19. Write an essay on the embryogenesis in dicot plants with a suitable diagram.

20. Describe the nuclear transplantation experiments with *Acetabularia* and present the importance.

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S.No. 2623 **P 16 BO 21**

(For candidates admitted from 2016–2017 onwards)

M.Sc. DEGREE EXAMINATION, NOVEMBER 2022.

Botany

ANATOMY, EMBRYOLOGY AND MORPHOGENESIS

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20)

Answer ALL questions.

1. Lateral meristem

2. Korper— Kappe theory

3. Unilacunar node

4. Anisocytic sotmata

5. Endothecium

6. Apogamy

7. Adventive Embryony

8. Diplospory

9. Dedifferentiation

10. Morphogens.

SECTION B — (5 × 5 = 25)

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

11. (a) Briefly explain the cellular diversity and function of xylem.

Or

(b) Write short notes on Histogen theory.

12. (a) Present a short account on the types of vascular bundles observed at the node of the dicot stem.

Or

(b) Give a schematic diagram of the internal structure of monocot root with labels.

13. (a) Describe the wall layers of tapetum with suitable diagram.

Or

(b) Describe the parts of ovule with a diagram.

14. (a) What are the functions of endosperm?

Or

(b) Comment on exploitation of polyembrony and apomixis in plant improvement programme.

15. (a) Write short notes on Turing's diffusion reaction theory.

Or

(b) Describe the role of auxin in plant morphogenesis.

SECTION C — (3 × 10 = 30)

Answer any THREE questions.

16. Describe the structural diversity and phylogenetic trends of specialization of xylem.

17. Give a detailed account of the common stomatal types of angiosperms.

18. Present the types of embryo sacs with suitable diagram.