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Reg. No. : .....

Code No. : 11644 E      Sub. Code : SMBO 11

B.Sc. (CBCS) DEGREE EXAMINATION,  
NOVEMBER 2018.

First Semester

Botany – Main

PLANT ANATOMY AND MICROTECHNIQUES

(For those who joined in July 2017 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. \_\_\_\_\_ is developed from dermatogen.  
(a) Cortex                      (b) Vascular tissues  
(c) Epidermis                (d) None of these
2. The only living cell components of xylem is  
(a) Xylem tracheid      (b) Xylem vessel  
(c) Xylem fibre            (d) Xylem paren chyma

3. The vascular bundles in monocot leaves are arranged in this manner  
(a) Parallel                      (b) Zig – Zag  
(c) Reticulate                (d) None of these
4. Casparian thickenings are seen in this  
(a) Pericycle  
(b) Endodermis of Stem  
(c) Endodermis of Root  
(d) Bundle Sheath
5. Boerhaavia belongs to this family  
(a) Amaranthaceae      (b) Nyctaginaceae  
(c) Euphorbiaceae      (d) Lamiaceae
6. The balloon like structures found in the lumen of xylem vessels are called as \_\_\_\_\_.  
(a) Lenticel                      (b) Rhitidome  
(c) Tyloses                      (d) None of these

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7. The secondary vascular bundles developed during the anomalous secondary growth in Draceana stem are

- (a) Concentric Amphivasal
- (b) Concentric Amphicribal
- (c) Conjoint Collateral
- (d) Radial

8. Leaves with stomata arranged on both sides of the leaves are called as

- (a) Epi stomatic leaves
- (b) Hypo stomatic leaves
- (c) Amphi stomatic leaves
- (d) None of these

9. In double staining, the stain that is used as second stain is called as \_\_\_\_\_.

- (a) Primary stain      (b) Counter stain
- (c) Both (a) and (b)      (d) None of these

10. The number of lenses used in compound microscope is \_\_\_\_\_.

- (a) One                      (b) Two
- (c) Three                      (d) None

PART B — (5 × 5 = 25 marks)

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

Each answer should not exceed 250 words.

11. (a) Describe 'quiescent centre' theory.

Or

(b) Explain 'histogen theory'.

12. (a) Write an account on types of vascular bundles.

Or

(b) Describe the internal structure of dorsiventral leaf with diagram.

13. (a) What is anomalous secondary growth? How does it take place in Dracaena Stem.

Or

(b) Describe the anomalous secondary growth that take place in Boerhaavia Stem.



14. (a) Explain the structure of stomata.

Or

- (b) Describe the anatomy of node with diagram.

15. (a) On what principle does the light microscope work?

Or

- (b) Give an account on maceration.

PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) Write on account on the characteristics and classification of meristems.

Or

- (b) Compare the structure of xylem vessel and phloem sieve tube.

17. (a) Tabulate the differences between the internal structure of dicot stem and monocot stem.

Or

- (b) Tabulate the differences between the internal structure of dicot root and monocot root.

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18. (a) Describe with the help of diagram the process of secondary growth that takes place in dicot stem.

Or

- (b) How does the secondary growth in thickness take place in dicot root.

19. (a) How did Sinnot classify the nodes of dicotyledons based on number of leaf gaps (lacunae)?

Or

- (b) Describe the types of stomata found in dicotyledons.

20. (a) Explain the parts and working principle of compound microscope.

Or

- (b) Write about the Preparation of Permanent Slide.

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