO2	To give input on inclusive growth and reduce regional imbalances and income inequalities.	Level1(Knowledge) Level2(Understanding)	1.5	2.841269763
CO3	Inculcate critical thinking to carry out strategies for agriculture and rural development.	Level1(Knowledge) Level2(Understanding) Level3(Application)	2	2.788359684
CO4	Equip the student with skills to analyse problems and challenges of Agricultural Marketing.	Level3(Application) Level4(Analysing) Level5(Evaluation)	4	2.576719368
CO5	To understand the role and importance of Govt and Non Govt agencies in the development of rural and agricultural marketing	Level2(Understanding) Level3(Applying) Level4(Analysing) Level5(Evaluation)	3.5	2.629629447

DR. V. S. KRISHNA GOVT. DEGREE COLLEGE (A)

VISAKHAPATNAM

DEPARTMENT OF POLITICAL SCIENCE

CO & PO ATTAINMENT

2018 – 2019

CO – PO ATTAINMENT METHODOLOGY

- Step 1

Calculation of Course Outcome Weighted Average (COWA)

The performance of the students assessed by two methods

(a) Direct Assessment: The weightage for internal exams is 30% and for semester end exams is 60%
(b) Indirect assessment: 5% weightage for exit survey and 5% for extracurricular activities

The performance of the student is categorised in four levels

S,No	Percentage obtained by the student in DA and IDA	Level weightage
1	Less than 35%	0
2	Between 35% and 50%	1
3	Between 51% and 70%	2
4	Above 70%	3

The average level of all students for a particular course is found. It is called as course outcome weighted average (COWA).

$$\mathbf{COWA} = \frac{\boldsymbol{some\ of\ the\ level\ weitage\ of\ all\ students\ of\ a\ course}}{\boldsymbol{total\ number\ of\ students}}$$

- Step 2:

Calculation of Course outcome level index (COLLI):

To Map the course outcomes (COs) of a course with Blooms levels (1 to 6) by using action verbs used in CO' s. A course outcome may be mapped to multiple Blooms levels; hence we need to calculate the average Blooms level weightage (ABLW).

$$\mathbf{COLLI} = \frac{\boldsymbol{Sum\ of\ the\ weigtages\ of\ \ blooms\ levels\ mapped}}{\boldsymbol{number\ of\ levels\ mapped}}$$

- Step 3:

CO-PO mapping and CO-PSO mapping

Map each course outcome with POs and PSOs in levels 0,1,2,3. A CO may be mapped to multiple POs or PSOs with different levels 1,2,3. The weighted average of each PO is to be calculated.

- Step 4:

Calculation of CO attainment:

The formula for Course Outcome Attainment (CO Attainment) can be calculated by using below formula

$$\textbf{CO attainment} = \textbf{COWA} + \left\{(\mathbf{3} - \boldsymbol{COWA}) \times \left(\mathbf{1} - \frac{\boldsymbol{COLLI}}{\mathbf{3.5}}\right)\right\}$$

(Blooms Level Weighted Average value = 3.5)

- Step 5:

Calculation of PO attainment:

The formula for Programme Outcome Attainment (PO Attainment) can be calculated by using below formula

$$\textbf{PO Attainment} = \frac{\boldsymbol{\Sigma(CO\ attainment)(PO\ level\ mapped\ with\ CO)}}{\boldsymbol{Sum\ of\ the\ PO\ levels\ mapped\ with\ CO}}$$

PSO attainment:

The formula for Programme Specific Outcome Attainment (PSO Attainment) can be calculated by using below formula

$$\textbf{PSO Attainment} = \frac{\boldsymbol{\Sigma(CO\ attainment)(PSO\ level\ mapped\ with\ CO)}}{\boldsymbol{Sum\ of\ the\ PSO\ levels\ mapped\ with\ CO}}$$

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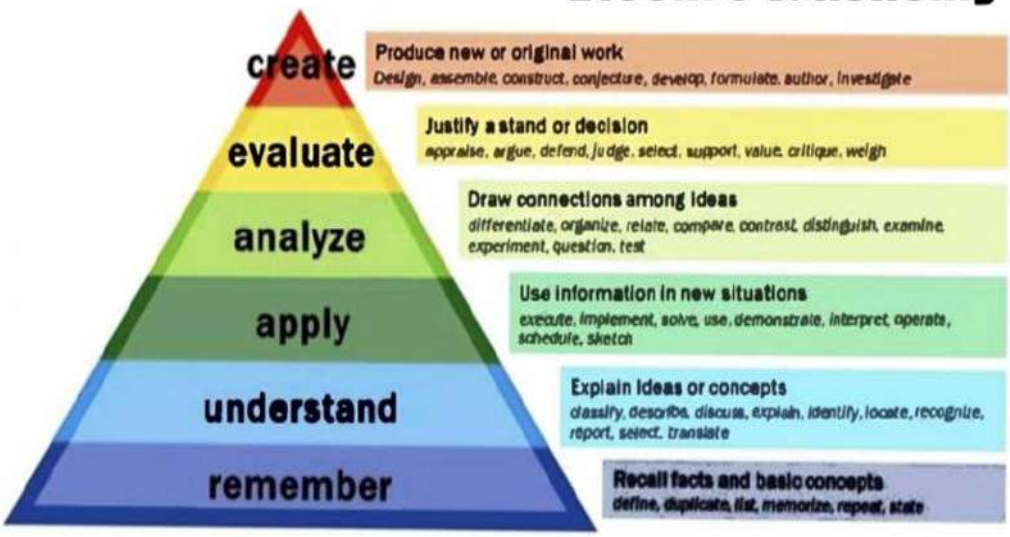
DEPARTMENT OF POLITICAL SCIENCE

POs & COs
MAPPING 2018 - 2019

Levels of Bloom's Taxonomoy

Level-1	Knowlede/Remember
Level-2	Understand
Level-3	Application
Level-4	Analyze
Level-5	Evaluation
Level-6	Create

Bloom's Taxonomy



PROGRAM OUTCOMES

POs	Programme Outcomes
PO1	Critical Thinking: Ability to take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid,and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
PO2	Effective Communication: Ability to speak, read, write, and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media, and technology
PO3	Social Interaction: Ability to elicit views of others, mediate disagreements and help reach conclusions in group settings.
PO4	Effective Citizenship: Ability to demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.
PO5	Ethics: Ability to recognize different value systems including our own, understand the moral dimensions of your decisions, and accept responsibility for them.
PO6	Environment and Sustainability: Ability to understand the issues of environmental contexts and sustainable Development.
PO7	Employability skills: Equipping graduates with the essential abilities and knowledge to excel in their choosen careers.
PO8	Entrepreneurship skills: Seeks to empower students with the competencies needed to be successful entrepreneurs, enabling them to launch, operate, and innovate in their own businesses or entrepreneurial ventures.
PO9	Self-directed and Life-long Learning: Acquire the ability to engage in independent and life-long learning in the broadest

PROGRAM SPECIFIC OUTCOMES

PSOs	Program Specific Outcomes (PSOs)
PSO1	Understand the basic concepts like GDP, Poverty, Employment, International trade, Fiscal and Monetary policies, Economic conditions of various Historic periods, the development of Trade and Commerce from the ancient period to modern period and their role in administration, for formulating relevant policies for effective utilisation of resources and tackling. Evaluate the contemporary economic conditions with the economic theories and principles.
PSO2	To analyze the concept of political science processes, institutions and the Welfare State and Urban governance of Mauryan administration, Local Self-Government of Chola administration and all Democratic practices of modern British administration.
PSO3	Demonstrate proficiency in Historical knowledge of India and modern world.To understand the impact of economic prosperity that attracted the foreign invaders towards India, resulting in changed administration and economy in due course.
PSO4	To provide life skills required for gainful employment by using domain knowledge such as Economics,History and Political Science at various levels. I play the equator knowledge to solve problems in relevant fields.
PSO5	To promote values such as sustainable development, Optimum utilisation of resources, patriotism, respecting the ideals of freedom struggle and responsible citizenship, political participation and socialisation

Dr. V S Krishna Government Degree and PG College (A)

First Year: Semester 1

2018 2019

B.A. Political Science

Course 1 (CORE): Basic Concepts of Political Science

COURSE OUTCOME WEIGHTED AVERAGE: 2.06

Course Outcomes:

On successful completion of the course the students will be able to:

S.No	Course Outcome	Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO1	To understand the basic concepts of Political Science like State, Nation-State, Nation, Freedom, Equality, Fraternity& Justice etc., which are necessary to improve basic knowledge and perception of Society & the State.	L1 Remember L2 Understand	1.5	2.597142857
CO2	To provide awareness of latest topics like Gender Equality, Women's Rights in India and Relationship between Rights & Duties,	L2 Understand and L5 Evaluate	2.5	2.328571429
CO3	To examine different approaches to the study of Political Science and ideologies like Nationalism, Communitarianism.	L3 Apply and L4 Analyse	3.5	2.06
CO4	To inculcate the spirit of Nationalism and Patriotism among the students to make them responsible citizens in to establish a better society.	L4 Analyse and L5 Evaluate	4.5	1.791428571
CO5	To have a deeper knowledge regarding freedom, equality and justice by understanding the importance of attaining them and the various ways to attain them	L4 Analyse and L6 Create	5	1.657142857

. **CO-PO Mapping**

1. Low, 2- Moderate, 3- High, '-' No Correlation

	PO:1 Critical Thinking	PO:2 Effective Communication	PO:3 Social Interaction	PO:4 Effective Citizenship	PO:5 Ethics	PO:6 Environment and Sustainability	PO:7 Employa-bility skills	P**O:8** Entrepreneur-ship skills	PO:9 Self-directed and Life-long Learning
CO:1	3	-	3	3	-	-	-	1	-
CO:2	3	1	2	2	3	-	1	-	2
CO:3	3	-	2	-	2	-	-	3	-
CO:4	2	1	3	2	2	-	-	-	3
CO:5	2	2	2	2	-	-	3	2	3

CO-PSO Mapping

1.Low, 2- Moderate, 3- High, '-' No Correlation

	PSO:1	PSO:2	PSO:3	PSO:4	PSO:5
CO:1	2	2	2	3	3
CO:2	2	3	2	2	-
CO:3	2	-	3	2	2
CO:4	3	2	-	3	-
CO:5	3	2	3	1	2

	PO:1 Critical Thinking	PO:2 Effective Communication	PO:3 Social Interaction	PO:4 Effective Citizenship	PO:5 Ethics	PO:6 Environment and Sustainability	PO:7 Employa-bility skills	PO:8 Entrepreneur-ship skills	PO:9 Self-directed and Life-long Learning
CO:1	7.791429	0	7.791429	7.791429	0	0	0	2.597143	0
CO:2	6.985714	2.328571	4.657143	4.657143	6.985714	0	2.328571	0	4.657143
CO:3	6.18	0	4.12	0	4.12	0	0	6.18	0
CO:4	3.582857	1.791429	5.374286	3.582857	3.582857	0	0	0	5.374286
CO:5	1.657143	3.314286	3.314286	3.314286	0	0	4.971429	3.314286	4.971429
FINAL PROGRAM ATTAINMENT	**2.183095**	**1.858571**	**2.104762**	**2.149524**	**2.098367**	**#DIV/0!**	**1.825**	**2.015238**	**1.875357**

ATTAINMENT OF PSOs

	PSO:1	PSO:2	PSO:3	PSO:4	PSO:5
CO:1	5.194286	5.194286	5.194286	7.791429	7.791429
CO:2	4.657143	6.985714	4.657143	4.657143	0
CO:3	4.12	0	6.18	4.12	4.12
CO:4	5.374286	3.582857	0	5.374286	0
CO:5	4.971429	3.314286	4.971429	1.657143	1.657143
FINAL PROGRAM ATTAINMENT	**2.026429**	**2.119683**	**2.100286**	**2.145455**	**2.261429**

Dr. V S Krishna Government Degree and PG College (A)

First Year: Semester 1I

2018 2019

B.A. Political Science

Course 1I (CORE): Political Institutions: Concepts, Theories and Institutions

COURSE OUTCOME WEIGHTED AVERAGE: 1.98

Course Outcomes:

On successful completion of the course the students will be able to:

S.No	Course Outcome	Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO1	To understand the importance of constitutional law, the theories behind the separation of powers and to get the basic knowledge of the three organs of the government.	L1 Remember L3 Apply	2	2.417142857
CO2	The student would get to understand the various levels of authority in the present modern state and to understand the basic features of federal and unitary forms of government.	L2 Understand and L5 Evaluate	3.5	1.98
CO3	To understand functions of legislature and judiciary, and to analyse the institutional forms of the modern state especially democracy.	L3 Apply and L4 Analyse	3.5	1.98
CO4	To understand various aspects of judiciary and its functions and concepts like judicial review and judicial activism.	L4 Analyse and L5 Evaluate	4.5	1.688571429
CO5	To understand the relationship between legislature and executive in the policy making and implementation especially in the modern state in uni cameral and bi cameral legislatures.	L4 Analyse and L6 Create	5	1.542857143

CO-PO Mapping

1. Low, 2- Moderate, 3- High, '-' No Correlation

	PO:1 Critical Thinking	PO:2 Effective Communication	PO:3 Social Interaction	PO:4 Effective Citizenship	PO:5 Ethics	PO:6 Environment and Sustainability	PO:7 Employa-bility skills	PO:8 Entrepreneur-ship skills	PO:9 Self-directed and Life-long Learning
CO:1	2	-	3	3	-	-	-	1	-
CO:2	3	-	3	2	2	-	2	-	3
CO:3	2	2	2	-	3	-	-	2	-
CO:4	2	-	3	3	2	-	-	-	2
CO:5	1	3	2	2	-	-	3	2	3

CO-PSO Mapping

1.Low, 2- Moderate, 3- High, '-' No Correlation

	PSO:1	PSO:2	PSO:3	PSO:4	PSO:5
CO:1	2	1	2	3	2
CO:2	1	3	3	2	1
CO:3	2	-	3	2	3
CO:4	3	2	-	3	-
CO:5	3	2	3	1	2

ATTAINMENT OF POs

	PO:1 Critical Thinking	PO:2 Effective Communication	PO:3 Social Interaction	PO:4 Effective Citizenship	PO:5 Ethics	PO:6 Environment and Sustainability	PO:7 Employa-bility skills	P**O:8** Entrepreneur-ship skills	PO:9 Self-directed and Life-long Learning
CO:1	4.834286	0	7.251429	7.251429	0	0	0	2.417143	0
CO:2	5.94	0	5.94	3.96	3.96	0	3.96	0	5.94
CO:3	3.96	3.96	3.96	0	5.94	0	0	3.96	0
CO:4	3.377143	0	5.065714	5.065714	3.377143	0	0	0	3.377143
CO:5	1.542857	4.628571	3.085714	3.085714	0	0	4.628571	3.085714	4.628571
FINAL PROGRAM ATTAINMENT	**1.965429**	**1.717714**	**1.946374**	**1.936286**	**1.896735**	**#DIV/0!**	**1.717714**	**1.892571**	**1.743214**

ATTAINMENT OF PSOs

	PSO:1	PSO:2	PSO:3	PSO:4	PSO:5
CO:1	7.251429	2.417143	4.834286	7.251429	4.834286
CO:2	1.98	5.94	5.94	3.96	1.98
CO:3	3.96	0	5.94	3.96	5.94
CO:4	5.065714	3.377143	0	5.065714	0
CO:5	4.628571	3.085714	4.628571	1.542857	3.085714
FINAL PROGRAM ATTAINMENT	**1.907143**	**1.8525**	**1.94026**	**1.98**	**1.98**

Dr. V S Krishna Government Degree and PG College (A)

Second Year: Semester 1II

2018 2019

B.A. Political Science

Course 1II (CORE): Indian Constitution

COURSE OUTCOME WEIGHTED AVERAGE: 2.73

Course Outcomes:

On successful completion of the course the students will be able to:

S.No	Course Outcome	Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO1	The student will get minimum knowledge of how their constitution was made, the ideologies behind its making and how it works and on what principles they are being ruled.	L 1 Remember L 2 Understand	1.5	2.884285714
CO2	As Constitution is the fundamental law of the land, the student will get to know the philosophical premises of the constitution, especially the preamble, as it forms the basic structure of the constitution.	L2 Understand and L5 Evaluate	3.5	2.73
CO3	To understand the fundamental rights and directive principles of state policy, as they are the basic needs for a better society and to understand the differences between them.	L3 Apply and L4 Analyse	3.5	2.73
CO4	To understand the quasi federal features of the Indian constitution and its unique features and how it fits the Indian system and its advantages and dis advantages.	L4 Analyse and L5 Evaluate	4.5	2.652857143
CO5	Finally, the student will get to understand the core values of the Indian Constitution, various amendments to the constitution, and how the legislature, executive and judiciary works in accordance with the constitution and how the judiciary works	L4 Analyse and L6 Create	5	2.614285714

	independently over the executive and legislature.			

CO-PO Mapping

1. Low, 2- Moderate, 3- High, '-' No Correlation

	PO:1 Critical Thinking	PO:2 Effective Communication	PO:3 Social Interaction	PO:4 Effective Citizenship	PO:5 Ethics	PO:6 Environment and Sustainability	PO:7 Employa-bility skills	P**O:8** Entrepreneur-ship skills	PO:9 Self-directed and Life-long Learning
CO:1	1	-	2	2	-	-	-	-	-
CO:2	2	-	3	3	2	-	1	-	2
CO:3	3	3	3	-	3	-	-	2	1
CO:4	2	-	3	1	2	-	-	-	3
CO:5	3	2	2	2	-	-	3	2	3

CO-PSO Mapping

1.Low, 2- Moderate, 3- High, '-' No Correlation

	PSO:1	PSO:2	PSO:3	PSO:4	PSO:5
CO:1	3	2	2	3	3
CO:2	1	2	3	2	-
CO:3	3	-	2	1	3
CO:4	3	2	-	3	-
CO:5	3	2	3	1	2

ATTAINMENT OF POs

	PO:1 Critical Thinking	PO:2 Effective Communication	PO:3 Social Interaction	PO:4 Effective Citizenship	PO:5 Ethics	PO:6 Environment and Sustainability	PO:7 Employa-bility skills	PO:8 Entrepreneur-ship skills	PO:9 Self-directed and Life-long Learning
CO:1	2.417143	0	4.834286	4.834286	0	0	0	0	0
CO:2	3.96	0	5.94	5.94	3.96	0	1.98	0	3.96
CO:3	5.94	5.94	5.94	0	5.94	0	0	3.96	1.98
CO:4	3.377143	0	5.065714	1.688571	3.377143	0	0	0	5.065714
CO:5	4.628571	3.085714	3.085714	3.085714	0	0	4.628571	3.085714	4.628571
FINAL PROGRAM ATTAINMENT	**1.847532**	**1.805143**	**1.912747**	**1.943571**	**1.896735**	**#DIV/0!**	**1.652143**	**1.761429**	**1.737143**

ATTAINMENT OF PSOs

	PSO:1	PSO:2	PSO:3	PSO:4	PSO:5
CO:1	7.251429	4.834286	4.834286	7.251429	7.251429
CO:2	1.98	3.96	5.94	3.96	0
CO:3	5.94	0	3.96	1.98	5.94
CO:4	5.065714	3.377143	0	5.065714	0
CO:5	4.628571	3.085714	4.628571	1.542857	3.085714
FINAL PROGRAM ATTAINMENT	**1.912747**	**1.907143**	**1.936286**	**1.98**	**2.034643**

Dr. V S Krishna Government Degree and PG College (A)

Second Year: Semester IV

2018 2019

B.A. Political Science

Course 1V (CORE): Indian Political Process

COURSE OUTCOME WEIGHTED AVERAGE: 2.5

Course Outcomes: On successful completion of the course the student will be able to :

S.No	Course Outcome	Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO1	Know and understand the federal system of the country and some of the vital contemporary emerging issues.	L1 Remember L2 Understand L 3 Apply	3	2.571428571
CO2	Evaluate the electoral system of the country and to identify the areas of electoral reforms.	L2 Understand and L 5 Evaluate	3.5	2.5
CO3	Know the constitutional base and functioning of local governments with special emphasis on 73rd& 74th Constitutional Amendment Acts	L3 Apply and l4 Analyse	3.5	2.5
CO4	Understand the dynamics of Indian politics, challenges faced and gain a sensitive comprehension to the contributing factors.	L4 Analyse and L5 Evaluate	4.5	2.357142857
CO5	Apply the knowledge and critically comprehend the functioning of some of the regulatory and governance institutions. Propose theoretical outline alternate models	L4 Analyse and L6 Create	5	2.285714286

CO-PO Mapping

1. Low, 2- Moderate, 3- High, '-' No Correlation

	PO:1 Critical Thinking	PO:2 Effective Communication	PO:3 Social Interaction	PO:4 Effective Citizenship	PO:5 Ethics	PO:6 Environment and Sustainability	PO:7 Employa-bility skills	P**O:8** Entrepreneur-ship skills	PO:9 Self-directed and Life-long Learning
CO:1	1	-	3	2	-	-	-	-	-
CO:2	3	-	3	2	2	-	2	-	2
CO:3	3	-	3	-	2	-	-	2	-
CO:4	2	-	3	3	2	-	-	-	2
CO:5	2	2	2	2	-	-	3	2	3

CO-PSO Mapping

1.Low, 2- Moderate, 3- High, '-' No Correlation

	PSO:1	PSO:2	PSO:3	PSO:4	PSO:5
CO:1	2	1	2	3	3
CO:2	-	2	3	2	-
CO:3	2	-	3	4	3
CO:4	3	2	-	3	-
CO:5	3	2	3	1	2

	PO:1 Critical Thinking	PO:2 Effective Communication	PO:3 Social Interaction	PO:4 Effective Citizenship	PO:5 Ethics	PO:6 Environment and Sustainability	PO:7 Employa-bility skills	PO:8 Entrepreneur-ship skills	PO:9 Self-directed and Life-long Learning
CO:1	2.571429	0	7.714286	5.142857	0	0	0	0	0
CO:2	7.5	0	7.5	5	5	0	5	0	5
CO:3	7.5	0	7.5	0	5	0	0	5	0
CO:4	4.714286	0	7.071429	7.071429	4.714286	0	0	0	4.714286
CO:5	4.571429	4.571429	4.571429	4.571429	0	0	6.857143	4.571429	6.857143
FINAL PROGRAM ATTAINMENT	**2.441558**	**2.285714**	**2.454082**	**2.420635**	**2.452381**	**#DIV/0!**	**2.371429**	**2.392857**	**2.367347**

ATTAINMENT OF PSOs

	PSO:1	PSO:2	PSO:3	PSO:4	PSO:5
CO:1	5.142857	2.571429	5.142857	7.714286	7.714286
CO:2	0	5	7.5	5	0
CO:3	5	0	7.5	7.5	7.5
CO:4	7.071429	4.714286	0	9.428571	0
CO:5	6.857143	4.571429	6.857143	2.285714	4.571429
FINAL PROGRAM ATTAINMENT	**2.407143**	**2.408163**	**2.454545**	**2.456044**	**2.473214**

Dr. V S Krishna Government Degree and PG College (A)

Third Year: Semester V

2018 2019

B.A. Political Science

Course V (CORE): Indian Political Thought

COURSE OUTCOME WEIGHTED AVERAGE: 2.7

Course Outcomes:

S.No	Course Outcome	Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO1	Enriches about variety of ancient Indian political thoughts.	L1 Remember L2 Understand	1.5	2.871428571
CO2	Understands the contributions of Kautilya.	L2 Understand and L5 Evaluate	3.5	2.7
CO3	Creates awareness on political ideologies of 19th century social reformers.	L3 Apply and L4 Analyse	3.5	2.7
CO4	Familiarizes the political philosophy of religious reformers.	L4 Analyse and L5 Evaluate	4.5	2.614285714
CO5	Imparts knowledge on nationalist political thinkers.	L4 Analyse and L6 Create	5	2.571428571

CO-PO Mapping

1. Low, 2- Moderate, 3- High, '-' No Correlation

	PO:1 Critical Thinking	PO:2 Effective Communication	PO:3 Social Interaction	PO:4 Effective Citizenship	PO:5 Ethics	PO:6 Environment and Sustainability	PO:7 Employa-bility skills	P**O:8** Entrepreneur-ship skills	PO:9 Self-directed and Life-long Learning
CO:1	2	-	2	2	3	-	-	-	-
CO:2	2	-	2	2	3	-	-	-	-
CO:3	2	-	2	2	2	-	-	-	-
CO:4	2	-	2	1	2	-	-	-	-
CO:5	2	-	2	1	3	-	-	-	-

CO-PSO Mapping

1.Low, 2- Moderate, 3- High, '-' No Correlation

	PSO:1	PSO:2	PSO:3	PSO:4	PSO:5
CO:1	2	1	1	2	3
CO:2	2	2	3	2	3
CO:3	2	2	2	2	3
CO:4	2	2	1	1	3
CO:5	2	2	2	2	3

ATTAINMENT OF POs

	PO:1 Critical Thinking	PO:2 Effective Communication	PO:3 Social Interaction	PO:4 Effective Citizenship	PO:5 Ethics	PO:6 Environment and Sustainability	PO:7 Employa-bility skills	**PO:8** Entrepreneur-ship skills	PO:9 Self-directed and Life-long Learning
CO:1	5.742857	0	5.742857	5.742857	8.614286	0	0	0	0
CO:2	5.4	0	5.4	5.4	8.1	0	0	0	0
CO:3	5.4	0	5.4	5.4	5.4	0	0	0	0
CO:4	5.228571	0	5.228571	2.614286	5.228571	0	0	0	0
CO:5	5.142857	0	5.142857	2.571429	7.714286	0	0	0	0
FINAL PROGRAM ATTAINMENT	**2.691429**	**#DIV/0!**	**2.691429**	**2.716071**	**2.696703**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**

ATTAINMENT PSOs

	PSO:1	PSO:2	PSO:3	PSO:4	PSO:5
CO:1	5.742857	2.871429	2.871429	5.742857	8.614286
CO:2	5.4	5.4	8.1	5.4	8.1
CO:3	5.4	5.4	5.4	5.4	8.1
CO:4	5.228571	5.228571	2.614286	2.614286	7.842857
CO:5	5.142857	5.142857	5.142857	5.142857	7.714286
FINAL PROGRAM ATTAINMENT	**2.691429**	**2.671429**	**2.680952**	**2.7**	**2.691429**

Dr. V S Krishna Government Degree and PG College (A)

Third Year: Semester V

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B.A. Political Science

Course VI (CORE): Western Political Thought

COURSE OUTCOME WEIGHTED AVERAGE: 2.3346

Course Outcomes: On successful completion of the course the student will be able to :

S.No	Course Outcome	Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO1	Understand the fundamental contours classical, western political philosophy, basic features of medieval political thought and shift from medieval to modem era.	L1 Remember L3 Apply	2	2.619771429
CO2	Understand the Social Contract Theory and appreciate its implications on the perception of State in terms of its purposes and role.	L2 Understand and L5 Evaluate	3.5	2.3346
CO3	Acquaint with the Liberal and Marxist philosophy and analyze some trends in Western Political Thought	L3 Apply and L4 Analyse	3.5	2.3346
CO4	Critically analyse the evolution of western political thought	L4 Analyse and L5 Evaluate	4.5	2.144485714
CO5	Students will analyse contemporary interpretations of key documents and Students will interpret contemporary social movements.	L4 Analyse and L6 Create	5	2.049428571

CO-PO Mapping

1. Low, 2- Moderate, 3- High, '-' No Correlation

	PO:1 Critical Thinking	PO:2 Effective Communication	PO:3 Social Interaction	PO:4 Effective Citizenship	PO:5 Ethics	PO:6 Environment and Sustainability	PO:7 Employa-bility skills	P**O:8** Entrepreneur-ship skills	PO:9 Self-directed and Life-long Learning
CO:1	2	1	3	2	-	-	-	-	-
CO:2	3	-	1	3	2	-	2	-	1
CO:3	2	3	3	-	2	-	-	2	-
CO:4	2	-	3	3	2	-	-	-	3
CO:5	4	3	2	2	-	-	3	2	3

CO-PSO Mapping

1.Low, 2- Moderate, 3- High, '-' No Correlation

	PSO:1	PSO:2	PSO:3	PSO:4	PSO:5
CO:1	2	1	2	3	3
CO:2	-	2	3	2	-
CO:3	2	-	3	3	3
CO:4	3	2	-	3	-
CO:5	3	2	3	1	2

ATTAINMENT OF POs

	PO:1 Critical Thinking	PO:2 Effective Communication	PO:3 Social Interaction	PO:4 Effective Citizenship	PO:5 Ethics	PO:6 Environment and Sustainability	PO:7 Employa-bility skills	**PO:8** Entrepreneur-ship skills	PO:9 Self-directed and Life-long Learning
CO:1	5.239543	2.619771	7.859314	7.859314	0	0	0	0	0
CO:2	7.0038	0	2.3346	7.0038	4.6692	0	4.6692	2.3346	0
CO:3	4.6692	7.0038	7.0038	0	4.6692	0	0	0	0
CO:4	4.288971	0	6.433457	6.433457	4.288971	0	0	6.433457	0
CO:5	8.197714	6.148286	4.098857	4.098857	0	0	6.148286	6.148286	0
Final Program Attainment	**2.261479**	**2.253122**	**2.310836**	**2.308675**	**2.271229**	**#DIV/0!**	**2.163497**	**2.130906**	**#DIV/0!**

ATTAINMENT OF PSOs

	PSO:1	PSO:2	PSO:3	PSO:4	PSO:5
CO:1	5.239543	2.619771	5.239543	7.859314	7.859314
CO:2	0	4.6692	7.0038	4.6692	0
CO:3	4.6692	0	7.0038	7.0038	7.0038
CO:4	6.433457	4.288971	0	6.433457	0
CO:5	6.148286	4.098857	6.148286	2.049429	4.098857
Final Program Attainment	**2.249049**	**2.239543**	**2.308675**	**2.3346**	**2.370246**

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Third Year: Semester VI

2018 2019

B.A. Political Science

Course VII B (ELECTIVE): Principals of Public Administration

COURSE OUTCOME WEIGHTED AVERAGE: 2.51339

Course Outcomes:

On successful completion of the course the students will be able to:

S.No	Course Outcome	Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO1	Know the meaning, nature, scope and significance of Public Administration	L1 Remember L2 Understand	1.5	2.791452857
CO2	To understand the basic theories of Public Administration	L2 Understand and l5 Evaluate	3.5	2.51339
CO3	To understand the principles of Public Administration such as hierarchy and the decision making process.	L3 Apply and l4 Analyse	3.5	2.51339
CO4	To understand the structure of the organization which helps in helps the students in gaining knowledge about the basic needs of the organization.	L4 Analyse and l5 Evaluate	4.5	2.374358571
CO5	Understanding the concept of motivation and the theories of X AND Y, which will the help the students in gaining the practical knowledge.	L4 Analyse and l6 Create	5	2.304842857

CO-PO Mapping

1. Low, 2- Moderate, 3- High, '-' No Correlation

	PO:1 Critical Thinking	PO:2 Effective Communication	PO:3 Social Interaction	PO:4 Effective Citizenship	PO:5 Ethics	PO:6 Environment and Sustainability	PO:7 Employa-bility skills	P**O:8** Entrepreneur-ship skills	PO:9 Self-directed and Life-long Learning
CO:1	2	-	2	2	2	-	-	-	1
CO:2	3	1	3	3	3	-	-	-	-
CO:3	2	1	2	2	3	-	-	-	1
CO:4	3	-	2	3	2	-	-	-	-
CO:5	2	2	3	2	3	-	3	2	2

CO-PSO Mapping

1.Low, 2- Moderate, 3- High, '-' No Correlation

	PSO:1	PSO:2	PSO:3	PSO:4	PSO:5
CO:1	2	3	1	3	3
CO:2	2	1	3	2	2
CO:3	2	3	2	3	2
CO:4	3	2	2	3	2
CO:5	2	1	2	2	3

ATTAINMENT OF POs

	PO:1 Critical Thinking	PO:2 Effective Communication	PO:3 Social Interaction	PO:4 Effective Citizenship	PO:5 Ethics	PO:6 Environment and Sustainability	PO:7 Employa-bility skills	PO:8 Entrepreneur-ship skills	PO:9 Self-directed and Life-long Learning
CO:1	7.859314	0	5.239543	5.239543	5.239543	0	0	0	2.619771
CO:2	7.0038	2.3346	7.0038	7.0038	7.0038	0	0	0	0
CO:3	4.6692	2.3346	4.6692	4.6692	7.0038	0	0	0	2.3346
CO:4	6.433457	0	4.288971	6.433457	4.288971	0	0	0	0
CO:5	4.098857	4.098857	6.148286	4.098857	6.148286	0	6.148286	4.098857	4.098857
Final Program Attainment	**2.312664**	**2.192014**	**2.27915**	**2.287071**	**2.283415**	**#DIV/0!**	**2.049429**	**2.049429**	**2.263307**

ATTAINMENT OF PSOs

	PSO:1	PSO:2	PSO:3	PSO:4	PSO:5
CO:1	5.239543	7.859314	2.619771	7.859314	7.859314
CO:2	4.6692	2.3346	7.0038	4.6692	4.6692
CO:3	4.6692	7.0038	4.6692	7.0038	4.6692
CO:4	6.433457	4.288971	4.288971	6.433457	4.288971
CO:5	4.098857	2.049429	4.098857	4.098857	6.148286
Final Program Attainment	**2.282751**	**2.353611**	**2.26806**	**2.312664**	**2.302914**

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Third Year: Semester VI

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B.A. Political Science

Course VIII C 1 : International Relations

COURSE OUTCOME WEIGHTED AVERAGE: 2.38441

Course Outcomes:

On successful completion of the course the students will be able to:

S.No	Course Outcome	Correlation with Bloom's Taxonomy Learning Levels	CO Level Index	CO Attainment
CO1	Understand nature and scope of theory of International Relations.	L1 Remember L2 Understand	1.5	2.736175714
CO2	Familiarize with different theories of International Relations	L2 Understand and L5 Evaluate	3.5	2.38441
CO3	Assess the concepts of power.	L3 Apply and L4 Analyse L5 Evaluate	6	1.944702857
CO4	Debate the significance of Foreign Policy.	L4 Analyse and L5 Evaluate	4.5	2.208527143
CO5	Speculate on security and disarmament.	L4 Analyse and L6 Create	5	2.120585714

CO-PO Mapping

1. Low, 2- Moderate, 3- High, '-' No Correlation

	PO:1 Critical Thinking	PO:2 Effective Communication	PO:3 Social Interaction	PO:4 Effective Citizenship	PO:5 Ethics	PO:6 Environment and Sustainability	PO:7 Employa-bility skills	P**O:8** Entrepreneur-ship skills	PO:9 Self-directed and Life-long Learning
CO:1	2	3	3	2	-	-	-	-	2
CO:2	2	2	3	2	-	-	-	-	2
CO:3	2	1	3	2	-	-	2	-	3
CO:4	2	-	1	2	3	-	2	-	1
CO:5	3	1	2	3	3	-	3	-	3

CO-PSO Mapping

1.Low, 2- Moderate, 3- High, '-' No Correlation

	PSO:1	PSO:2	PSO:3	PSO:4	PSO:5
CO:1	2	2	2	3	3
CO:2	2	2	3	3	3
CO:3	3	2	2	3	3
CO:4	3	1	3	3	2
CO:5	2	1	3	3	2

ATTAINMENT OF POs

	PO:1 Critical Thinking	PO:2 Effective Communication	PO:3 Social Interaction	PO:4 Effective Citizenship	PO:5 Ethics	PO:6 Environment and Sustainability	PO:7 Employa-bility skills	P**O:8** Entrepreneur-ship skills	PO:9 Self-directed and Life-long Learning
CO:1	5.472351	8.208527	8.208527	5.472351	0	0	0	0	5.472351
CO:2	4.76882	4.76882	7.15323	4.76882	0	0	0	0	4.76882
CO:3	3.889406	1.944703	5.834109	3.889406	0	0	3.889406	0	5.834109
CO:4	4.417054	0	2.208527	4.417054	6.625581	0	4.417054	0	2.208527
CO:5	6.361757	2.120586	4.241171	6.361757	6.361757	0	6.361757	0	6.361757
Final Program Attainment	**2.26449**	**2.434662**	**2.303797**	**2.26449**	**2.164556**	**#DIV/0!**	**2.09546**	**#DIV/0!**	**2.240506**

ATTAINMENT OF PSOs

	PSO:1	PSO:2	PSO:3	PSO:4	PSO:5
CO:1	5.472351	5.472351	5.472351	8.208527	8.208527
CO:2	4.76882	4.76882	7.15323	7.15323	7.15323
CO:3	5.834109	3.889406	3.889406	5.834109	5.834109
CO:4	6.625581	2.208527	6.625581	6.625581	4.417054
CO:5	4.241171	2.120586	6.361757	6.361757	4.241171
Final Program Attainment	**2.245169**	**2.307461**	**2.26941**	**2.27888**	**2.296469**

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Third Year: Semester VI

2018 2019

B.A. Political Science

Course VIII C 2 : Indian Foreign Policy

COURSE OUTCOME WEIGHTED AVERAGE: 2.21528

Course Outcomes:

On successful completion of the course the students will be able to:

S.No	Course Outcome	Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO1	Understands the theoretical framework of foreign policy.	L1 Remember L3 Apply	2	2.551588571
CO2	Enables the student to know the role of foreign policy and national interest.	L 2 Understand and L5 Evaluate	3.5	2.21528
CO3	Learns about the origin, principles and basics of Indian foreign policy.	L3 Apply and L4 Analyse	3.5	2.21528
CO4	Assess importance of Panchsheel agreement between India and China.	L4 Analyse and L5 Evaluate	4.5	1.991074286
CO5	Understands the geo-political, geo-strategic determinants and cross-border terrorism in India.	L4 Analyse and L6 Create	5	1.878971429

CO-PO Mapping

1. Low, 2- Moderate, 3- High, '-' No Correlation

	PO:1 Critical Thinking	PO:2 Effective Communication	PO:3 Social Interaction	PO:4 Effective Citizenship	PO:5 Ethics	PO:6 Environment and Sustainability	PO:7 Employa-bility skills	P**O:8** Entrepreneur-ship skills	PO:9 Self-directed and Life-long Learning
CO:1	2	3	3	2	-	-	-	-	2
CO:2	2	2	3	2	-	-	-	-	1
CO:3	2	2	3	2	-	-	2	-	2
CO:4	2	-	2	2	-	-	2	-	1
CO:5	3	1	2	3	-	-	3	-	3

CO-PSO Mapping

1.Low, 2- Moderate, 3- High, '-' No Correlation

	PSO:1	PSO:2	PSO:3	PSO:4	PSO:5
CO:1	2	2	2	2	3
CO:2	2	3	1	3	2
CO:3	1	2	2	2	3
CO:4	3	1	3	3	2
CO:5	2	1	3	3	1

ATTAINMENT OF POs

	PO:1 Critical Thinking	PO:2 Effective Communication	PO:3 Social Interaction	PO:4 Effective Citizenship	PO:5 Ethics	PO:6 Environment and Sustainability	PO:7 Employa-bility skills	PO:8 Entrepreneur-ship skills	PO:9 Self-directed and Life-long Learning
CO:1	5.103177	7.654766	7.654766	5.103177	0	0	0	0	5.103177
CO:2	4.43056	4.43056	6.64584	4.43056	0	0	0	0	2.21528
CO:3	4.43056	4.43056	6.64584	4.43056	0	0	4.43056	0	4.43056
CO:4	3.982149	0	3.982149	3.982149	0	0	3.982149	0	1.991074
CO:5	5.636914	1.878971	3.757943	5.636914	0	0	5.636914	0	5.636914
Final Program Attainment	**2.143942**	**2.299357**	**2.206657**	**2.143942**	**#DIV/0!**	**#DIV/0!**	**2.007089**	**#DIV/0!**	**2.153001**

ATTAINMENT OF PSOs

	PSO:1	PSO:2	PSO:3	PSO:4	PSO:5
CO:1	5.103177	5.103177	5.103177	5.103177	7.654766
CO:2	4.43056	6.64584	2.21528	6.64584	4.43056
CO:3	2.21528	4.43056	4.43056	4.43056	6.64584
CO:4	5.973223	1.991074	5.973223	5.973223	3.982149
CO:5	3.757943	1.878971	5.636914	5.636914	1.878971
Final Program Attainment	**2.148018**	**2.227736**	**2.123559**	**2.13767**	**2.235662**

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Third Year: Semester VI

2018 2019

B.A. Political Science

Course VIII C 3 : Contemporary Global Issues

COURSE OUTCOME EIGHTED AVERAGE: 2.3772

Course Outcomes:

On successful completion of the course the students will be able to:

S.No	Course Outcome	Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO1	Understands the conception of Globalisation	L1 Remember L3 Apply	2	2.644114286
CO2	Enables the student to know anchors of Global Economy such as World Bank.	L2 Understand and L5 Evaluate	3.5	2.3772
CO3	Learns about the origin of Nation – State in the context of globalization and the consequences of globalization.	L3 Apply and L4 Analyse	3.5	2.3772
CO4	Understand various global issues the humanity is facing such as environmental degradation and terrorism.	L4 Analyse and L5 Evaluate	4.5	2.199257143
CO5	Understands and get deeper knowledge regarding the development and under development of different countries and politics involved in it.	L4 Analyse and L6 Create	5	2.110285714

CO-PO Mapping

1. Low, 2- Moderate, 3- High, '-' No Correlation

	PO:1 Critical Thinking	PO:2 Effective Communication	PO:3 Social Interaction	PO:4 Effective Citizenship	PO:5 Ethics	PO:6 Environment and Sustainability	PO:7 Employa-bility skills	P**O:8** Entrepreneur-ship skills	PO:9 Self-directed and Life-long Learning
CO:1	2	3	3	2	-	-	-	-	2
CO:2	2	2	3	2	-	-	-	-	1
CO:3	2	2	3	2	-	-	2	-	2
CO:4	2	-	2	2	-	-	2	-	1
CO:5	3	1	2	3	-	-	3	-	3

CO-PSO Mapping

1.Low, 2- Moderate, 3- High, '-' No Correlation

	PSO:1	PSO:2	PSO:3	PSO:4	PSO:5
CO:1	2	2	2	2	3
CO:2	2	3	1	3	2
CO:3	1	2	2	2	3
CO:4	3	1	3	3	2
CO:5	2	1	3	3	1

ATTAINMENT OF POs

	PO:1 Critical Thinking	PO:2 Effective Communication	PO:3 Social Interaction	PO:4 Effective Citizenship	PO:5 Ethics	PO:6 Environment and Sustainability	PO:7 Employa-bility skills	PO:8 Entrepreneur-ship skills	PO:9 Self-directed and Life-long Learning
CO:1	5.288229	7.932343	7.932343	5.288229	0	0	0	0	5.288229
CO:2	4.7544	4.7544	7.1316	4.7544	0	0	0	0	2.3772
CO:3	4.7544	4.7544	7.1316	4.7544	0	0	4.7544	0	4.7544
CO:4	4.398514	0	4.398514	4.398514	0	0	4.398514	0	2.199257
CO:5	6.330857	2.110286	4.220571	6.330857	0	0	6.330857	0	6.330857
Final Program Attainment	**2.320582**	**2.443929**	**2.370356**	**2.320582**	**#DIV/0!**	**#DIV/0!**	**2.211967**	**#DIV/0!**	**2.327771**

ATTAINMENT OF PSOs

	PSO:1	PSO:2	PSO:3	PSO:4	PSO:5
CO:1	5.288229	5.288229	5.288229	5.288229	7.932343
CO:2	4.7544	7.1316	2.3772	7.1316	4.7544
CO:3	2.3772	4.7544	4.7544	4.7544	7.1316
CO:4	6.597771	2.199257	6.597771	6.597771	4.398514
CO:5	4.220571	2.110286	6.330857	6.330857	2.110286
Final Program Attainment	**2.323817**	**2.387086**	**2.304405**	**2.315604**	**2.393377**

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DEPARTMENT OF HINDI

CO & PO

2018 – 2019

Dr.V.S.KRISHNA GOVT. DEGREE COLLEGE

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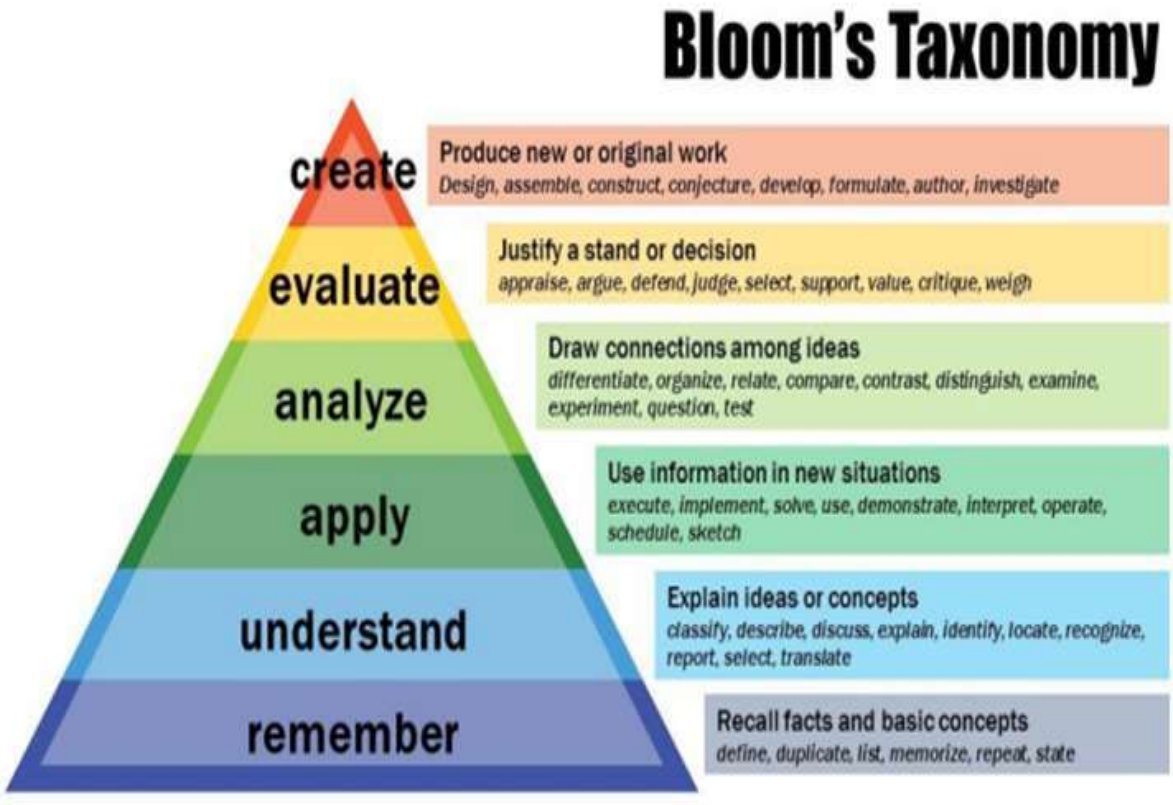
Levels of Bloom's Taxonomoy

Level-1	Knowlede/Remember
Level-2	Understand
Level-3	Application
Level-4	Analyze
Level-5	Evaluation
Level-6	Create



PROGRAMME OUTCOMES

POs	Programme Outcomes
PO1	Critical Thinking: Ability to take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid,and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
PO2	Effective Communication: Ability to speak, read, write, and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media, and technology
PO3	Social Interaction: Ability to elicit views of others, mediate disagreements and help reach conclusions in group settings.
PO4	Effective Citizenship: Ability to demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.
PO5	Ethics: Ability to recognize different value systems including our own, understand the moral dimensions of your decisions, and accept responsibility for them.
PO6	Environment and Sustainability: Ability to understand the issues of environmental contexts and sustainable Development.
PO7	Employability skills: Equipping graduates with the essential abilities and knowledge to excel in their choosen careers.
PO8	Entrepreneurship skills: Seeks to empower students with the competencies needed to be successful entrepreneurs, enabling them to launch, operate, and innovate in their own businesses or entrepreneurial ventures.
PO9	Self-directed and Life-long Learning: Acquire the ability to engage in independent and life-long learning in the broadest

PROGRAMME SPECIFIC OUTCOMES:

PSOs	Program Specific Outcomes (PSOs)
PSO1	A student should be able to recall basic facts about Hindi and should be able to display knowledge of conventions such as notations, terminology.
PSO2	A student should get adequate exposure to global and local concerns that explore them many aspects of Hindi language.
PSO3	Student is equipped with Hindi language ability, problem solving skills, relative talent and power of communication necessary for various kinds of employment.
PSO4	Student should be able to apply their skills and knowledge that is translate information resented verbally into Hindi language.
PSO5	Enabling students to develop a positive attitude towards Hindi as an interesting and valuable subject of study.

SEMESTER- 1

PAPER-1: GENERAL HINDI

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Develop Hindi reading & linguistic comprehension of students	L1(REMEMBER)	1	2.9069
CO2	Inculcate moral and human values within Themselves	L2(UNDERTSAND)& L5(EVALUATE)	3.5	2.6743
CO3	Understand the types of Hindi Short Story Writing. Use their moral and social sense in life	L3(APPLICATION)& L4(ANALYZE)	3.5	2.6743
CO4	It gives knowledge of the word formation besides the knowledge in Hindi Grammar	L4(ANALYZE)& L5(EVALUATE)	4.5	2.5812
CO5	Knowledge on writing skills, research Skills and Translation Skills	L4(ANALYZE)& L6(CREATE)	5	2.5347

CO- PO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	1	1	0	0	1	0	1	1	2
C02	2	2	1	0	2	0	1	1	1
CO3	1	2	1	1	2	0	2	1	1
CO4	2	1	1	1	1	3	1	1	1
CO5	2	1	1	2	1	2	2	1	1
TOTAL	8	7	4	4	7	5	7	5	6

CO- PSO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	2	3	1	0
C02	3	3	2	1	0
CO3	3	2	2	1	1
CO4	3	3	1	1	1
CO5	0	0	2	3	2
TOTAL	11	10	10	7	4

SEMESTER- 2

PAPER-1: GENERAL HINDI

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Develop Reading, Writing &Communication skills	L1(REMEMBER)	1	2.7688
CO2	Develop knowledge of Literary forms in Hindi Story.	L2(UNDERTSAND)& L5(EVALUATE)	3.5	2.1907
CO3	Develop the story reading skills.	L3(APPLICATION)& L4(ANALYZE)	3.5	2.1907
CO4	Know the importance of criticism. Develop knowledge of Hindi Linguistics &Grammar.	L4(ANALYZE)& L5(EVALUATE)	4.5	1.9594
CO5	Knowledge on writing skills, research Skills and Translation Skills	L4(ANALYZE)& L6(CREATE)	5	1.8438

CO- PO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	3	1	0	3	1	0	0	1
C02	3	3	2	2	3	3	1	1	2
CO3	2	2	3	2	2	2	3	2	2
CO4	2	2	3	2	2	2	2	1	2
CO5	2	1	1	2	1	2	2	1	1
TOTAL	11	11	10	8	11	10	8	5	8

CO- PSO MAPPING

1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	3	3	2	2
C02	3	2	3	1	3
CO3	3	2	2	3	3
CO4	3	3	2	1	3
CO5	0	0	2	3	2
TOTAL	11	10	12	10	13

SEMESTER- 3

PAPER-1: GENERAL HINDI

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Know the brief literature in Bhakti Sahitya. Use literature to develop their social and moral sense in life.	L1(REMEMBER)	1	2.7857
CO2	Get introduced to the General Essay. Gains research skills and improves critical-thinking skills.	L2(UNDERTSAND)& L5(EVALUATE)	3.5	2.2500
CO3	Identifying the eminent Hindi writers Describing the spirit of nationalism as well as nature consciousness in Makhan lal Chaturvedi's poem **चरण चले, ईमान अचल हो!**	L3(APPLICATION)& L4(ANALYZE)	3.5	2.2500
CO4	Learn values through literary works. Understanding the origin of Hindi language and its literature.	L4(ANALYZE)& L5(EVALUATE)	4.5	2.0357
CO5	Knowledge on writing skills, research Skills and Translation Skills	L4(ANALYZE)& L6(CREATE)	5	1.9286

CO- PO MAPPING 1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	2	1	2	1	0	1	1	2
C02	1	1	1	2	2	0	0	0	1
CO3	2	3	3	2	2	2	1	1	2
CO4	2	3	2	0	0	2	1	1	1
CO5	2	1	1	2	1	2	2	1	1
TOTAL	9	10	8	8	6	6	5	4	7

CO- PSO MAPPING 1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION					
	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	2	3	2	2
C02	3	3	3	1	2
CO3	3	2	2	2	2
CO4	0	1	2	2	2
CO5	0	0	2	3	2
TOTAL	8	8	12	10	10

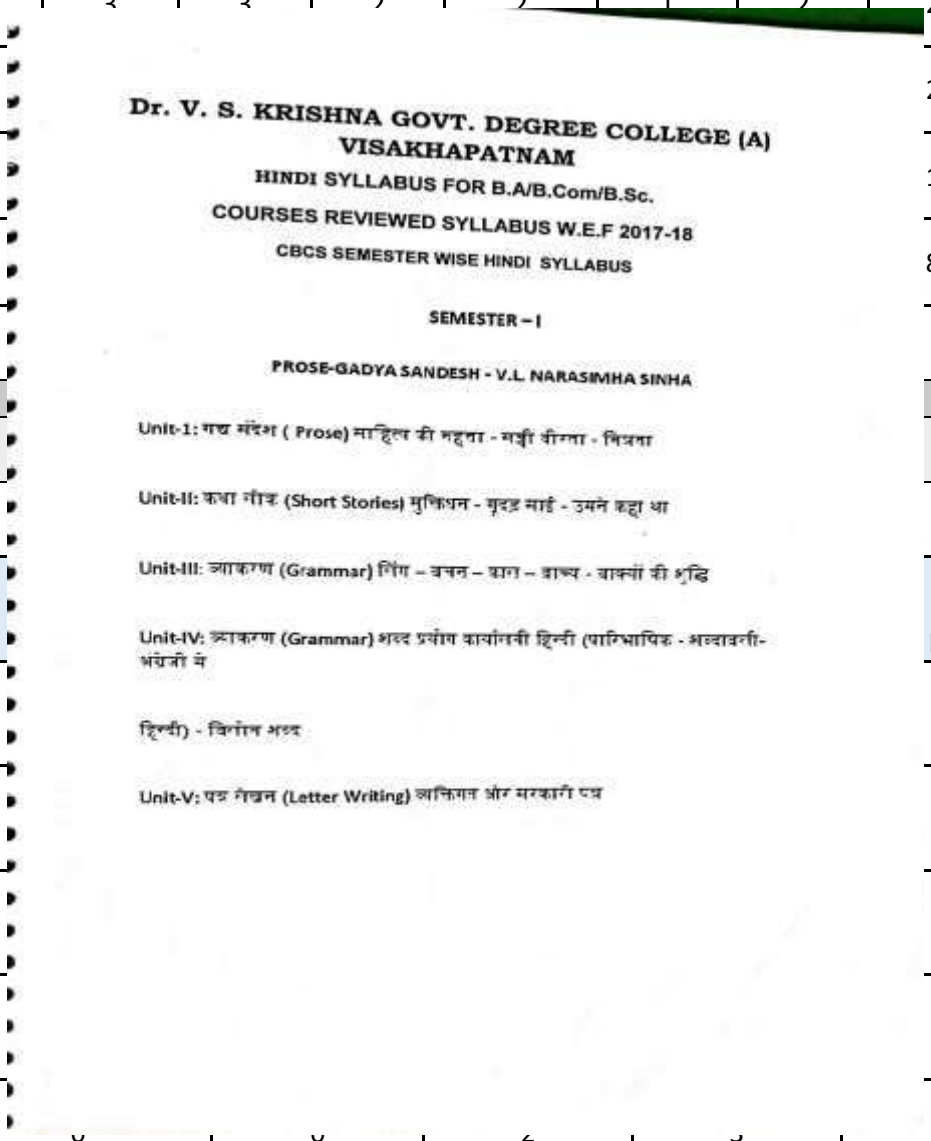
SEMESTER- 4

PAPER-1: GENERAL HINDI

Learning Outcomes: On Completion of the course, the students will be able to		Correlation with Bloom's Taxonomy Learning Levels	CO Learning Level Index	CO Attainment
CO 1	Learn about the Languages and importance of Hindi Literature.	L1(REMEMBER)	1	2.9679
CO2	Understand the Emergence of Culture and moral values and Ethics.	L2(UNDERTSAND)& L5(EVALUATE)	3.5	2.8875
CO3	Know the psychological aspects of social behavior	L3(APPLICATION)& L4(ANALYZE)	3.5	2.8875
CO4	Comprehend the Literature	L4(ANALYZE)& L5(EVALUATE)	4.5	2.8554
CO5	Knowledge on writing skills, research Skills and Translation Skills	L4(ANALYZE)& L6(CREATE)	5	2.8393

CO- PO MAPPING
1- LOW, 2- MODERATE, 3- HIGH, 0- NO CORRELATION

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	2	2	3	3	1	1	1	2
C02	2	2	2	2	3	2	1	2	2
CO3	2	3	3	2	2	1	2	2	2
CO4	2							2	2
CO5	2							1	1
TOTAL	10							8	9



Dr. V. S. KRISHNA GOVT. DEGREE COLLEGE (A)
VISAKHAPATNAM

HINDI SYLLABUS FOR B.A/B.Com/B.Sc.

COURSES REVIEWED SYLLABUS W.E.F 2017-18

CBCS SEMESTER WISE HINDI SYLLABUS

SEMESTER – I

PROSE-GADYA SANDESH - V.L. NARASIMHA SINHA

Unit-1: गद्य संदेश (Prose) साहित्य की महत्ता - सच्ची वीरता - मित्रता

Unit-II: कथा लोक (Short Stories) मुक्तिधन - गृहद्र साई - उसने कहा था

Unit-III: व्याकरण (Grammar) लिंग – वचन – काल – वाच्य - वाक्यों की शुद्धि

Unit-IV: व्याकरण (Grammar) शब्द प्रयोग कार्यालयी हिन्दी (पारिभाषिक - शब्दावली- अंग्रेजी में

हिन्दी) - विलोम शब्द

Unit-V: पत्र लेखन (Letter Writing) व्यक्तिगत और सरकारी पत्र

					PSO5
CO1					2
C02					2
CO3					1
CO4					2
CO5	0	0	2	3	2
TOTAL	9	8	9	10	9

2018-2019

Dr. V. S. KRISHNA GOVT. DEGREE COLLEGE (A)
VISAKHAPATNAM

HINDI SYLLABUS FOR B.A/B.Com/B.Sc.

COURSES REVIEWED SYLLABUS W.E.F ~~2017-18~~ 2018-19

CBCS SEMESTER WISE HINDI SYLLABUS

SEMISTER -III

Unit	III Sem
1. काव्यदीप (Ancient and Modern Poetry)	कबीरदास – साखी 1-10 सूरदास का अंश वर्णित मातृभूमि तोड़ती पत्थर गीत फरोश
2. हिन्दी साहित्य का इतिहास (History of Hindi Literature)	भक्तिकाल ज्ञानाश्रयी शाखा – कबीर प्रेमाश्रयी शाखा – जायसी
3. साधारण निबंध (General Essays)	समाचार पत्र बेकारी की समस्या कंप्यूटर पर्यावरण और प्रदूषण साहित्य और समाज (Changing Administrative Hindi to English to Hindi)
4. अनुवाद (Translation)	अनुवाद अभ्यास-अंग्रेजी से हिन्दी (Four or Five Lines)
5. प्रयोजन मूलक हिन्दी (Functional Hindi)	परिपत्र ज्ञापन सूचना

2018-19 IV Semester HINDI model paper

Syllabus W.e.f. 2017-18

unit I

1. काव्यदीप (Ancient and modern poetry)

1. तुलसीदास
2. मीराबाई
3. मातृभाषा के प्रति
4. ओ दीपक! बुझने के पहले

II unit

गद्य संदेश एवम कथा लोक (Prose & short stories)

5 बिन्दा
6 पृथ्वीराज की आँखें
7 भग्नावशेष
8. और वह पढ़ गई

unit III

(हिन्दी साहित्य का इतिहास एवम व्याकरण (History of Hindi literature & grammer)

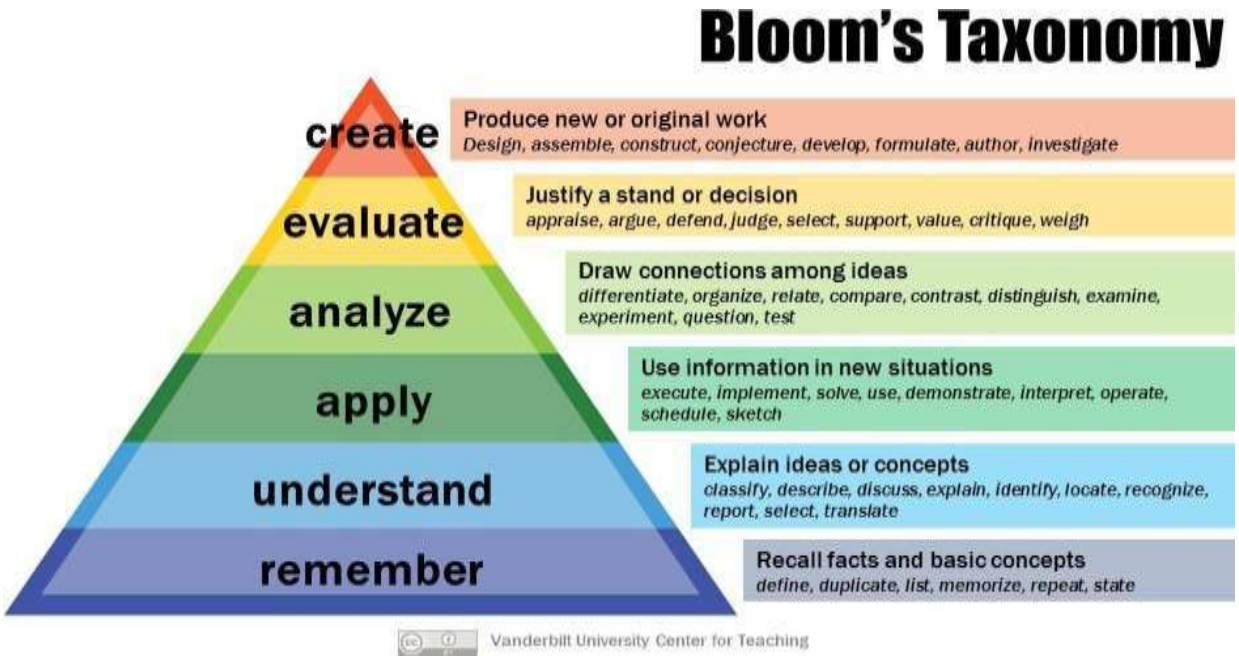
9. भक्तिकाल
10. राम भक्ति शाखा
11 कृष्ण भक्ति शाखा

व्याकरण

1 कारक
2 'ने' प्रत्यय
3 अनुवाद
4 पत्र

Department of HINDI
Programme Name: **GENERAL HINDI**

Level-1	**Knowlede/Remember**
Level-2	**Understand**
Level-3	**Application**
Level-4	**Analyze**
Level-5	**Evaluation**
Level-6	**Create**



	Programme Outcome
PO 1	**Critical Thinking**: Ability to take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
PO 2	**Effective Communication:** Ability to speak, read, write, and listen clearly in person and through electronic media in Hindi and in one Indian language, and make meaning of the world by connecting people, ideas, books, media, and technology.
PO 3	**Social Interaction:** Ability to elicit views of others, mediate disagreements and help reach conclusions in group settings.
PO 4	**Effective Citizenship:** Ability to demonstrate pathetic social concern and equity centered national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.
PO 5	**Ethics:** Ability to recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.
PO 6	**Environment and Sustainability:** Ability to understand the issues of environmental contexts and sustainable development
PO 7	**Employability skills:** Equipping graduates with the essential abilities and knowledge to excel in their chosen careers
PO 8	**Entrepreneurship skills:** Seeks to empower students with the competencies needed to be successful entrepreneurs, enabling them to launch, operate, and innovate in their own businesses or entrepreneurial ventures.
PO 9	**Self-directed and Life-long Learning:** Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes

PSO1	A student should be able to recall basic facts about Hindi and should be able to isplay knowledge of conventions such as notations , terminology.
PSO2	A student should get adequate exposure to global and local concerns that explore hem many aspects of Hindi language.
PSO3	Student is equipped with Hindi language ability, problem solving skills, relative talent and power of communication necessary for various kinds of employment.
PSO4	Student should be able to apply their skills and knowledge that is translate information resented verbally into Hindi language.
PSO5	Enabling students to develop a positive attitude towards Hindi as an interesting and valuable subject of study.

CO-PO

	PO:1 Critical Thinking	PO:2 Effective Communication	PO:3 Social Interaction	PO:4 Effective Citizenship	PO:5 Ethics	PO:6 Environment and Sustainability	PO:7 Employa-bility skills	PO:8 Entrepreneur-ship skills	PO:9 Self-directed and Life-long Learning
CO:1	2	-	2	1	2	-	2	1	1
CO:2	1	2	2	1	1	2	-	2	1
CO:3	3	1	3	2	3	-	3	-	1
CO:4	3	2	1	-	1	1	2	2	-
CO:5	-	2	2	1	1	-	-	-	-

CO-PSO

1. Low, 2- Moderate, 3- High, '-' No Correlation

	PSO:1	PSO:2	PSO:3	PSO:4	PSO:5	PSO:6
CO:1	2	2	2	1	3	2
CO:2	2	1	2	1	1	2
CO:3	3	2	2	3	3	1
CO:4	1	1	2	2	2	3
CO:5	-	1	3	-	-	1

Dr. V. S .KRISHNA GOVT. DEGREE COLLEGE (AUTONOMOUS)
VISAKHAPATNAM
HINDI SYLLABUS FOR B.Sc., B.Com., B.A.
CBCS SEMESTER WISE HINDI SYLLABUS W.E.F. 2019-2020
SEMESTER-I

UNIT	TOPIC
UNIT-I गद्य संदेश	1.साहित्य की महात्ता 2.सच्ची वीरता 3.मित्रता
UNIT-II कथा लोक	1.मुक्तिधन 2.गूदड साई 3.उसने कहा था
UNIT-III व्याकरण	लिंग वचन वाच्य वाक्यों की शुद्धि विलोम शब्द
UNIT-IV अनुवाद	पारिभाषिक शब्दावली-अंगेजी से हिन्दी में अनुवाद
UNIT-V पत्र लेखन	व्यक्तिगत पत्र सरकारी पत्र

Dr. V. S .KRISHNA GOVT. DEGREE COLLEGE (AUTONOMOUS)
FIRST YEAR BSc., BCom, B.A.
FIRST SEMESTER: 2019-2020
GENERAL HINDI MODEL PAPER

TIME : 3 Hrs. Max. Marks :60

SECTION-A

I. नीचे दिए गए सभी प्रश्नों के उत्तर दीजिए। 5×8=40

1. अ) साहित्य किसे कहते हैं? इसका सहित्य से क्या संबंध हैं?

(या)

आ) वीरता किसे कहते हैं? लेखक का सच्ची वरिता से क्या अभिप्राय हैं?

2. अ) मुन्शी प्रेमचन्द द्वारा लिखी गयी कहानी मुक्तिधन पर प्रकाश डालिए?

(या)

आ) जयशंकर प्रसाद द्वारा लिखी गयी साई कथा पर प्रकाश डालिए।

3. अ) विश्वासपात्र मित्र जीवन की एक औषधि हैं। (संदर्भ सहित व्याख्या कीजिए)

(या)

आ) 'उसने कहा था' कहानी का सारांश लिखिए।

4.अ) तीन दिन की छुट्टी माँगते हुए प्रधानाचार्य के नाम पत्र लिखिए।

(या)

आ) आवश्यक पुस्तकें मँगते हुए पुस्तक विक्रेता के नाम पत्र लिखिए।

5. अ) ज्ञान राशि के संचित कोश ही का नाम साहित्य हैं। (संदर्भ सहित व्याख्या कीजिए)

(या)

आ) सच्चे वीर पुरुष धीर, गंभीर और आजाद होते हैं। (संदर्भ सहित व्याख्या कीजिए)

SECTION-B

II. किन्हीं पाँच प्रश्नों के उत्तर दीजिए। 5×4=20

1. किन्हीं चार वाक्यों के लिंग वदलकर वाक्यों को फिर से लिखिए।

अ)घर में ससुर है। आ) मोर नाच रहा हैं। इ) गाय चर रही हैं। ई) कुत्ता दौडता हैं।

उ) शेर गरजता हैं। ऊ) वह मशहूर लेखक हैं।

2. किन्हीं चार रेखांकित शब्दों के वचन बदलकर वाक्यों को फिर से लिखिए।

अ)घोडा तेज दौडता हैं। आ)कपडा सस्ता हैं। इ)बच्चा खेल रहा हैं। ई)चिडिया उड रही हैं।

उ)लडके पढ रहे हैं। ऊ) महिला गा रही हैं।

3. किन्हीं चार वाक्यों को शुद्ध कीजिए

अ)गोपाल एक आम खाया। आ)श्याम ने किताब पढ चुका।

इ)अपने पिताजी से दस रूपये पूछो। ई)राम ने राटी खाया।

उ)तुम तुम्हारा नाम बताओ। ऊ) मीना की भाई सुंदर है।

4. किन्हीं चार शब्दों के विलोम शब्द लिखिए।

अ) आनन्द आ)जीवन इ)अनुकूल ई)उत्थान उ)कठोर ऊ) कृतज्ञ

5. किसी एक पात्र का चरित्र चित्रण कीजिए।

अ) ~~स्लीम~~ रहमान आ)साई इ)लहनासिंह

6. किन्हीं चार वाक्यों के वाच्य बदलिए।

अ)राम पुस्तक पढता हैं। आ)राधा नहीं सोता।

इ) गीता से रोटी खायी गयी। ई)वह नहीं खेलता।

उ) प्रेमचन्द ने कहानी लिखी। ऊ)सूरज ने आम खाया।

7. किन्हीं चार पारिभाषिक शब्दों के अनुवाद हिन्दी में कीजिए।

अ) Earned Leave आ) Data इ) Commission ई) Agreement

उ) Office Order ऊ) Acknowledgemwnt

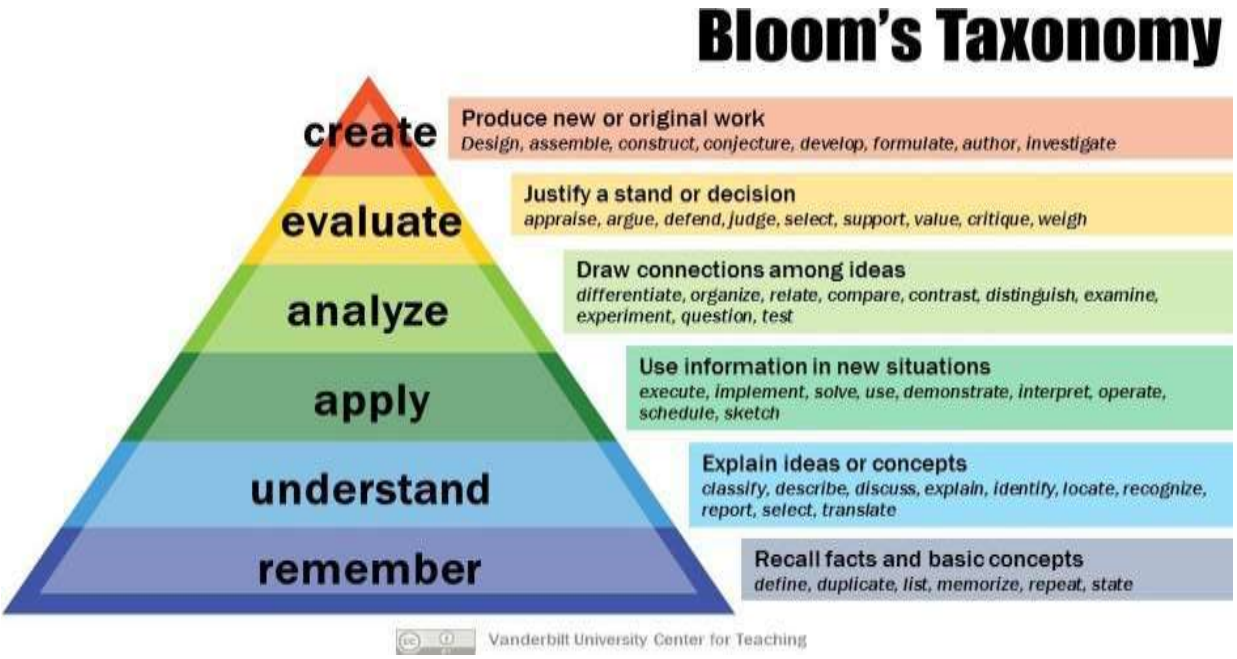
8. किन्हीं चार कार्यालयी शब्दों के अनुवाद हिन्दी में कीजिए।

अ)Circular आ) Acceptance इ) General Manager

ई)Governor उ) General Secretary ऊ) Auditor General

Department of HINDI
Programme Name : G e n e r a l H I N D I

Level-1	**Knowlede/Remember**
Level-2	**Understand**
Level-3	**Application**
Level-4	**Analyze**
Level-5	**Evaluation**
Level-6	**Create**



COURSE 1:

	Programme Outcome
PO 1	**Critical Thinking**: Ability to take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
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PSO4	Student should be able to apply their skills and knowledge that is translate information resented verbally into Hindi language.	
PSO5	Enabling students to develop a positive attitude towards Hindi as an interesting and valuable subject of study.	

CO-PO Mapping

1-Low, 2- Moderate, 3-High, '-'No Corelation

	PO:1 Critical Thinking	PO:2 Effective Communication	PO:3 Social Interaction	PO:4 Effective Citizenship	PO:5 Ethics	PO:6 Environment and Sustainability	PO:7 Employa-bility skills	PO:8 Entrepreneur-ship skills	PO:9 Self-directed and Life-long Learning
CO1	2	-	2	1	2	-	2	1	1
CO2	1	2	2	1	1	2	-	2	1
CO3	3	1	3	2	3	-	3	-	1
CO4	3	2	1	-	1	1	2	2	-
CO5	-	2	2	1	1	-	-	-	-

CO-PSO Mapping

1-Low, 2- Moderate, 3-High, '-'No Corelation

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	2	2	2	1	3	2
CO2	2	1	2	1	1	2
CO3	3	2	2	3	3	1
CO4	1	1	2	2	2	3
CO5	-	1	3	-	-	1

Dr. V. S .KRISHNA GOVT. DEGREE COLLEGE (AUTONOMOUS)
VISAKHAPATNAM
HINDI SYLLABUS FOR B.Sc., B.Com., B.A.
CBCS SEMESTER WISE HINDI SYLLABUS W.E.F. 2019-2020
SEMESTER-II

UNIT	TOPIC
UNIT-I गद्य संदेश	1.संस्कृति और शाहित्य का पास्पर सम्वंध 2.भारत एक हैं 3.एच.आई.वी.,एड्स
UNIT-II कथा लोक	1.जरिया 2.भूख हडताल 3.परमात्मा का कुत्ता
UNIT-III व्याकरण	वाक्यों में प्रयोग संधि विच्छेद काल
UNIT-IV अनुवाद	पारिभाषिक शब्दावली-अंगेजी से हिन्दी में अनुवाद
UNIT-V पत्र लेखन	आवेदन पत्र शिकायती पत्र

1004
2004
3004

Dr. V. S .KRISHNA GOVT. DEGREE COLLEGE (AUTONOMOUS)

FIRST YEAR: B.Sc., B.Com., B.A.

SECOND SEMESTER : 2019-2020

GENERAL HINDI MODEL PAPER

TIME : 3 Hrs. **Max. Marks :60**

SECTION-A

I. नीचे दिये गये सभी प्रश्नों के उत्तर दीजिए। $5\times8=40$

1. अ)साहित्य और संस्कृति का संवंध निवंध का सार प्रस्तुत कीजिए।

(या)

आ)एच.आई.वी. /एड्स के इतिहास पर प्रकाश डालिए।

2. अ)भारत एक हैं पाठ का सारांश लिखिए।

(या)

आ)रामायण और महाभारत से क्या शिक्षा प्राप्त होती हैं?

3. अ)जरिया कहानी का सारांश प्रस्तुत कीजिए।

(या)

आ)भूख हडताल कहानी का सारांश लिखिए।

4. अ)कहते है पहले अगस्त्य ऋषि ने विन्ध्याचल को पार करके दक्षिण के लोगों को अपना संदेश सुनाया था। (संदर्भ सहित व्याख्या कीजिए)

(या)

आ)जिस प्रकार समाज और साहित्य का संवंध अनिवार्य हैं उसी प्रकार संस्कृति और साहित्य का संवंध भी अनिवार्य हैं। (संदर्भ सहित व्याख्या कीजिए)

5. अ)अपने छात्रावास जीवन का वर्णन करते हुए मित्र के नाम पत्र लिखिए।

(या)

आ)अपने नगर पालिका आयुक्त के नाम नौकरी पाने के लिए पत्र लिखिए।

SECTION-A

II. निम्नलिखित प्रश्नों में से किन्हीं पाँच प्रश्नों के उत्तर दीजिए। $5 \times 4 = 20$

1.किसी एक पात्र का चरित्र चित्रण कीजिए।

अ)अधेड आदमी आ)नारायणराव इ)मैं

2.किन्हीं चार कार्यालयीन शब्द को हिन्दी में अनुवाद कीजिए ।

अ)All India Radio आ) Adminisrtation इ)Muncipality

ई)Finance Commission उ) Embassy ऊ) Application

3. किन्हीं चार प्रशासनिक शब्दों को हिन्दी में अनुवाद कीजिए ।

अ) Abbreviated address आ) Absentee statement

इ)According to ई)Account Book

उ)Advertisement ऊ) Appointing Authority

4. किन्हीं चार शब्दों को वाक्यें में प्रयोग कीजिए।

अ)दुर्भिक्ष आ) चिरस्थायी इ)तिनके का सहारा ई) आद्यंत उ)बसर करना ऊ)विरासत

5. किन्हीं चार शब्दों का संधि विच्छेद कीजिए।

अ)जगन्नाथ आ)सच्चरित्र इ)स्वागत ई)मतैक्य उ)मनोहर ऊ)प्रातःकाल

6. रामधारी सिंह दिनकर जी का परिचय दीजिए।

7.किन्ही चार पदनामों का अनुवाद हिन्दी में कीजिए।

अ) Accountant General आ) Cabinet Secretary

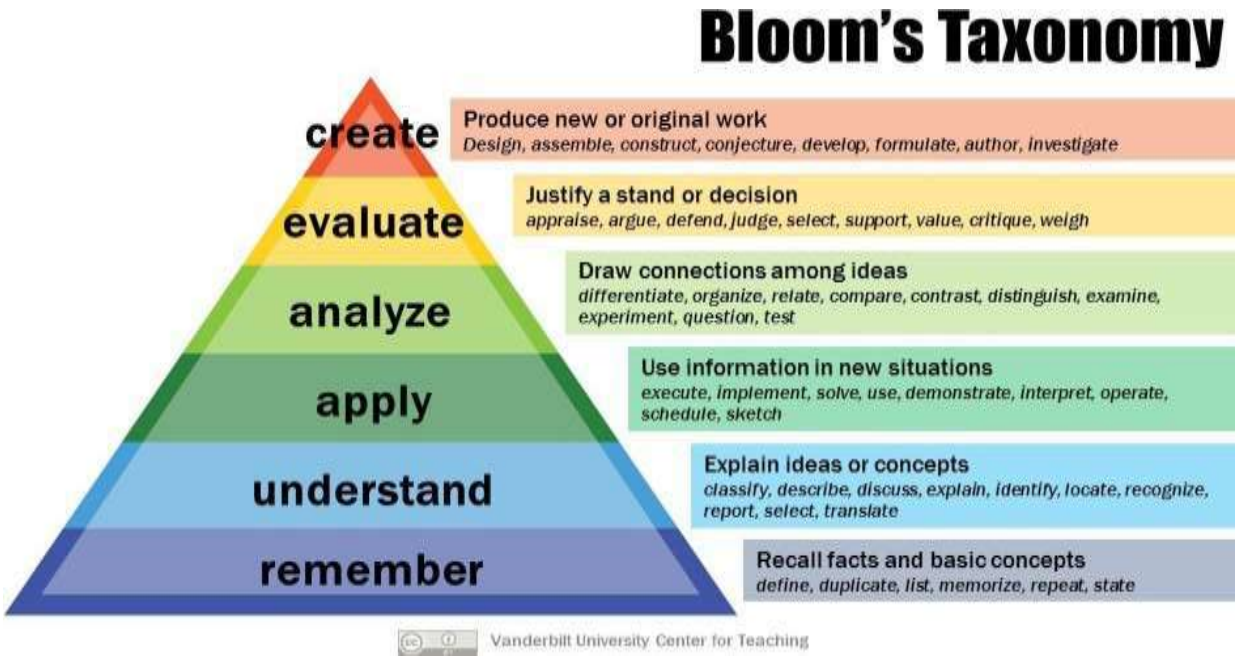
इ) General Secretary ई) Joint Director

उ) Election Commissioner ऊ) Labour Officer

8.स्वर संधि की परिभाषा और उसके प्रकार लिखिए।

Department of HINDI
Programme Name: **General HINDI**

Level-1	**Knowlede/Remember**
Level-2	**Understand**
Level-3	**Application**
Level-4	**Analyze**
Level-5	**Evaluation**
Level-6	**Create**



COURSE 1: General Hindi

	Programme Outcome
PO 1	**Critical Thinking**: Ability to take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
PO 2	**Effective Communication:** Ability to speak, read, write, and listen clearly in person and through electronic mediain English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media, and technology.
PO 3	**Social Interaction:** Ability to elicit views of others, mediate disagreements and help reach conclusions in group settings.
PO 4	**Effective Citizenship:** Ability to demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues andparticipate in civic life through volunteering.
PO 5	**Ethics:** Ability to recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.
PO 6	**Environment and Sustainability:** Ability to understand the issues of environmental contexts and sustainable development
PO 7	**Employability skills:** Equipping graduates with the essential abilities and knowledge to excel in their chosen careers
PO 8	**Entrepreneurship skills:** Seeks to empower students with the competencies needed to be successful entrepreneurs, enabling them to launch, operate, and innovate in their own businesses or entrepreneurial ventures.
PO 9	**Self-directed and Life-long Learning:** Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes

PSO1	A student should be able to recall basic facts about Hindi and should be able to isplay knowledge of conventions such as notations , terminology.	
PSO2	A student should get adequate exposure to global and local concerns that explore hem many aspects of Hindi language.	
PSO3	Student is equipped with Hindi language ability, problem solving skills, relative talent and power of communication necessary for various kinds of employment.	
PSO4	Student should be able to apply their skills and knowledge that is translate information resented verbally into Hindi language.	
PSO5	Enabling students to develop a positive attitude towards Hindi as an interesting and valuable subject of study.	

CO-PO Mapping
1-Low, 2- Moderate, 3-High, '-'No Corelation

	PO:1 Critical Thinking	PO:2 Effective Communication	PO:3 Social Interaction	PO:4 Effective Citizenship	PO:5 Ethics	PO:6 Environment and Sustainability	PO:7 Employa-bility skills	PO:8 Entrepreneur-ship skills	PO:9 Self-directed and Life-long Learning
CO1	2	-	2	1	2	-	2	1	1
CO2	1	2	2	1	1	2	-	2	1

CO3	3	1	3	2	3	-	3	-	1
CO4	3	2	1	-	1	1	2	2	-
CO5	-	2	2	1	1	-	-	-	-

CO-PSO Mapping

1-Low, 2- Moderate, 3-High, '-'No Corelation

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	2	2	2	1	3	2
CO2	2	1	2	1	1	2
CO3	3	2	2	3	3	1
CO4	1	1	2	2	2	3
CO5	-	1	3	-	-	1

Dr. V. S .KRISHNA GOVT. DEGREE COLLEGE (AUTONOMOUS)
VISAKHAPATNAM
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CBCS SEMESTER WISE HINDI SYLLABUS W.E.F. 2019-2020

SEMESTER-III

UNIT	TOPIC
UNIT-I काव्यदीप	1.कवीरदास-साखी 1-10 दोहे 2.सूरदास का वाल-वर्णन 3.मातृभूमि 4.तोडती पत्थर 5.गीत फरोश
UNIT-II हिन्दी साहित्य का इतिहास- भक्तिकाल	भक्तिकाल 1.ज्ञानाश्रयी शाखा 2.प्रमाश्रयी शाखा
UNIT-III साधारण निवंध	1.समाचार पत्र 2.वेकारी की समस्या 3.पर्यावरण और प्रदूषण 4.कम्प्यूटर 5.साहित्य और समाज
UNIT-IV अनुवाद	अंग्रेजी से हिन्दी
UNIT-V प्रयोजनमूलक हिन्दी	1.परिपत्र 2.कार्यालयी ज्ञापन 3.अधिसूचना

Dr. V. S .KRISHNA GOVT. DEGREE COLLEGE (AUTONOMOUS)

SECOND YEAR: B.Sc., B.Com., B.A.

III SEMESTER : 2019-2020

GENERAL HINDI MODEL PAPER

TIME : 3 Hrs. **Max. Marks :60**

SECTION-A

I. नीचे दिये गये सभी प्रश्नों के उत्तर दीजिए। $5 \times 8 = 40$

1. जाति न पूछो साधु की पूछ लीजिए ज्ञान।
मोल करो तलवार का पडा रहने दो म्यान।। (संदर्भ सहित व्याख्या कीजिए)

(या)

मेरी मन अनत कहाँ सुख पावै।
जैसे उडि जहाज को पंछी, पुनि जहाज पर आवै।।
कमल-नैन कौ छाँडि महातम और देव को ध्यावै।
परम गंग कौ छाँडि पियासौ, दुरमति कूप खनावै।।
जिहि मधुकर अंबुज-रस चाख्यौ, क्यौं करील-फल भावै।
सूरदास प्रभु कामधेनु ताजि, छेरी कौन दुहावै।। (संदर्भ सहित व्याख्या कीजिए)

2. पालन-पोषण और जन्म का कारण तूही
वक्षस्थल पर हमें कर रही धारण तू ही।
अभ्रंकश प्रसाद और ये महल हमारे
बने हुए है अहो! तुझी से तुझ पर सारे। (संदर्भ सहित व्याख्या कीजिए)

(या)

: र्मियों के दिन,
दिवा का तमतमाता रूप,
उठी झुलसाती हुई लू,
रुई ज्यों जलती हुई भू,
गर्द चिनगी छा गई; (संदर्भ सहित व्याख्या कीजिए)

3. तोडती पत्थर कविता का सारांश लिखिए।

(या)

गीत फरोश कविता का सारांश लिखिए।

4. ज्ञानाश्रयी शाखा के कवियों में कवीर का स्थान निर्धारित कीजिए।

(या)

प्रेममार्ग शाखा के प्रवर्तक के रूपमें जायसी का परिचय दीजिए।

5. कम्प्युटर विषय पर निवंध लिखिए।

(या)

पर्यावरण प्रदूषण विषय पर निवंध लिखिए।

SECTION-B

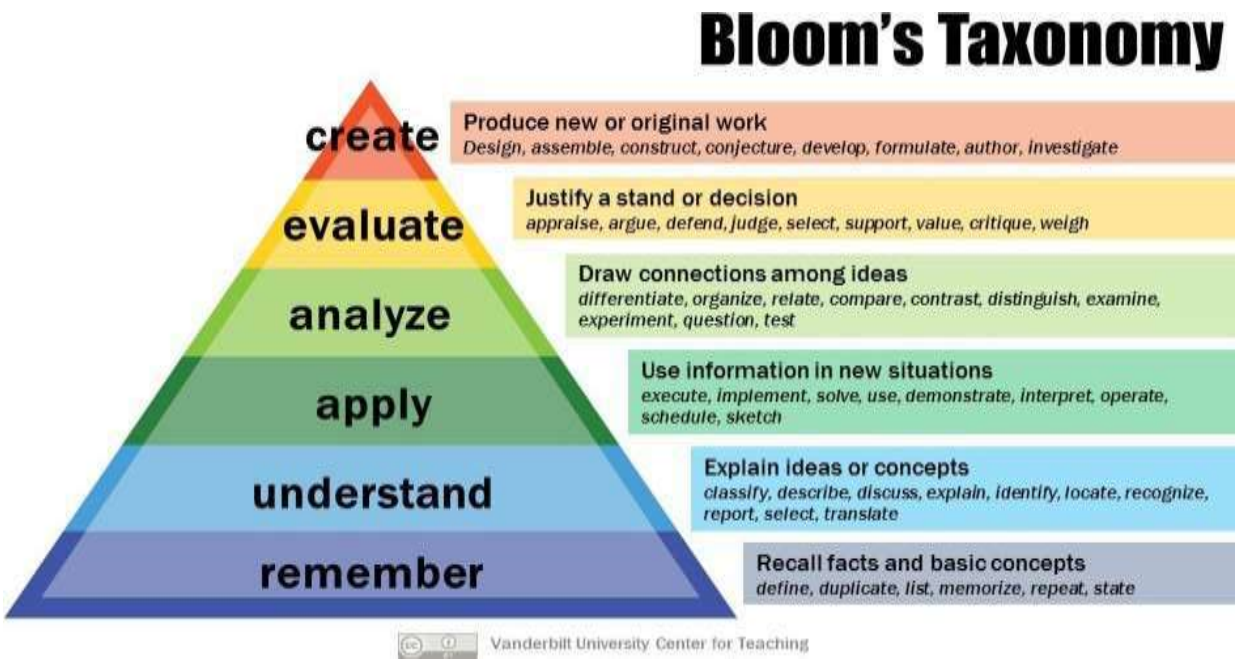
II. किन्हीं पाँच प्रश्नों के उत्तर दीजिए। **5×4=20**

1. सूर्यकांत त्रिपाठी निराला का साहित्यिक परिचय दीजिए।
2. मैथिलीशरण गुप्त का साहित्यिक परिचय दीजिए।
3. ज्ञानाश्रयी शाखा की सामान्य विशेषताएँ वताइये।
4. भक्तिकाल के विविध शाखाओं का परिचय दीजिए।
5. परिपत्र की परिभाषा लिखकर उसका प्रारूप तैयार कीजिए।
6. प्रेमाश्रयी शाखा की विशेषताएँ वताइये।
7. मूर्तिपूजा के प्रति कवीर का विचार क्या हैं?
8. निम्नलिखित परिच्छेद का अनुवाद कीजिए।

Discipline is very important in every walk of life. Discipline is the soulof military life. Without discipline an army is no better than a crowd. It is first thing needed for maintaining the harmony and concord in a family. It is equally necessary in maintaining peace and harmonious relation in society or in a nation.

Department of HINDI
Programme Name: **GENRAL HINDI**

Level-1	**Knowlede/Remember**
Level-2	**Understand**
Level-3	**Application**
Level-4	**Analyze**
Level-5	**Evaluation**
Level-6	**Create**



	Programme Outcome
PO 1	**Critical Thinking**: Ability to take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
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CO-PO Mapping

1-Low, 2- Moderate, 3-High, '-'No Corelation

		PO:1 Critical Thinking	PO:2 Effective Communication	PO:3 Social Interaction	PO:4 Effective Citizenship	PO: 5 Ethics	PO:6 Environment and Sustainability		PO:7 Employa-bility skills	PO:8 Entrepreneur-ship skills	PO:9 Self-directed and Life-long Learning
CO 1		2	-	2	1	2	-		2	1	1
CO 2		1	2	2	1	1	2		-	2	1
CO 3		3	1	3	2	3	-		3	-	1
CO 4		3	2	1	-	1	1		2	2	-
CO 5		-	2	2	1	1	-		-	-	-

CO-PSO Mapping

1-Low, 2- Moderate, 3-High, '-'No Corelation

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	2	2	2	1	3	2
CO2	2	1	2	1	1	2
CO3	3	2	2	3	3	1
CO4	1	1	2	2	2	3
CO5	-	1	3	-	-	1

Dr. V. S .KRISHNA GOVT. DEGREE COLLEGE (AUTONOMOUS)
VISAKHAPATNAM
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CBCS SEMESTER WISE HINDI SYLLABUS W.E.F. 2019-2020

SEMESTER-IV

UNIT	TOPIC
UNIT-I काव्यदीप	1. तुलसीदास- 1-10 दोहे 2. रहीम - 1-10 दोहे 3. मतृभाषा के प्रति 4. भारतमता 5. ठूँठ
UNIT-II हिन्दी साहित्य का इतिहास-भक्तिकाल	1.रामभक्ति शाखा-तुलसीदास 2.कृष्णभक्ति शाखा-सूरदास
UNIT-III साधारण निवंध	1.विज्ञान से हानि-लाभ 2.स्वच्छ भारत 3. विद्यार्थी और अनुशासन 4.एच.आई.वी./एड्स
UNIT-IV अनुवाद	अंग्रेजी से हिन्दी अनुवाद
UNIT-V प्रयोजनमूलक हिन्दी	1.राजभाषा 2.राष्ट्रभाषा 3.संपर्क भाषा

Dr. V. S .KRISHNA GOVT. DEGREE COLLEGE (AUTONOMOUS)

SECOND YEAR: B.Sc., B.Com., B.A.

IV SEMESTER : 2019-2020

GENERAL HINDI MODEL PAPER

TIME : 3 Hrs. **Max. Marks :60**

SECTION-A

II. नीचे दिये गये सभी प्रश्नों के उत्तर दीजए। $5\times8=40$

1. अ) तुलसी संत सुअम्ब तरु, फूलि फलहि पर हेत।
इतते यह पाहन हनत उतते वे फल देत। (संदर्भ सहित व्याख्या कीजिए)

(या)

आ)रहिमन देख वडेन को लघु न दीजिए डारि।
जहाँ काम आवै सुई, कहा करे तरवारि।। (संदर्भ सहित व्याख्या कीजिए)

2. अ)इक भाषा इक जीव इक मति सव घर के लोग।
तवे वनत हैं सवन सों, मिटत मूढता सोग।।
और एक अति लाभ यह, या में प्रगट लखात।
निज भाषा में कीजिए, जो विद्या की वात।। (संदर्भ सहित व्याख्या कीजिए)

(या)

आ)तीस कोटि संतान नग्न तन,
अन्न वस्त्र पीडित, अनपढ, जन,
झाडू फूस खर-के घर आंगन,
प्रणत शीष तरुतल निवासिनी। (संदर्भ सहित व्याख्या कीजिए)

3. अ)मातृभाषा के प्रति कविता का सारांश लिखिए।

(या)

आ)भारतमाता कविता का सारांश लिखिए।

4.अ) रामभक्ति शाखा के प्रमुख कवि तुलसीदास के व्यक्तित्व एवं कृतित्व पर प्रकाश डालिए।

(या)

आ)सगुण भक्ति काव्य के लक्षण वताते हुए सूरदास का परिचय दीजिए।

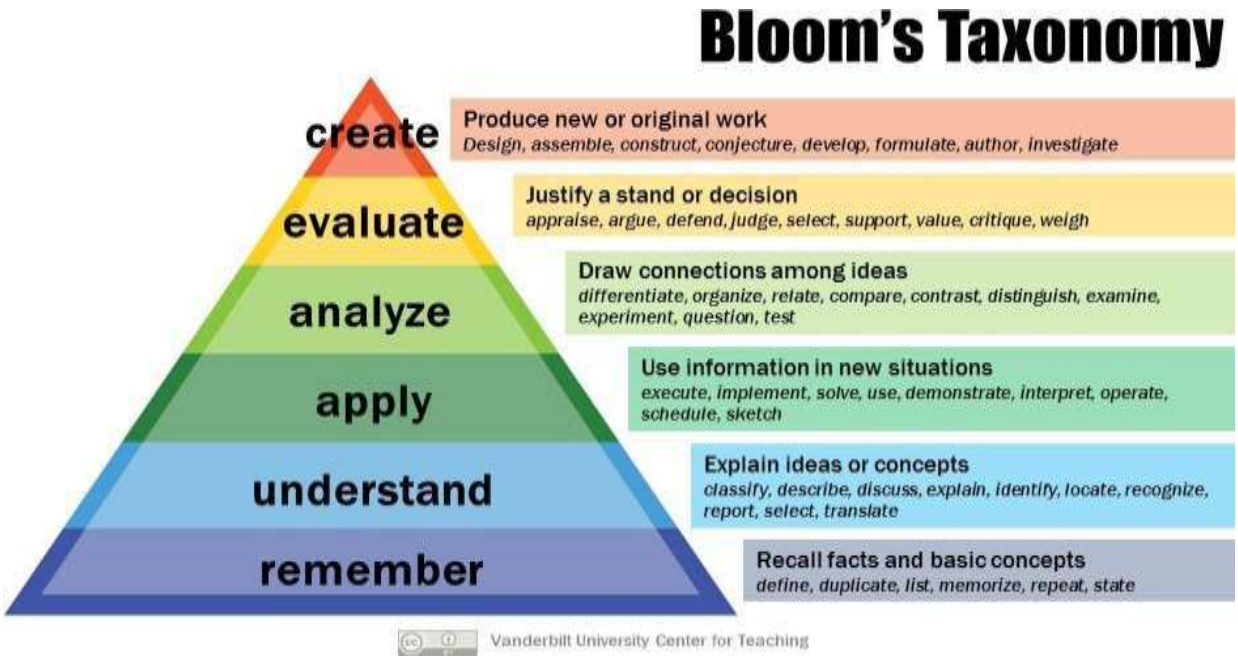
5.अ)'विद्यार्थि और अनुशासन' विषय पर निवंध लिखिए।

(या)

आ)'स्वच्छ भारत' विषय पर निवंध लिखिए।

Department of HINDI
Programme Name: **General Hindi**

Level-1	**Knowlede/Remember**
Level-2	**Understand**
Level-3	**Application**
Level-4	**Analyze**
Level-5	**Evaluation**
Level-6	**Create**



	Programme Outcome
PO 1	**Critical Thinking**: Ability to take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
PO 2	**Effective Communication:** Ability to speak, read, write, and listen clearly in person and through electronic mediain English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media, and technology.
PO 3	**Social Interaction:** Ability to elicit views of others, mediate disagreements and help reach conclusions in group settings.
PO 4	**Effective Citizenship:** Ability to demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues andparticipate in civic life through volunteering.
PO 5	**Ethics:** Ability to recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.
PO 6	**Environment and Sustainability:** Ability to understand the issues of environmental contexts and sustainable development
PO 7	**Employability skills:** Equipping graduates with the essential abilities and knowledge to excel in their chosen careers
PO 8	**Entrepreneurship skills:** Seeks to empower students with the competencies needed to be successful entrepreneurs, enabling them to launch, operate, and innovate in their own businesses or entrepreneurial ventures.
PO 9	**Self-directed and Life-long Learning:** Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes

PSO1	A student should be able to recall basic facts about Hindi and should be able to display knowledge of conventions such as notations , terminology.	
PSO2	A student should get adequate exposure to global and local concerns that explore them r ny aspects of Hindi language.	
PSO3	Student is equipped with Hindi language ability, problem solving skills, relative talent and power of communication necessary for various kinds of employment.	
PSO4	Student should be able to apply their skills and knowledge that is translate information resented verbally into Hindi.	
PSO5	Enabling students to develop a positive attitude towards Hindi as an interesting nd valuable subject of study.	

CO-PO Mapping

1-Low, 2- Moderate, 3-High, '-'No Corelation

	PO:1 Critical Thinking	PO:2 Effective Communication	PO:3 Social Interaction	PO:4 Effective Citizenship	PO:5 Ethics	PO:6 Environment and Sustainability	PO:7 Employa-bility skills	PO:8 Entrepreneur-ship skills	PO:9 Self-directed and Life-long Learning
CO1	2	-	2	1	2	-	2	1	1
CO2	1	2	2	1	1	2	-	2	1
CO3	3	1	3	2	3	-	3	-	1
CO4	3	2	1	-	1	1	2	2	-
CO5	-	2	2	1	1	-	-	-	-

CO-PSO Mapping

1-Low, 2- Moderate, 3-High, '-'No Corelation

	PSO1	**PSO2**	**PSO3**	**PSO4**	**PSO5**	**PSO6**
CO1	2	2	2	1	3	2
CO2	2	1	2	1	1	2
CO3	3	2	2	3	3	1
CO4	1	1	2	2	2	3
CO5	-	1	3	-	-	1

Dr.V.S.KRISHNA GOVT. DEGREE COLLEGE (A),
VISAKHAPATNAM
DEPARTMENT OF HINDI

FIRST YEAR B.A., /B.Com., /B.Sc., -: GENERAL HINDI (Prose, Short Stories and Grammar)

SEMESTER – I

Subject Code: 1004 Credits: 03 Teaching Hrs/Week: 04

SYLLABUS

UNIT	TOPIC
UNIT-I गद्य संदेश	1. साहित्य की महता 2. सच्ची वीरता 3. मित्रता
UNIT-II कथा लोक	1. मुक्तिधन 2. वापसी 3. उसने कहा था
UNIT-III व्याकरण	लिंग वचन वाच्य वाक्यों की शुद्धि
UNIT-IV अनुवाद	पारिभाषिक शब्दावली - अंग्रेजी से हिन्दी में अनुवाद
UNIT-V पत्र-लेखन	व्यक्तिगत पत्र सरकारी पत्र

Dr.V.S.KRISHNA GOVT. DEGREE COLLEGE(AUTONOMOUS)
DEPARTMENT OF HINDI
FIRST YEAR B.A., /B.Com., /B.Sc., I: GENERAL HINDI
SEMESTER -I
MODEL QUESTION PAPER

Subject Code:1004 **Time: 3 hrs** **Max. Marks.75**

PART - A

I. नीचे दिये गए सभी प्रश्नों के उत्तर दीजिए । 5 X 10 = 50

1. अ) साहित्य कसे कहते हैं? इसका साहित्य से क्या संबंध हैं?

(या)

आ)वीरता किसे कहते हैं? लेखक का सच्ची वीरता से क्या अभिप्राय हैं?

2. अ) मुंशी प्रेमचंद द्वारा लिखी गायी मुक्तिधन कहानी पर प्रकाश डालिए।

(या)

आ) वापसी कहानी का सारांश लिखिए।

3. अ) मित्रता निबंध पर प्रकाश डालिए।

(या)

आ) 'उसने कहा था' कहानी का सारांश लिखिए।

4. अ) पॉच दिन की छुट्टी माँगते हुये प्रधानाचारी के नाम पत्र लिखिए।

(या)

आ) आवश्यक पुस्तकें माँगते हुये पुस्तक विक्रेता के नाम पत्र लिखिए।

5. अ) विश्वास पात्र मित्र जीवन की एक औषधी हैं।

(या)

आ) सच्चे वीर पुरुष धीर गंभीर और आजाद होते हैं।

PART - B

II. किन्हीं पाँच प्रश्नों के उत्तर दीजिए । 5 X 5 = 25

1. किन्हीं पाँच वाक्यों के लिंग बदलकर वाक्यों को फिर से लिखिए।

अ) घर में <u>ससुर</u> हैं। उ) वह मशहूर <u>लेखक</u> हैं।

आ) <u>मोर</u> नाच रहा हैं। ऊ) <u>शेर</u> गरजता हैं।

इ) <u>गाय</u> चार रही हैं। ऋ) <u>अभिनेता</u> अभिनय करता हैं।

ई) <u>कुता</u> भौंकता हैं।

2. किन्हीं चार रेखांकित शब्दों के वचन बदलकर वाक्यों को फिर से लिखिए।

अ) घोडा तेज दौड़ता हैं।
आ) कपड़ा सस्ता हैं।
इ) बच्चा खेल रहा हैं।
ई) महिला गा रही है।
उ) चिड़िया उड़ गई।
ऊ) लड़के पढ़ रहे हैं।
ऋ) खिड़की खुली हैं।

3. किन्हीं चार वाक्यों को शुद्ध कीजिये।

अ) गोपाल एक आम खाया।
आ) श्याम ने किताब पढ़ चुका।
इ) राम ने रोटी खाया।
ई) तुम तुम्हारा नाम बताओ?
उ) तुम कौन हैं?
ऊ) मीना की भाई सुदर हैं।
ऋ) राम को तीन भाई हैं।

4. किन्हीं चार शब्दों के विलोम शब्द लिखिए।

1) आनंद आ) जीवन इ) अनुकूल ई) उत्थान उ) कठोर ऊ) गुण ऋ) अमृत

5. किसी एक पात्र का चरित्र चित्रण कीजिये

1) रहमान आ) गजाधर बाबू इ) लहना सिंह

6. किन्हीं चार वाक्यों के वाच्य बदलिए।

अ) राम पुस्तक पढता हैं।
आ) राधा नहीं सोता।
इ) मीना से रोटी खाई गई।
ई) वह नहीं खेलता।
उ) निराला ने उपन्यास लिखा।
ऊ) सूरज ने आम खाया।
ऋ) उससे पढा नहीं जाता।

7. किन्हीं चार पारिभाषिक शब्दों के अनुवाद हिन्दी में कीजिये।

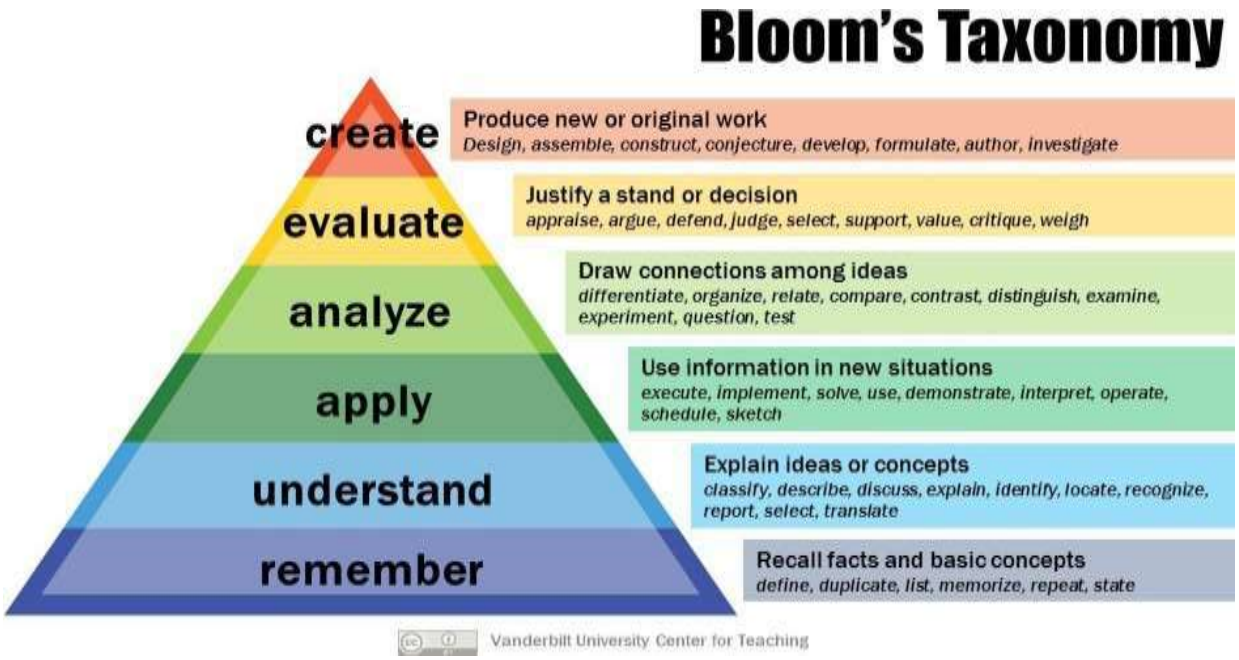
अ) Earned Leave आ) Data इ) Agreement ई) Office Order
उ) Acknowledgement ऊ) Commission ऋ) Manager

8. किन्हीं पाँच कार्यालयी शब्दों के अनुवाद हिन्दी में कीजिये।

अ) Circular आ) Acceptance इ) General Manager ई) Governor
उ) General Secretary ऊ) Auditor General ऋ) Editor

Department of Hindi
Programme Name: **General HINDI**

Level-1	**Knowlede/Remember**
Level-2	**Understand**
Level-3	**Application**
Level-4	**Analyze**
Level-5	**Evaluation**
Level-6	**Create**



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CO-PO Mapping

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CO1	2	-	2	1	2	-	2	1	1
CO2	1	2	2	1	1	2	-	2	1
CO3	3	1	3	2	3	-	3	-	1
CO4	3	2	1	-	1	1	2	2	1
CO5	-	2	2	1	1	-	-	-	-

CO-PSO Mapping

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	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	2	2	2	1	3	2
CO2	2	1	2	1	1	2
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CO4	1	1	2	2	2	3
CO5	-	1	3	-	-	1

Dr.V.S.KRISHNA GOVT. DEGREE COLLEGE(AUTONOMOUS)
VISAKHAPATNAM
DEPARTMENT OF HINDI
FIRST YEAR B.A./B.Com./B.Sc., -: GENERAL HINDI
SEMI STER – II

Subject Code: 2004 Credit: 03 Teaching Hrs/Week: 04

SYLLABUS

UNIT	TOPIC
UNIT-I गद्य संदेश	1.संस्कृति और साहित्य का परस्पर संबंध 2. भारत एक हैं 3.एच. आई. वी. एड्स
UNIT-II कथा लोक	1. जरिया 2. भूख हड़ताल 3. और वह पढ़ गई
UNIT-III व्याकरण	वाक्यों में प्रयोग संधि विच्छेध काल
UNIT-IV अनुवाद	पारिभाषिक शब्दावली - अंग्रेजी से हिन्दी में अनुवाद
UNIT-V पत्र-लेखन	आवेदन पत्र शिकायती पत्र

Dr.V.S.KRISHNA GOVT. DEGREE COLLEGE(AUTONOMOUS)
DEPARTMENT OF HINDI
FIRST YEAR B.A., /B.Com., /B.Sc.,: GENERAL HINDI

SEMESTER – II

MODEL QUESTION PAPER

Subject Code:2004 **Time: 3 hrs.** **Max. Marks.75**

PART - A

I. नीचे दिये गए सभी प्रश्नों के उत्तर दीजिए 5 X 10 = 50

1. अ) साहित्य और संस्कृति का संबंध का सार प्रस्तुत कीजीए।

(अथवा)

आ) एच.आई.वी. एड्सके इतिहास पर प्रकाश डालिए।

2. अ) भारत एक हैं पाठ का सारांश लिखिए।

(अथवा)

आ)रामायण और महाभारत से क्या शिक्षा प्राप्त होती हैं?

3. अ) जरिया कहानी का सारांश लिखिए।

(अथवा)

आ) और वह पढ गई कहानी का सारांश लिखिए।

4. अ) कहते हैं पहले अगस्त्य ऋषि ने विंध्याचल को पार करके दक्षिण के लोगों को अपना संदेश सुनाया था। (संदर्भ सहित व्याख्या कीजिये)

(अथवा)

आ) जिस प्रकार समाज और साहित्य का संबंध अनिवार्य हैं उसी प्रकार संस्कृति और साहित्य का संबंध भी अनिवार्य हैं। (संदर्भ सहित व्याख्या कीजिये)

5.अ) अपने छात्रावास जीवन का वर्णन करते हुये मित्र के नाम पत्र लिखिए।

(अथवा)

आ) अपने नगरपालिका आयुक्त के नाम पाने के लिए पत्र लिखिए।

PART - B

II. किन्हीं पाँच प्रश्नों के उत्तर दीजिए । 5 X 5 = 25

1. किसी एक पात्र का चरित्र चित्रण कीजिये।
   अ) मैं आ) चेतना इ) नारायनराव

2. रामधारी सिंह का परिचय दीजिए ।

3. किन्हीं चार शब्दों को वाक्यों में प्रयोग कीजिये।
   अ) चिरस्थायी आ) तिनके का सहारा इ) आद्यंत ई) बसर करना उ) दुर्भिक्ष

4. किन्हीं चार शब्दों का संधि विच्छेद कीजिये।
   अ) जगन्नाथ आ) सच्चरित्र इ) स्वागत ई) मनोहर उ) एकैक

5. किन्हीं चार प्रशासनिक शब्दों का अनुवाद हिन्दी में कीजिये।
   अ) Account Book आ) Appointing Authority इ) Advertisement
   ई) Absentee Statement

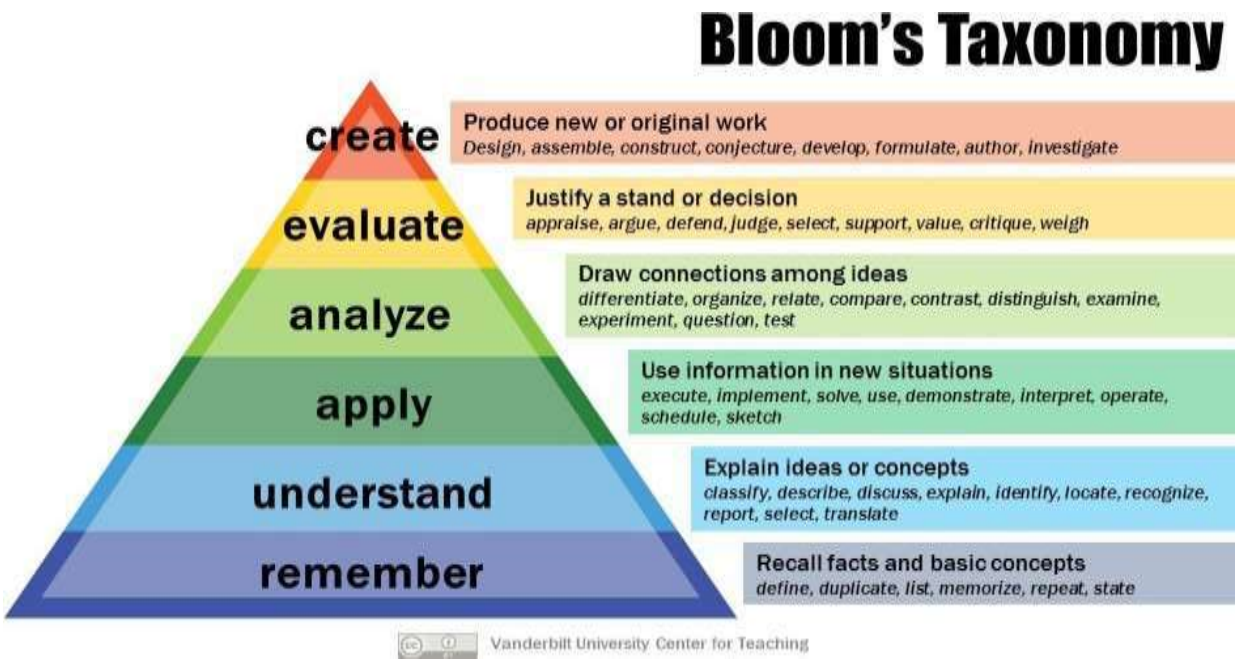
6. वर्तमान काल के बारे में लिखिए।

7. किन्हीं चार पदनामों का अनुवाद हिन्दी में कीजिये
   अ) Accountant General आ) Cabinet Secretary इ) General Secretary
   ई) Election Commissioner

8. स्वर संधि की परिभाषा और उसके प्रकार लिखिए।

Department of HINDI
Programme Name: **General HINDI**

Level-1	**Knowlede/Remember**
Level-2	**Understand**
Level-3	**Application**
Level-4	**Analyze**
Level-5	**Evaluation**
Level-6	**Create**



	Programme Outcome
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CO-PO Mapping

1-Low, 2- Moderate, 3-High, '-'No Corelation

	PO:1 Critical Thinking	PO:2 Effective Communication	PO:3 Social Interaction	PO:4 Effective Citizenship	PO:5 Ethics	PO:6 Environment and Sustainability	PO:7 Employa-bility skills	PO:8 Entrepreneur-ship skills	PO:9 Self-directed and Life-long Learning
CO1	2	-	2	1	2	-	2	1	1
CO2	1	2	2	1	1	2	-	2	1
CO3	3	1	3	2	3	-	3	-	1
CO4	3	2	1	-	1	1	2	2	-
CO5	-	2	2	1	1	-	-	-	-

CO-PSO Mapping

1-Low, 2- Moderate, 3-High, '-'No Corelation

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	2	2	2	1	3	2
CO2	2	1	2	1	1	2
CO3	3	2	2	3	3	1
CO4	1	1	2	2	2	3
CO5	-	1	3	-	-	1

Dr.V.S.KRISHNA GOVT. DEGREECOLLEGE(AUTONOMOUS)
DEPARTMENT OF HINDI

SECOND YEAR B.A , /B.Com.; /B.Sc., -: GENERAL HINDI

SEMESTER – III

(Old & Modern Poetry, History of Hindi Literature, Essays, Translation and Official Letters)

Subject Code: 3004 Credits: 03 Teaching Hrs/Week: 04

SYLLABUS

UNIT	TOPIC
UNIT-I काव्य दीप	1. कबीर दास-साखी 1-10 दोहे 2. सूरदास – बाल वर्णन 3. मातृभूमि 4. तोड़ती पत्थर
UNIT-II हिन्दी साहित्य का इतिहास	भक्तिकाल 1. ज्ञानाश्रयी शाखा-कबीर 2. प्रेमाश्रयी शाखा-जायसी 3. रामभक्ति शाखा – तुलसीदास 4. कृष्ण भक्ति शाखा – सूरदास
UNIT-III साधारण निबंध	1. समाचार पत्र 2. बेकारी की समस्या 3. पर्यावरण और प्रदूषण 4. कंप्यूटर
UNIT-IV अनुवाद	अंग्रेजी से हिन्दी में अनुवाद
	1. परिपत्र

UNITV प्रयोजनमूलक हिन्दी	2. कार्यालयी हिन्दी 3. अधिसूचना

Dr.V.S.KRISHNA GOVT. DEGREE COLLEGE (AUTONOMOUS)
DEPARTMENT OF HINDI
I B.A./B.Com./B.Sc., SEMESTER – III : GENERAL HINDI

Subject Code:3004 Time: 3 hrs. Max. Marks.75

MODEL QUESTION PAPER

PART - A

I. किन्ही पाँच प्रश्नों के उत्तर दीजिए 5 X 10 = 50

1. पाहन पूजे हरि मिलैं, तो मैं पूजूँ पहाड़
ताते ये चाकी भली, पीस खाय संसार (संदर्भ सहित व्याख्या कीजिये)

(अथवा)

शोभित कर नवनीत किए।
घुटुरु चलत रेणु तन मंडित, मुख दधि लेप किए॥
चारु कपोल, लोल लोचन, गोरोचन-तिलक दिये।
लट-लटकनि मनमत मधुप-गत, मादक मधुहि पिये॥(संदर्भ सहित व्याख्या कीजिये)

2. पालन-पोषण और जन्म का कारण तूही
वक्षस्थल पर हमें कर रही धारण तू ही।
अभंकश प्रासाद और ये महल हमारे
बने हुये हैं अहो ! तुझी से तुझ पर सारे। (संदर्भ सहित व्याख्या कीजिये)

(अथवा)

गर्मियों के दिन,
दिवा का तमतमाता रूप,
उठी झुलसाती हुयी लू,
रुई ज्यों जलती हुयी भू (संदर्भ सहित व्याख्या कीजिये)

3. मातृभूमि कविता का सारांश लिखिए।

(अथवा)

तोड़ती पत्थर कविता का सारांश लिखिए।

4. ज्ञानाश्रयी शाखा के कवियों में कबीर स्थान निर्धारित कीजिये।

(अथवा)

कृष्ण भक्ति शाखा के प्रमुख कवि सूरदास का परिचय दीजिये।

5. बेकारी की समस्या पर निबंध लिखिए।

(अथवा)

पर्यावरण प्रदूषण विषय पर निबंध लिखिए।

PART -B

II. किन्हीं पाँच प्रश्नों के उत्तर दीजिये। 5 X 5 = 25

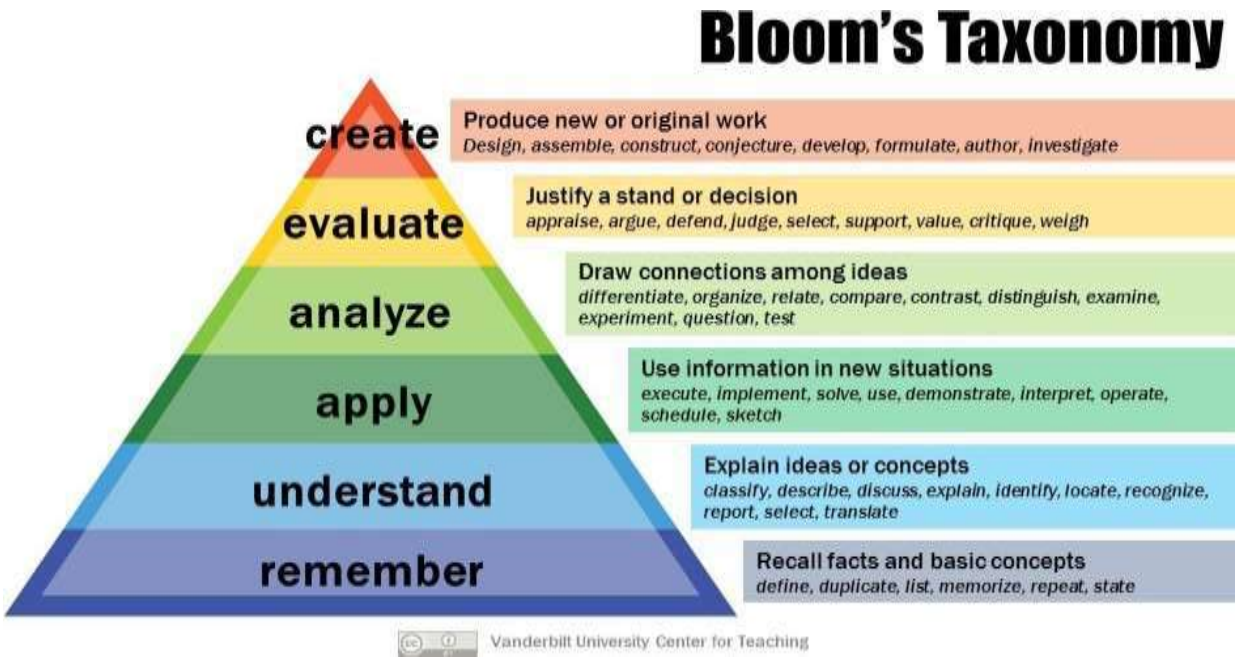
1. सूर्यकांत त्रिपाठी निराला का साहित्यिक परिचय दीजिये।
2. मैथिलीशरण गुप्त का साहित्यिक परिचय दीजिये।
3. प्रेमाश्रयी शाखा की विशेषताएँ बताइये।
4. तुलसीदास की जीवनी पर प्रकाश डालिए।
5. अधिसूचना की परिभाषा दीजिये।
6. भक्तिकाल के विविध शाखाओं का परिचय दीजिये।
7. मूर्तिपूजा के प्रति कबीरदास का विचार क्या है?
8. निम्नलिखित परिच्छेद का अनुवाद हिन्दी में कीजिये।

Discipline is very important in every walk of life. Discipline is the soul of military life. Without discipline an army is no better than a crowd. It is first thing needed for maintaining the harmony and concord in a family. It is equally necessary in maintaining peace and harmonious relation in society or in a nation.

2022-2023

Department of HINDI
Programme Name: **GENERAL HINDI**

Level-1	**Knowlede/Remember**
Level-2	**Understand**
Level-3	**Application**
Level-4	**Analyze**
Level-5	**Evaluation**
Level-6	**Create**



COURSE 1

	Programme Outcome
PO 1	**Critical Thinking**: Ability to take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
PO 2	**Effective Communication:** Ability to speak, read, write, and listen clearly in person and through electronic mediain English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media, and technology.
PO 3	**Social Interaction:** Ability to elicit views of others, mediate disagreements and help reach conclusions ingroup settings.
PO 4	**Effective Citizenship:** Ability to demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues andparticipatein civic life through volunteering.
PO 5	**Ethics:** Ability to recognize different value systems including your own, understand themoral dimensions of your decisions, and accept responsibility for them.
PO 6	**Environment and Sustainability:** Ability to understand the issues of environmental contexts and sustainabledevelopment
PO 7	**Employability skills:** Equipping graduates with the essential abilities and knowledge to excel in theirchosen careers
PO 8	**Entrepreneurship skills:** Seeks to empower students with the competencies needed to be successful entrepreneurs, enabling them to launch, operate, and innovate in their own businessesor entrepreneurial ventures.
PO 9	**Self-directed and Life-long Learning:** Acquire the ability to engage in independent and life-long learning in the broadestcontext socio-technological changes

PSO1	A student should be able to recall basic facts about Hindi and should be able to displayknowledge of conventions such as notations , terminology.
PSO2	A student should get adequate exposure to global and local concerns that explore hemmany aspects of Hindi language.
PSO3	Student is equipped with Hindi language ability, problem solving skills, relative talent and power of communication necessary for various kinds of employment.
PSO4	Student should be able to apply their skills and knowledge that is translate informationresented verbally into Hindi language.
PSO5	Enabling students to develop a positive attitude towards hindi as an interesting ndvaluable subject of study.

CO-PO Mapping

1-Low, 2- Moderate, 3-High, '-'No Corelation

	PO:1 Critical Thinking	PO:2 Effective Communication	PO:3 Social Interaction	PO:4 Effective Citizenship	PO:5 Ethics	PO:6 Environment and Sustainability	PO:7 Employa-bility skills	Po:8 Entrepreneur-ship skills	PO:9 Self-directed and Life-long Learning
CO 1	2	-	2	1	2	-	2	1	1
CO 2	1	2	2	1	1	2	-	2	1
CO 3	3	1	3	2	3	-	3	-	1
CO 4	3	2	1	-	1	1	2	2	-
CO 5	-	2	2	1	1	-	-	-	-

CO-PSO Mapping

1-Low, 2- Moderate, 3-High, '-'No Corelation

	PSO1	**PSO2**	**PSO3**	**PSO4**	**PSO5**	**PSO6**
CO1	2	2	2	1	3	2
CO2	2	1	2	1	1	2
CO3	3	2	2	3	3	1
CO4	1	1	2	2	2	3
CO5	-	1	3	-	-	1

Dr.V.S.KRISHNA GOVT. DEGREE COLLEGE(A) VISAKHAPATNAM

I B.A./B.Com./B.Sc., SEMESTER – I : GENERAL HINDI PAPER – I

w.e.f. 2022-23

(Prose, Short Stories and Grammar)

Credits : 03 Teaching Hrs/Week : 04

SYLLABUS

गद्य संदेश (PROSE)

१. भारतीय साहित्य की एकता – नन्द दुलारे वाजपायी

२. आत्मनिर्भरता - पं. बालकृष्ण भट्ट

३. अन्दर की पवित्रता - डॉ. हजारी प्रसाद द्विवेदी

कथा लोक (SHORT STORIES)

४. ठाकुर का कुआँ - प्रेमचंद

१. वापसी - उषा प्रियंवदा

२. सदाचार का तावीज – हरिशंकर परसाई

व्याकरण (GRAMMAR)

लिंग, वचन

काल, प्रत्यय

विलोम शब्द

पर्यायवाची शब्द

कार्यालयीन शब्दावली - अंग्रेजी से हिन्दी, हिन्दी से अंग्रेजी

पत्र लेखन – व्यक्तिगत पत्र (छुट्टी पत्र , पिता, मित्र के नाम पत्र, पुस्तक विक्रेता के नाम पत्र)

Dr.V.S.KRISHNA GOVT. DEGREE COLLEGE(A) VISAKHAPATNAM

I B.A.,/B.Com.,/B.Sc., SEMESTER – I : GENERAL HINDI PAPER – I

w.e.f. 2022-23

(Prose, Short Stories and Grammar)

Time: 3hrs Max Marks :75

MODEL QUESTION PAPER

PART - A

I. किन्ही पाँच प्रश्नों के उत्तर दीजिए | 5 X 5 = 25

1. विभिन्न प्रदेशों और जनपदों की सांस्कृतिक विशेषताओं की छाप इन साहित्यों में प्राप्त होती हैं, जो स्वाभाविक है। - संदर्भ सहित व्याख्या लिखिए
2. जिन को अपने भरोसे का बल है, वे जहाँ होंगे, जल में तूंबी के समान सब के ऊपर रहेंगे। - संदर्भ सहित व्याख्या लिखिए
3. भारतीय साहित्य में एकता के प्रमुख तत्वों पर प्रकाश डालिए?
4. 'ठाकुर का कुआँ' कहानी में गंगी का चरित्र चित्रण कीजिये।
5. 'वापसी' कहानी में आधुनिक जीवन पर प्रकाश डालिए।
6. पं. बालकृष्ण भट्ट की जीवनी पर प्रकाश डालिए।
7. नीचे दिये गए शब्दों का लिंग बदलिये।

   अ) माली आ) दास इ) सेठ ई) मोर उ) ऊँट
8. नीचे दिये गए शब्दों का वचन बदलिए

   अ) घोडा आ) चिड़िया इ) कहानी ई) कमरा उ)रुपया

PART - B

II. निम्न लिखित सभी प्रश्नों के उत्तर दीजिए। 5 X10 = 50

1. 'भारतीय साहित्य की एकता' पाठ का सारांश लिखिए।

(अथवा)

'आत्म-निर्भरता' पाठ का सारांश लिखिए।

2. 'अंदर की पवित्रता' पाठ का सारांश लिखिए।

(अथवा)

'ठाकुर का कुआँ' कहानी का सारांश लिखिए।

3. 'वापसी' कहानी का सारांश लिखिए।

(अथवा)

'सदाचार का तावीज' कहानी का सारांश लिखिए।

4. बीमारी के कारण पाँच दिन छुट्टी माँगते हुये प्रधानाचार्य के नाम पत्र लिखिए।

(अथवा)

परीक्षा शुल्क भरने के लिए पैसे माँगते हुये अपने पिताजी को पत्र लिखिए।

5. a) निम्न लिखित शब्दों के विलोम शब्द लिखिए।

1. निरक्षर 2. उत्थान 3. डर 4. लायक 5. प्राकृतिक

b) काल किसे कहते है तथा उसके कितने प्रकार हैं?

(अथवा)

c) निम्न लिखित अंग्रेजी शब्दों का अनुवाद हिन्दी में कीजिए।

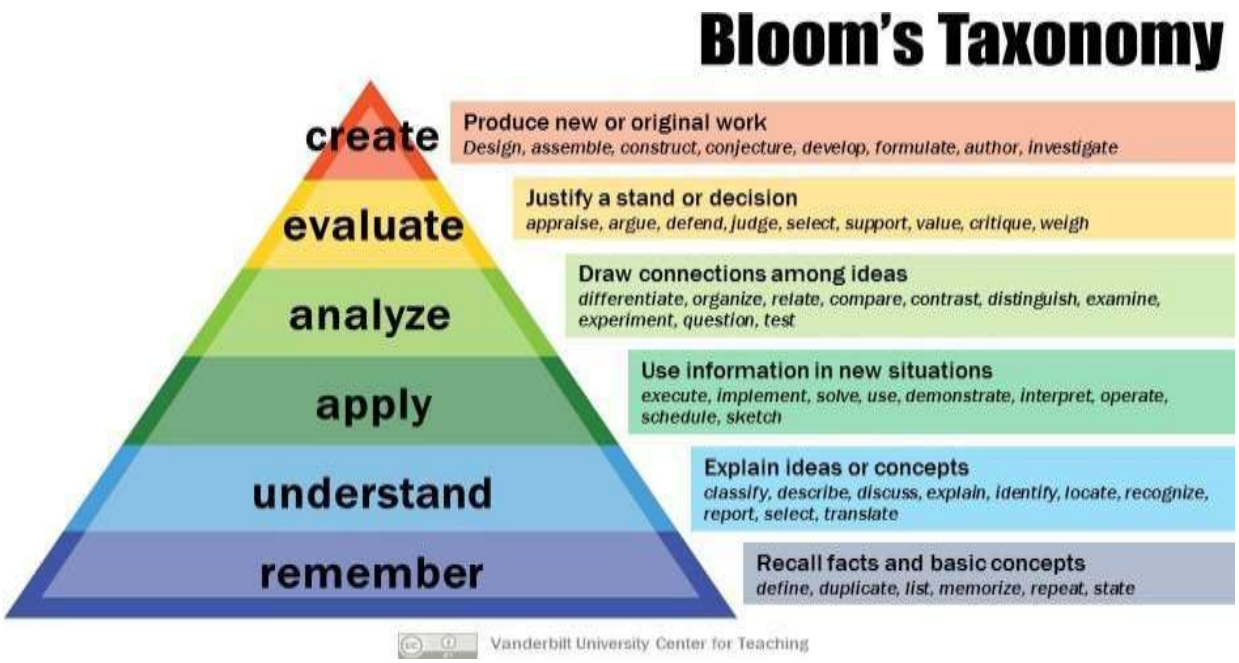
1. Affidavit 2. Memorandum 3. Conference 4. Certificate 5 Circular

d) निम्न लिखित हिन्दी शब्दों का अनुवाद अंग्रेजी में कीजिए

1. चुनाव 2. सचिव 3. लेखाकार 4. राज्यपाल 5. नगर निगम

Department of HINDI
Programme Name: **GENERAL HINDI**

Level-1	**Knowlede/Remember**
Level-2	**Understand**
Level-3	**Application**
Level-4	**Analyze**
Level-5	**Evaluation**
Level-6	**Create**



	Programme Outcome
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CO2	1	2	2	1	1	2	-	2	1
CO3	3	1	3	2	3	-	3	-	1
CO4	3	2	1	-	1	1	2	2	-
CO5	-	2	2	1	1	-	-	-	-

C -PSO M pping

1-Low, 2- Moderate, 3- High, '-' No Corelation

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	2	2	2	1	3	2
CO2	2	1	2	1	1	2
CO3	3	2	2	3	3	1
CO4	1	1	2	2	2	3
CO5	-	1	3	-	-	1

Dr.V.S.KRISHNA GOVT. DEGREE COLLEGE(A) VISAKHAPATNAM

II B.A.,/B.Com.,/B.Sc., SEMESTER – II : GENERAL HINDI PAPER – I

2022-23

(Prose, Short Stories, Grammar and Letter writing)

Credits : 03 Teaching Hrs/Week : 4

SYLLABUS

गद्य संदेश (PROSE)

१. भारत में संस्कृति संगम - रामधारी सिंह दिनकर

३. समय पर मिलाने वाले - हरिशंकर परसाई

२. एच.आई. वी. / एड्स

कथा लोक (SHORT STORIES)

३. हार की जीत - सुदर्शन

४. पुरस्कार - जयशंकर प्रसाद

५. सेवा - ममता कालिया

व्याकरण (GRAMMAR)

कार्यालयीन हिन्दी शब्दावली – अंग्रेजी से हिन्दी, हिन्दी से अंग्रेजी

पदनाम

कारक

वाक्य प्रयोग

पत्र लेखन (आवेदन पत्र, शिकायती पत्र)

Dr.V.S.KRISHNA GOVT. DEGREE COLLEGE(A), VISAKHAPATNAM

I B.A./B.Com./B.Sc., SEMESTER – II: GENERAL HINDI PAPER – II

w.e.f. 2022-23

Subject Code: N-2004 **Time: 3hrs** **Max Marks :75**

MODEL QUESTION PAPER

PART - A

I. किन्ही पाँच प्रश्नों के उत्तर दीजिए। 5 X 5 = 25

1. प्राचीन भारत आसपास की दुनिया में जगत गुरु समझा जाता था।सप्रसंग व्याख्या कीजिए?

2. एच.आई. वी. / एड्स के विषाणुओं का संक्रमण किस माध्यम से नहीं होता?

3. समय पर न मिलने वालों से क्या सीख ले सकते हैं?

4.पुरस्कार कहानी के शीर्षक की सार्थकता समझाइए।

5.बाबा भारती का चरित्र चित्रण कीजिए।

6. सेवा कहानी का उद्देश्य समझाइए।

7. कर्ता कारक समझाइए।

8. मधूलिका का चरित्र चित्रण कीजिए।

PART - B

II. निम्न लिखित सभी प्रश्नों के उत्तर दीजिए। 5 X10 = 50

9. भारत में संस्कृति संगम' निबंध का सारांश लिखिए ?

(अथवा)

एच.आई. वी. / एड्स के इतिहास पर लेख लिखकर लक्षण पर प्रकाश डालिए।

10. 'समय पर मिलने वाले' पाठ का सारांश लिखिए।

(अथवा)

'सेवा' कहानी का सारांश प्रस्तुत कीजिए।

11. 'हार की जीत' कहानी का सारांश प्रस्तुत कीजिए।

(अथवा)

'पुरस्कार' कहानी का सारांश लिखिए।

12. हिन्दी अध्यापक की नौकरी माँगते हुए प्रधानाध्यापक के नाम पत्र लिखिए।

(अथवा)

अनुवादक पद के लिए आवेदन पत्र लिखिए।

13. a) निम्न लिखित वाक्यों के रिक्त स्थान को कारक से पूर्ति कीजिये।

1. मीना _____ फल खाया।
2. मैं ने मधु _____ घर बुलाया।
3. सुधा _____ मत मारो।
4. माँ बच्चों _____ खाना खिलाती हैं।
5. श्याम _____ फल दो।
6. पेड़ _____चिड़िया बैठी है।
7. मैं कलम _____ लिखता हूँ।
8. हिरण को बाण _____ मारा।
9. सुमन जीवन _____ मिठाई लाया।
10. गीता सीता _____ बहन हैं।

(अथवा)

b) निम्न लिखित अंग्रेजी शब्दों का हिन्दी में अनुवाद कीजिए।

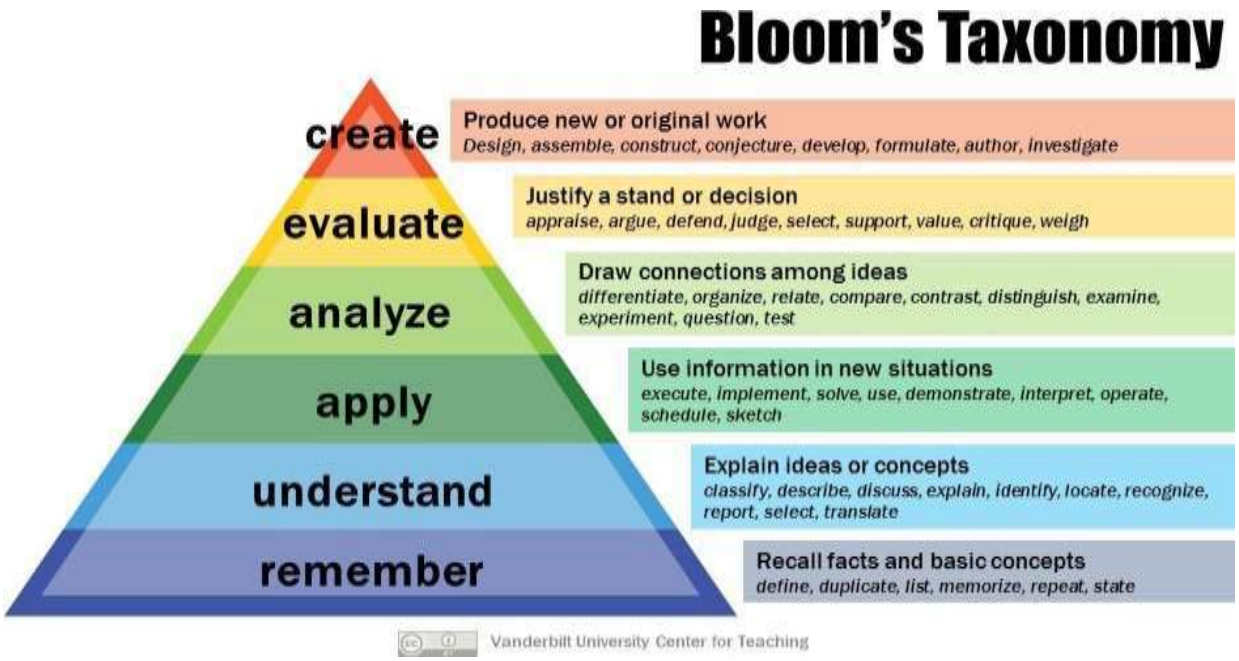
1. Head Office 2. Supreme Court 3. Chairman 4. Secretariat 5. Court

निम्न लिखित हिन्दी शब्दों का अंग्रेजी में अनुवाद कीजिए।

1. पुस्तकालय 2. लिपिक 3. दस्तावेज़ 4. परिशिष्ट 5. परिपत्र

Department of Hindi
Programme Name: G e n e r a l Hindi

Level-1	**Knowlede/Remember**
Level-2	**Understand**
Level-3	**Application**
Level-4	**Analyze**
Level-5	**Evaluation**
Level-6	**Create**



COURSE 1: ESSENTIALS AND APPLICATIONS OF MATHEMATICAL, PHYSICALAND CHEMICAL SCIENCES

Course Code: 23MATM11

	Programme Outcome
PO 1	**Critical Thinking**: Ability to take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
PO 2	**Effective Communication:** Ability to speak, read, write, and listen clearly in person and through electronic mediain English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media, and technology.
PO 3	**Social Interaction:** Ability to elicit views of others, mediate disagreements and help reach conclusions ingroup settings.
PO 4	**Effective Citizenship:** Ability to demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues andparticipatein civic life through volunteering.
PO 5	**Ethics:** Ability to recognize different value systems including your own, understand themoral dimensions of your decisions, and accept responsibility for them.
PO 6	**Environment and Sustainability:** Ability to understand the issues of environmental contexts and sustainabledevelopment
PO 7	**Employability skills:** Equipping graduates with the essential abilities and knowledge to excel in theirchosen careers
PO 8	**Entrepreneurship skills:** Seeks to empower students with the competencies needed to be successful entrepreneurs, enabling them to launch, operate, and innovate in their own businessesor entrepreneurial ventures.
PO 9	**Self-directed and Life-long Learning:** Acquire the ability to engage in independent and life-long learning in the broadestcontext socio-technological changes

PSO1	A student should be able to recall basic facts about Hindi language and should be ableto isplay knowledge of conventions such as notations , terminology.
PSO2	A student should get adequate exposure to global and local concerns that explore hemmany aspects of Hindi language.
PSO3	Student is equipped with Hindi language ability, problem solving skills, reative talent and power of communication necessary for various kinds of mployment.
PSO4	Student should be able to apply their skills and knowledge that is translate informationresented verbally into Hindi language.
PSO5	Enabling students to develop a positive attitude towards Hindi language as aninteresting nd valuable subject of study.

CO-PO Mapping

1-Low, 2- Moderate, 3-High, '-'No Corelation

	PO:1 Critical Thinking	PO:2 Effective Communication	PO:3 Social Interaction	PO:4 Effective Citizenship	PO:5 Ethics	PO:6 Environment and Sustainability	PO:7 Employa-bility skills	PO:8 Entrepreneur-ship skills	PO:9 Self-directed and Life-long Learning
CO1	2	-	2	1	2	-	2	1	1
CO2	1	2	2	1	1	2	-	2	1
CO3	3	1	3	2	3	-	3	-	1
CO4	3	2	1	-	1	1	2	2	-
CO5	-	2	2	1	1	-	-	-	-

CO-PSO Mapping

1-Low, 2- Moderate, 3-High, '-'No Corelation

	PSO1	**PSO2**	**PSO3**	**PSO4**	**PSO5**	**PSO6**
CO1	2	2	2	1	3	2
CO2	2	1	2	1	1	2
CO3	3	2	2	3	3	1
CO4	1	1	2	2	2	3
CO5	-	1	3	-	-	1

Dr.V.S.KRISHNA GOVT. DEGREE COLLEGE(A), VISAKHAPATNAM

II B.A./B.Com./B.Sc., SEMESTER – III : GENERAL HINDI PAPER – II

w.e.f. 2022-23

(Old & Modern Poetry, History of Hindi Literature, Grammar)

Credits : 03 Teaching Hrs/Week : 4

SYLLABUS

1.**काव्यदीप:**

साखी – 1-10 दोहे

सूरदास - बाल वर्णन

आगे बढ़, आगे – मैथिलीशरण गुप्त

चरण चले, ईमान अचल हो ! – माखनलाल चतुर्वेदी

2. **हिन्दी साहित्य का इतिहास:**

भक्तिकाल : स्वर्ण युग

ज्ञानाश्रयी शाखा - कबीर, प्रेमाश्रयी शाखा - जायसी

रामभक्ति शाखा - तुलसीदास, कृष्ण भक्ति शाखा - सूरदास

3.**साधारण निबंध:**

नारी शिक्षा का महत्त्व

प्रदूषण का खतरा

विश्व भाषा के रूप में हिन्दी

भारत की वर्तमान समस्याएँ

स्वच्छ भारत

4.**अनुवाद** : अंग्रेजी से हिन्दी (3-4 lines)

तेलुगु से हिन्दी (3-4 lines)

5.**प्रयोजनमूलक हिन्दी** : सरकारी पत्र (Official letters) : ज्ञापन, परिपत्र, सूचना

Dr. V, S. KRISHNA GOVT. DEGREE COLLEGE(A), VISAKHAPATNAM

II B.A./B.Com./B.Sc., SEMESTER – III GENERAL HINDI PAPER - II

w.e.f. 2022-23

(Old & Modern Poetry, History of Hindi Literature, Essays, Translation and Official Letters)

Time: 3hrs **Max Marks :75**

MODEL QUESTION PAPER

PART - A

I. किन्ही पाँच प्रश्नों के उत्तर दीजिए । 5 X 5 = 25

1. जाति न पूछो साधु की, पूछ लीजिए ज्ञान।
मोल करो तलवार का, पड़ा रहनेदो म्यान ॥

2. सोभित कर नवनीत लिए।
घुटरून चलत रेनु-तन-मंडित, मुख दधि लेप किए
चारु कपोल, लोल लोचन, गोरोचन – तिलक दिए।
लट – लटकिन मनमन मधुप-गण, मादक मधुहिं पिए ॥

3. चरण चलें, ईमान अचल हो !
जब बाली रक्त – बिन्दु – निधि मांगे
पीछे पालक, शीश कर आगे
सौ-सौ युग अंगुली पर जागे ..... सप्रसंग व्याख्या कीजिए।

4. माखन लाल चतुर्वेदी जी का साहित्यिक परिचय दीजिए।

5. गुप्त जी का साहित्यिक परिचय दीजिए।

6. सूचना परिभाषा दीजिए।

7. जायसी के बारे में बताइए।

8. कृष्ण भक्ति शाखा की विशेषताओं को समझाइए।

PART - B

II. निम्न लिखित सभी प्रश्नों के उत्तर दीजिए। 5 X10 = 50

9. 'आगे बढ़ आगे' कविता का सारांश लिखिए।

(अथवा)

'चरण चले ईमान अचल हो' कविता का सारांश लिखिए।

10. ज्ञानाश्रयी शाखा की विशेषताओं पर प्रकाश डालकर कबीर दास जी के स्थान निर्धारित कीजिए।

(अथवा)

"भक्तिकाल हिन्दी साहित्य का स्वर्णयुग है" साबित कीजिए।

11. Ali Baba was a poor man. Ali baba marries a poor woman and settles into the trade of a wood cutter. One day when he was cutting wood in the jungle, he found a cave in the rocks. It was closed by a strong door. He tried to open it. He enters the cave with the magic words "open sesame" and seals itself on the words ''close sesame.''

(అథవా)

ఒక ఊరి చివర పచ్చని మైదానం లో నాలుగు ఆవులు ఎంతో సఖ్యంగా, స్నేహంగా ఉండేవి. ఇవి ఎప్పుడూ కలిసి మెలిసి గుంపు గానే ఉండేవి కాబట్టి, పులి వీటి జోలికి రాలేకపోయేది. కొంతకాలానికి, ఎదో విషయంలో వాటిమధ్య దెబ్బలాట జరిగి, నాలుగు ఆవులు నాలుగు వైపులా విడి విడిగా గడ్డి మెయ్యటానికి వెళ్లాయి. ఇదే సరైన సమయమని, పులి పొదల్లో దాక్కుని, ఒక్కొక్కదాన్ని చంపేసింది. **నీతి: ఐకమత్యమే బలం.**

12. किसी एक विषय पर निबंध लिखिए।

अ) प्रदूषण का खतरा

आ) विश्व भाषा के रूप में हिन्दी

इ) स्वच्छ भारत

13. 'ज्ञापन' की परिभाषा देकर नमूना प्रस्तुत कीजिए।

(अथवा)

'परिपत्र' की परिभाषा देकर नमूना प्रस्तुत कीजिए।