

(6 pages)

Reg. No. :

Code No. : 30530 E Sub. Code : CMBO 51

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

Fifth Semester

Botany — Core

**CELL BIOLOGY AND EMBRYOLOGY OF
ANGIOSPERMS**

(For those who joined in July 2021–22)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

1. The term cell was given by
(a) Robert Hooke (b) Tatum
(c) Schwann (d) De Bary
2. A plant cell wall is mainly composed of
(a) Protein (b) Cellulose
(c) Lipid (d) Starch

3. Which of the following is known as the powerhouse of a cell?
(a) Mitochondria (b) Cytoplasm
(c) Lysosome (d) Nuclei
4. 80S ribosomes are found in
(a) Alga cell (b) Bacterial cell
(c) Eukaryotic cell (d) Virus
5. The two nuclei at the end of the pollen tube are called
(a) Tube nucleus and a generative nucleus
(b) Sperm and ovum
(c) Generative nucleus and stigma
(d) Tube nucleus and sperm
6. Embryo sac is located inside the
(a) Stigma (b) Ovule
(c) Micropyle (d) Style

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7. Which of the following contains the filiform apparatus?
- (a) zygote (b) synergids
(c) generative cell (d) egg
8. The entry of pollen tube into the ovule through the micropyle is called
- (a) Chalazogamy (b) Syngamy
(c) Mesogamy (d) Porogamy
9. Double fertilization is due to the fusion of
- (a) male gametes with egg and synergid
(b) male gametes with egg and secondary nucleus
(c) male gametes with egg and polar nuclei
(d) male gametes with two eggs
10. In plants, apomixis pertains to plant development
- (a) from root Cuttings
(b) from cuttings of stem
(c) without the gametes
(d) fusion of gametes

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PART B — (5 × 5 = 25 marks)

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

Each answer should not exceed 250 words.

11. (a) Draw the structure of prokaryotic cell.

Or

- (b) Give an account of amitosis.

12. (a) Describe the organization of chloroplast.

Or

- (b) Explain the structure of ribosomes.

13. (a) Draw the structure of a typical dicot flower.

Or

- (b) Elucidate the structure of anther.

14. (a) What do you mean by self-incompatibility?
What role do they play in plant systems?

Or

- (b) Analyse the structure of cellular endosperm.

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15. (a) Write notes on Parthenocarpy.

Or

- (b) How will you define fruit? How are they formed in plants?

PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) Illustrate the Cell cycle.

Or

- (b) Draw the labelled diagram of eukaryotic cell.

17. (a) With neat labelled diagram, explain the structure of nucleus.

Or

- (b) Explain the organization of endoplasmic reticulum.

18. (a) Describe the structure of nuclear endosperm.

Or

- (b) List down the types of ovules.

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19. (a) Examine the pollen – pistil interaction.

Or

- (b) Critically analyse the double fertilization.

20. (a) Explain the internal structure of seed.

Or

- (b) How will you account for the polyembryony?
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