

Reg. No. :

Code No. : 30536 E

Sub. Code : CABO 21

B.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2023.

Second/Fourth Semester

Botany — Allied

EMBRYOLOGY, PLANT ANATOMY, PHYSIOLOGY
AND BIOTECHNOLOGY

(For those who joined in July 2021-2022)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Tapetum is a
 - (a) Simple tissue
 - (b) Complex tissue
 - (c) Nutritive tissue
 - (d) Permanent tissue
2. Nuclear endosperm is seen in
 - (a) Pea
 - (b) Mango
 - (c) Sweet Pea
 - (d) Coconut
3. Plant tissue with thick cell wall is
 - (a) Epidermis
 - (b) Sclerenchyma
 - (c) Collenchyma
 - (d) Parenchyma

4. Phloem fibres are also called as
 (a) Surface fibres
 (b) Bast fibres
 (c) Sclerenchyma fibres
 (d) Libriform fibres
5. Cohesion theory is associated with this
 (a) Ascent of sap (b) Imbibition
 (c) Transpiration (d) Osmosis
6. Movement of molecules from the region of higher concentration to the region of lower concentration is called as
 (a) Osmosis (b) Imbibition
 (c) Ascent of sap (d) Diffusion
7. The scientific name of yeast is
 (a) Cercospora (b) Rhizopus
 (c) Colletotrichum (d) Saccharomyces
8. Nostoc belongs to the class
 (a) Phaeophyceae (b) Cyanophyceae
 (c) Chlorophyceae (d) Rhodophyceae
9. Who is called as father of plant tissue culture?
 (a) Bentham (b) Haberlandt
 (c) Skoog (d) White
10. The undifferentiated mass of cells are called
 (a) Meristem (b) Callus
 (c) Gynoecium (d) Organ

PART B — (5 × 5 = 25 marks)
 Answer ALL questions, choosing either (a) or (b).
 Each answer should not exceed 250 words.

11. (a) Describe the functions of tapetum.
 Or
 (b) Draw a labelled sketch of a mature ovule.
12. (a) Write notes on simple tissue.
 Or
 (b) Describe the internal structure of dicot root.
13. (a) What is transpiration? Explain the types of transpiration.
 Or
 (b) Explain non-cyclic electron transport and non-cyclic photophosphorylation.
14. (a) With suitable diagram explain the external morphology of Nostoc.
 Or
 (b) Explain the structure of yeast cell with diagram.
15. (a) Briefly explain the scope and importance of tissue culture.
 Or
 (b) Write short notes on callus culture.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Describe about the types of endosperm.
Or
(b) Discuss in detail about double fertilization.
17. (a) Write an essay on phloem tissue.
Or
(b) With suitable diagram describe the normal secondary thickening in dicot stem.
18. (a) Describe the mechanism of adsorption of water.
Or
(b) What is Calvin Cycle? Explain.
19. (a) Explain about the mass cultivation of Nostoc.
Or
(b) Write an essay on mass cultivation of yeast.
20. (a) Describe about meristem culture.
Or
(b) What is culture medium? How can you prepare M.S.-medium?