

AA(2)-Bot(2)

Sub/Gen

2020

Time : 3 Hrs

Full Marks : 75

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Answer five questions, selecting at least one from each group and Q.No.1 which is compulsory.

1. [A] Define the following questions: 1×7=7

- (a) Osmosis
- (b) Dichogamy
- (c) Phellogen
- (d) IAA
- (e) Geotropism
- (f) Holoenzyme
- (g) Totipotency

[B] Choose the correct answer of the following: 1×8=8

- (a) Vascular cambium gives rise to
 - (i) Xylem
 - (ii) Phloem
 - (iii) Xylem and phloem both
 - (iv) Secondary Xylem and secondary phloem

P.T.O.

(b) Endosperm of coconut is-

- (i) Cellular
- (ii) Ruminant
- (iii) Both nuclear and Cellular
- (iv) Nuclear

(c) Scattered Vascular bundle is found in-

- (i) Dicot root
- (ii) Monocot root
- (iii) Dicot stem
- (iv) Monocot stem

(d) Krebs cycle takes place in-

- (i) Chloroplast
- (ii) Ribosome
- (iii) Cytoplasm
- (iv) Mitochondria

(e) Filiform apparatus is found in-

- (i) Egg Cell
- (ii) Antipodal Cells
- (iii) Synergids
- (iv) Nucellus

(f) Kranz anatomy is found in

- (i) C₄ plants
- (ii) C₃ plants

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- (iii) CAM plants
- (iv) All the above
- (g) Developing pollen derives its nutrition from-
 - (i) Endothecium
 - (ii) Tapetum
 - (iii) Epidermis
 - (iv) Outer secondary parietal cell
- (h) The primary structure of protein is maintained by-
 - (i) Peptide bond
 - (ii) H-bond
 - (iii) Ionic bond
 - (iv) Hydrophobic bond

Group-A

- 2. Define meristem? Describe various theories of apical shoot meristem. 15
- 3. What is endosperm? Discuss different types of endosperm. 15
- 4. Write short notes on any **two** of the following: $7\frac{1}{2} \times 2 = 15$
 - (a) Bisporic embryosac
 - (b) T.S. of **Boerhaavia** stem
 - (c) V.S. of dorsiventral leaf
 - (d) Double fertilization

Group-B

- 5. Define Glycolysis? Describe the different steps of Glycolysis in plants. 15
- 6. What is photophosphorylation? Discuss in brief the differences in photosynthesis between C_3 and C_4 plants. 15
- 7. Write short notes on any two- $7\frac{1}{2} \times 2 = 15$
 - (a) Ascent of Sap
 - (b) Photorespiration
 - (c) Trace elements
 - (d) Role of Auxins

Group-C

- 8. What is biotechnology? Discuss some of the applications of biotechnology in human welfare. $5 + 10 = 15$
- 9. Give an account of types and structure of Amino acids. 15
- 10. Write short notes on any **two**- $7\frac{1}{2} \times 2 = 15$
 - (a) Types of Proteins
 - (b) β -oxidation
 - (c) Restriction endonuclease
 - (d) Transgenic crops
