3Hrs. **Total Marks: 100**

N.B. 1. **All** questions are compulsory.
2. **Figures** to the right indicate marks.
3. **Draw neat and labeled diagrams** wherever necessary.

Q.I (A) Choose the correct option from the following and rewrite the sentence. **10**

1. Trichosclereids are found in _____

(a) xerophytes (b) Hydrophytes

(c) Hygrophytes (d)Epiphytes

2. Phloem sclerenchyma are also known as _____.

(a) hard fibres (b) bast fibres

(c) medullary rays (d) medullary fibres

3. In root, vascular bundles are _____.

(a) collateral, open (b) Collateral, closed

(c) radial (d) concentric

4. _____ is the energy currency of the cell.

(a) Glucose (b) DNA (c) ATP (d) Enzymes

5. The response of plants to the photoperiod expressed in the form of flowering is called as _____.

(a) Photosynthesis (b) Photoperiodism

(c) Vernalization (d) Respiration

6. The effect of cold treatment may be reversed by high temperature, this phenomenon is called _____.

(a) Devernalization (b) Vernalization

(c) Chilling effect (d) Temperature substitution

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7. Photorespiration results into loss of photosynthetic productivity in_____ plants

(a) C_3 (b) C_4 (c) CAM (d) Intermediate

8. _____are absolutely essential for the normal growth of the plant.

(a) Rocks (b) Salts (c) Nutrients (d) Sulphates

9. The study of the relationship of plants and animals making up a natural community is called _____.

(a) Community ecology (b) autoecology

(c) population ecology (d) succession

10. General appearance of vegetation is referred to as _____

(a) Physiognomy (b) life forms

(c) pioneer colonizer (d) ecesis

Q.I (B) Answer in one or two sentences **10**

1. Define Dendrochronology.

2. What are the types of collateral vascular bundles?

3. Explain the role of Rubisco in photorespiration.

4. What is water holding capacity.

5. Enlist any two environmental factors.

Q.II Answer any two of the following. **20**

1. Give a detailed account of periderm formation. Add a note on lenticels.

2. Describe mechanical tissues observed in stems giving suitable examples.

3. Explain the formation of growth rings in woody perennial plants.

4. With the help of suitable diagrams, describe secondary growth in a typical dicot root.

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Q. III Answer any two of the following. **20**

1. Explain the mechanism of action for phytochromes in SDPs and LDPs.

2. Explain the importance of vernalization in plants.

3. Give an account of TCA cycle and explain its significance in plants.

4. What is terminal oxidation? Describe the process with reference to respiration in plants.

Q.IV Answer any two of the following. **20**

1. What are ecological factors? Explain any three edaphic factors.

2. Give a detail account of Raunkiaer's life form.

3. What is soil profile. Write a note on the components of soil profile.

4. Discuss Community Ecology in detail.

Q. V Write short notes on any four **20**

1. Xylem as mechanical tissue

2. Shearing stress

3. Physico-chemical property of phytochrome

4. Significance of photoperiodism

5. Species diversity

6. Soil humus

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