**Dr. V. S. KRISHNA GOVT. DEGREE & PG COLLEGE(A), VISAKHAPATNAM**

**II B.Sc. - Botany**

**SEMESTER III**

**(Paper III- Plant Taxonomy and Embryology)**

**TIME: 3 H MAX. MARKS: 60**

**SECTION – A (5 X 8 = 40 MARKS)**

**ANSWER ALL QUESTIONS**

1**.(a)** Give an account of Bentham and Hooker’s system of classification. Discuss its merits and

demerits.

(OR)

(b) Write an essay on basic components of Taxonomy.

2. (a) Explains the basic rules of International code of Botanical Nomenclature.

(OR)

(b) Describe the vegetative and floral characters of Cucurbitaceae. Add a note on the

economic importance of the family.

3. (a) Describe the vegetative and floral characters of Asteraceae. How you consider it as the

most advanced family.

(OR)

(b) Describe the vegetative and floral characters of Orchidaceae. Add a note on advance

features of family.

4. (a) Describe the bisporic types of embryo sac development in angiosperms.

(OR)

(b) Write an account of the development of male gametophyte in angiosperms.

5.(a) Describe the structure, development and types of endosperm development in

angiosperms.

(OR)

(b) Describe the development of embryo in dicotyledons plants.

**SECTION – B (5X 4= 20 MARKS)**

**ANSWER ANY FIVE OF THE FOLLOWING**

1. Cytotaxonomy
2. Economic importance of Apiaceae
3. Pollination mechanism in Lamiaceae

4. TS of Anther

5. Polyembryony

6. Self- incompatibility

7. Phylogenetic classification

8. Floral characters of Capparidaceae

**BLUE PRINT OF III SEMESTER QUESTION PAPER**

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| **Question type** | **Unit I**  **12Hours** | **Unit II**  **12Hours** | **Unit III**  **12Hours** | **Unit IV**  **12Hours** | **Unit V**  **12Hours** | **Max. 60 Marks** |
| Essay Questions  (Internal Choice) | 1 | 1 | 1 | 1 | 1 | 5Q X 8= 40 |
| Short Answer  ( 5 out of 8 to be answered) | 2 | 2 | 1 | 2 | 1 | 5Q X 4= 20 |

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**II B.Sc. - Botany**

**SEMESTER IV**

**(Paper IV- Plant Physiology and Metabolism)**

**TIME: 3 H MAX. MARKS: 60**

**SECTION – A (5 X 8 = 40 MARKS)**

**ANSWER ALL QUESTIONS**

1**.(a)** What is ascent of sap? Explain the various theories of Ascent of sap.

(OR)

(b) What is transpiration? Describe the various theories of stomatal movement mechanism.

2. (a) Give an account of different theories of absorption of salts in plants.

(OR)

(b) Write an account of mechanism and regulation of Enzyme action.

3. (a) Describe in detail the Calvin cycle in C3 plants.

(OR)

(b) Describe the Hatch-Slack pathway and compare with the CAM.

4. (a) Describe the chemical reactions of Glycolysis cycle.

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(OR)

(b) What are lipids? Give an account of structure and functions of lipids.

5.(a) Describe in detail the discovery, nature of auxins and their effects on plants.

(OR)

(b) Write an essay on role of phytochrome in flowering.

**SECTION – B (5X 4= 20 MARKS)**

**ANSWER ANY FIVE OF THE FOLLOWING**

1. Osmosis
2. Biological nitrogen fixation
3. Photophosphorylation

4. ATP synthase

5. Gibberellins

6. Photoperiodism

7. Anaerobic respiration

8. Photorespiration

**BLUE PRINT OF IV SEMESTER QUESTION PAPER**

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| **Question type** | **Unit I**  **12Hours** | **Unit II**  **12Hours** | **Unit III**  **12Hours** | **Unit IV**  **12Hours** | **Unit V**  **12Hours** | **Max. 60 Marks** |
| Essay Questions  (Internal Choice) | 1 | 1 | 1 | 1 | 1 | 5Q X 8= 40 |
| Short Answer  ( 5 out of 8 to be answered) | 1 | 1 | 2 | 2 | 2 | 5Q X 4= 20 |