

(6 Pages)

Reg. No. :

Code No. : 20531 E Sub. Code : CABO 21

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

Second/Fourth Semester

Botany — Allied

EMBRYOLOGY, PLANT ANATOMY PHYSIOLOGY
AND BIOTECHNOLOGY

(For those who joined in July 2021 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Egg in female gametophyte is accompanied by
- (a) Antipodal cells
 - (b) Synergids
 - (c) Definitive nucleus
 - (d) Tube nucleus

2. Endosperm is a ——— tissue.

- (a) Nutritive (b) Defense
- (c) Mechanical (d) Covering

3. Food conducting tissue is ———

- (a) Phloem (b) Xylem
- (c) Cambium (d) All the above

4. Which one is a complex tissue?

- (a) Xylem (b) Parenchyma
- (c) Collenchyma (d) Sclerenchyma

5. Which one of the following process is called as necessary evil?

- (a) Transpiration (b) Photosynthesis
- (c) Respiration (d) Absorption

6. The movement of molecules from the region of higher concentration to the region of its lower concentration is known as ———

- (a) Diffusion (b) Imbibition
- (c) Plasmolysis (d) Osmosis

7. Yeast multiple through _____ method.
(a) Budding (b) Mitosis
(c) Meiosis (d) Binary fission
8. Which one of the following is used as a biofertilizer?
(a) *Nostoc* (b) *Azolla*
(c) *Anabaena* (d) All the above
9. The explant sterilizing agent is
(a) Mercuric chloride
(b) Ethylene oxide
(c) Phenol
(d) Nitric acid
10. Undifferentiated mass of cells is called
(a) Suspension (b) Embryo
(c) Callus (d) Plantlet

PART B — (5 × 5 = 25 marks)

Answer ALL questions choosing either (a) or (b).
Each answer should not exceed 250 words.

11. (a) Distinguish the types and functions of endosperm with neat sketch.
Or
(b) Concise the structure of Ovule and its types.

12. (a) Compare the primary structure of dicot stem with monocot stem.

Or

- (b) Describe simple tissues.

13. (a) How will you differentiate active and passive absorption?

Or

- (b) Explain the structure of chloroplast.

14. (a) What is biofertilizer? Enumerate the role of *Nostoc*.

Or

- (b) Briefly Explain about mass culture of yeast.

15. (a) Enlist the steps involved in callus culture.

Or

- (b) Give an account on sterilization techniques.

PART C — (5 × 8 = 40 marks)

Answer ALL questions choosing either (a) or (b).
Each answer should not exceed 600 words.

16. (a) Describe monosporic and bisporic type of female gametophyte development.

Or

- (b) Illustrate the structure of dicot embryo.

17. (a) Define meristematic tissue. Explain its classification.

Or

- (b) Illustrate the internal morphology of dorsiventral leaf.

18. (a) Describe the factors affecting water absorption.

Or

- (b) Describe the mechanism of transpiration in plant. Explain the factors affecting transpiration.

19. (a) Describe in detail about the structure and multiplication of yeast.

Or

- (b) Describe the methods of mass cultivation of *Nostoc*.

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20. (a) Write the tools required for tissue culture laboratory.

Or

- (b) Enumerate the applications of tissue culture.
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