

**Dr. V. S. KRISHNA GOVT. DEGREE COLLEGE (AUTONOMOUS)**  
**MADDILAPALEM, VISAKHAPATNAM**  
**B.Sc MICROBIOLOGY (CBCS) FIRST YEAR – SEMESTER- I (W.E.F 2018 - 19)**  
**PAPER A1 – INTRODUCTORY MICROBIOLOGY AND MICROBIAL DIVERSITY**

**Model paper**

Max Marks: 60

Time: 3hrs

**SECTION –A**

5 x 8 = 40 M

Answer ALL questions ( Draw the diagrams wherever necessary)

- 1.a) contribution of Anton Van Leeuwenhoek, Edward Jenner to the microbiology  
Or
- 1.b) Louise Pasteur and Robert Koch describe their inventions
- 2.a). General characteristics of bacteria & arches with neat labeled diagrams .  
Or
- 2.b) Structure and replication of TMV & HIV
- 3.a) General characteristic & out line classification of fungi, algae and protozoa  
Or
- 3.b) Write the Principals of microscope SEM&TEM
- 4.a) Explain Staining techniques (simple and differenceal staining)  
Or
- 4.b) What are the radiation methods write a note on it
- 5.a) Describe the pure culture technique  
Or
- 5.b) What are the preservation of microbial cultures

**SECTION –B**

5 x 4 = 20 M

Answer any FIVE questions ( Draw the diagrams wherever necessary)

6. Haeckel's three kingdom classification
7. Prokaryotic cell
8. Sterilization techniques
9. Isolation of microorganism from natural habitats
10. Enrichment culturing
11. Chemical methods of staining techniques
12. Physical method of staining technique
13. Lyophilization

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**B.Sc MICROBIOLOGY (CBCS) FIRST YEAR – SEMESTER- II (W.E.F 2018 - 19)**  
**PAPER 1B– MICROBIAL BIOCHEMISTRY & METABOLISM**

**Model paper**

Max Marks: 60

Time: 3hrs

**SECTION –A**

5 x 8 = 40 M

Answer ALL questions ( Draw the diagrams wherever necessary)

- 1.a) classification and general characteristics of carbohydrates (monosaccharides, disaccharides  
Or  
1.b) General characteristics of amino acids and proteins.

- 2.a). Principle and applications of - Colorimetry

Or

- 2.b) Spectrophotometry (UV & visible), Centrifugation

- 3.a) Properties and classification of Enzymes.

Or

- 3.b) Biocatalysis- induced fit and lock and key models. Coenzymes and Cofactors

- 4.a) Microbial Nutrition of microorganisms- autotrophs, heterotrophs, mixotrophs.

Or

- 4.b) Growth media- synthetic, complex, selective, enrichment and differential media.

- 5.a) Glycolysis, HMP path way,

Or

- 5.b) Alcohol and lactic acid fermentations.

**SECTION –B**

5 x 4 = 20 M

Answer any FIVE questions ( Draw the diagrams wherever necessary)

- 6. Fatty acids
- 7. Gel Electrophoresis
- 8. lock and key models
- 9. Direct microscopy
- 10. Define fermentation
- 11. Structure of nitrogenous bases
- 12. sterols and phospholipids
- 13. competitive, noncompetitive

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**B.Sc MICROBIOLOGY (CBCS) SECOND YEAR – SEMESTER- III (W.E.F 2018 - 19)**  
**PAPER – 2A MICROBIAL GENETICS AND MOLECULARBIOLOGY**

**Model paper**

Max Marks: 60

Time: 3hrs

**SECTION –A**

5 x 8 = 40 M

Answer ALL questions ( Draw the diagrams wherever necessary)

- 1.a)Write the structure and organization of prokaryotic DNA  
Or
- 1.b)Explain the enzymes involved in replication
- 2.a).Describe about mutogens  
Or
- 2.b) Write a note on genetic recombination in a bacteria
- 3.a)Explain the concept of GENE  
Or
- 3.b) Give a note on types of RNA and there functions
- 4.a) Write a note on protein synthesis  
Or
- 4.b) Give a note on regulation of GENE expansion in a bacteria
- 5.a) Discuss the basic principles of genetic engineering  
Or
- 5.b) Give an account on application of genetic engineering in industry and agriculture

**SECTION –B**

5 x 4 = 20 M

Answer any FIVE questions ( Draw the diagrams wherever necessary)

6. Plasmid
7. DNA as genetic material
8. Base pare changes
9. DNA damage and repair mechanisms
10. Structural of ribosomes
11. translation
12. restriction endonucleases
13. vectors

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**PAPER – 2B IMMUNOLOGY AND MEDICAL MICROBIOLOGY**

**Model paper**

Max Marks: 60

Time: 3hrs

**SECTION –A**

5 x 8 = 40 M

Answer ALL questions ( Draw the diagrams wherever necessary)

1.a)Describe types of immunity

Or

1.b)Give a note on cells of immune system

2.a).Explain the basic structure, types and properties of immunoglobulin

Or

2.b) Explain the types of antigen and antibody reactions

3.a) Explain the normal flora of human body

Or

3.b) Describe general principal of diagnostics microbiology

4.a) Explain about anti bacterial agent, penicillin

Or

4.b) Give a detailed note on vaccines

5.a) Explain about general account on microbial diseases

Or

5.b) Give a detailed note on bacterial diseases, Tuberculosis

**SECTION –B**

5 x 4 = 20 M

Answer any FIVE questions ( Draw the diagrams wherever necessary)

6. Thymus

7. T-lymphocytes

8. Hypersensitivity

9. monoclonal anti bodies

10. Nosocomial infection

11 • pathogen city

12 •Amphotericin B

13 • Antimicrobial susceptibility

14 AIDS

15 • candidacies