

[3 Hours]

[Total Marks. 100]

Please check whether you have got the right question paper.

N.B:

1. All questions are compulsory
2. Figures to the right indicate full marks
3. Draw neat and labeled diagrams whenever necessary

Q1.A Choose the correct option from the following and rewrite the sentence. 10

- a. Simple tissues are parenchyma, collenchyma and _____.
i) xylem ii) phloem iii) sclerenchyma iv) stele
- b. _____ is a complex permanent tissue.
ii) Xylem ii) Aerenchyma iii) Cambium iv) Collenchyma
- c. _____ are unicellular structures present on epidermis.
i) Glandular hairs ii) Scales iii) Ramentum iv) Dendroid hairs
- d. Cells surrounding the guard cell are called _____ cells.
i) accessory ii) subsidiary iii) motor iii) bulliform
- e. pH of the lumen of thylakoid _____ in the presence of light.
i) increase ii) decrease iii) remain same iv) none of the above
- f. _____ demonstrated splitting of water by light using isolated chloroplasts.
i) R. Hill ii) Ruben and Kamen iii) F. F. Blackman iv) Melvin Calvin
- g. The strongest reducing agent in photosynthetic electron transfer reactions is _____.
i) P 680* ii) P 700* iii) P 700 iv) Plastoquinone
- h. Aloin found in *Aloe* is a _____.
i) Alkaloid ii) Essential oil iii) Glycosides iv) Terpenes
- i. _____ part of *Zingiber officinale* is of medicinal importance.
i) Roots ii) Dried rhizome iii) Leaves iv) Entire plant
- j. Turmeric powder is prepared from _____ of *Curcuma longa*.
i) Stem ii) Leaf iii) Rhizome iv) Bark

Q1. B Answer the following in one sentence

10

- a) What is the primary acceptor of carbon?
- b) What is protoxylem?
- c) Name any two Xylem elements.
- d) Give role of water in photosynthesis.
- e) Give two functions of primary metabolites.

- Q.2. Answer any two of following: 20**
- a. Describe types, structures and functions of parenchyma and collenchyma tissues.
 - b. Describe the types of stomata. Add a note on its functions.
 - c. Describe T.S. of Dicot stem.
 - d. Write a detailed note on epidermal outgrowths.

- Q.3. Answer any two of the following: 20**
- a. Explain the role of plant pigments involved in photosynthesis.
 - b. “The C₄ plants have a selective advantage over C₃ plants”, Explain.
 - c. Schematically explain CAM pathway.
 - d. Describe the process of non-cyclic photophosphorylation

- Q.4. Answer any two of the following: 20**
- a. What are primary metabolites? Add a note a different types of primary metabolite.
 - b. What is grandma’s pouch? Give botanical name, family, active constituents & uses of Sandalwood.
 - c. What is medicinal botany? Give botanical name, family, active constituents and uses of Tulsi and Ginger.
 - d. What are secondary metabolites? Give types and functions of secondary metabolites?

- Q.5. Write short notes on any four: 20**
- a. Role of PEP carboxylase.
 - b. Difference between PS-I & PS-II
 - c. Structure of Vascular bundles in monocot stem.
 - d. Phloem tissue
 - e. Active constituents & Medicinal uses of *Aloe*
 - f. Active constituents & Medicinal uses of Haldi.
