

(6 pages)

Reg. No. :

Code No. : 7405

Sub. Code : HBOM 12

M.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2015.

First Semester

Botany

ANATOMY AND EMBRYOLOGY OF ANGIOSPERMS

(For those who joined in July 2012 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer.

1. The cambial strips found in between the vascular bundles are known as
(a) Fascicular (b) Interfascicular
(c) Intrafascicular (d) Procambium
2. The juvenile tissues are known as
(a) Vegetative tissue (b) Reproductive tissue
(c) Meristem (d) All the above

3. Heart wood is otherwise called as
(a) Duramen (b) Sap wood
(c) Alburnum (d) Both (a) and (c)
4. Example for anomalous secondary growth
(a) *Bougainvillea* (b) *Campsis*
(c) *Boerhaavia* (d) All the above
5. Leaf trace is otherwise called as
(a) Lacunae (b) Fascicular area
(c) Bundle sheath (d) Branch gap
6. Soft wood is caused by
(a) Deuteromycetes (b) Ascomycetes
(c) Zygomycetes (d) Oomycetes
7. A schematic illustration of a pollen grain is called as
(a) Palynology (b) Palynogram
(c) Dendrochronology (d) Dendrogram

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8. Size of the pollen grain in *Myosotis* sp.
(a) $8\ \mu\text{m}$ (b) $10\ \mu\text{m}$
(c) $12\ \mu\text{m}$ (d) $14\ \mu\text{m}$
9. Absence of free nuclear stage occur in
(a) Nuclear endosperm (b) Cellular endosperm
(c) Helobial endosperm (d) Cereal endosperm
10. Fusion of the egg nucleus with sperm nucleus is called
(a) Chalazogamy (b) Mesogamy
(c) Porogamy (d) Syngamy

PART B — ($5 \times 5 = 25$ marks)

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

Each answer should not exceed 250 words.

11. (a) What are the differences between fascicular and interfascicular cambium?

Or

- (b) Explain developmental biology.

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12. (a) Briefly write notes on phylogenetic trends of xylem.

Or

- (b) Write short notes on structure of lenticels with neat diagram.

13. (a) Describe the mechanical properties of wood.

Or

- (b) Explain differentiation of epidermis.

14. (a) Narrate the different types of self incompatibility.

Or

- (b) Briefly explain the stigma and its significance.

15. (a) Describe the development of cellular endosperm.

Or

- (b) What is embryogenesis? Explain.

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PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) Give an account of apical meristem.

Or

- (b) Write an essay on nuclear — cytoplasmic interactions.

17. (a) Explain primary and secondary structures of xylem.

Or

- (b) Narrate the anomalous secondary growth in *Bignonia* with neat diagram.

18. (a) Give an elaborate account on types and phylogenetic trends of nodal anatomy.

Or

- (b) Write an essay on defects in wood.

19. (a) Write a detailed account on microsporogenesis.

Or

- (b) Write an essay on fertilization.

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20. (a) Explain seed coat development and its specializations.

Or

- (b) Describe the followings :

- (i) Polyembryony
- (ii) Parthenocarpy
- (iii) Apomixis.

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