

**SUBJECT CODE: 11BT/MC/AE44**

**B.Sc. DEGREE EXAMINATION, APRIL 2016**  
**BRANCH V(a) – PLANT BIOLOGY AND PLANT BIOTECHNOLOGY**  
**FOURTH SEMESTER**

**COURSE : MAJOR – CORE**  
**PAPER : ANATOMY AND EMBRYOLOGY OF ANGIOSPERMS**  
**TIME : 3 HOURS** **MAX. MARKS: 100**

**SECTION-A**

**A. ANSWER THE FOLLOWING** **18 Marks**  
**I. Choose the correct answer** **(1x5=5)**

1. Double fertilization is characteristic of  
a. Pteridophytes b. Bryophytes c. Gymnosperms d. Angiosperms
2. Numerous vascular bundles are arranged in a scattered manner in  
a. Monocot stem b. Monocot root c. Monocot leaf d. Monocot seed
3. The Presence of casparian strips is a characteristic feature of  
a. Pericycle b. Periblem c. Endodermis d. Endosperm
4. The arrangement of xylem in a stem is said to be  
a. Exarch b. Collateral c. Bicollateral d. Endarch
5. In Angiosperms the leaf gap is found in  
a. Internode b. Node c. Shoot apex d. Petiole

**II. Fill in the blanks:** **(1x5=5)**

6. The outermost layer of stele in a dicot stem is\_\_\_\_\_.
7. Commercial cork is a dead tissue with thickened walls by the deposition of \_\_\_\_\_.
8. Nyctanthes arbor-tristis shows anomalous secondary structures called\_\_\_\_\_.
9. In a mature dicot embryosac, the egg apparatus consists of an egg and\_\_\_\_\_.
10. The Bisporic embryosac are typically\_\_\_\_\_nucleate.

**III. State True or False** **(1x4=4)**

11. Palms do not increase in girth, because of cambial activity but is the result of increase in size of cells, fiber tissues, intercellular spaces.
12. Companion cells are absent in Pteridophytes and Gymnosperms.
13. Quiescent centre have inactive cells.
14. Vessels are not characteristic of the Angiosperms.

**IV. Match the following** **(1x4=4)**

- |                    |   |              |
|--------------------|---|--------------|
| 15. Xylem          | - | Phellogen    |
| 16. Hypodermis     | - | Isobilateral |
| 17. Rhytidome      | - | Zea mays     |
| 18. Monocot leaves | - | Fibers       |

**V. ANSWER ANY SIX OF THE FOLLOWING QUESTIONS IN 50 WORDS EACH:****(6x3=18 )**

19. What are Medullary Rays?
20. Describe a stomatal apparatus.
21. What is a Pallisade Parenchyma?
22. Describe Dendrochronology.
23. Define Apomixis.
24. What is a Periderm?
25. Describe an Orthotropous ovule.
26. Write about Apical meristem.
27. What are Lenticels?

**SECTION-B****ANSWER ANY FOUR OF THE FOLLOWING QUESTIONS IN ABOUT 200 WORDS EACH. DRAW DIAGRAMS WHEREVER NECESSARY.****(4x6=24)**

28. Write notes on Vascular Cambium.
29. Explain the following structures Sapwood, Heartwood, Compressionwood, Tensionwood.
30. Write about the Primary thickening Meristem in Monocots.
31. Explain the structure of Centric Monocot leaf.
32. Explain the 3 types of Endosperms.
33. Explain leaf Abscission.

**SECTION-C****ANSWER ANY TWO OF THE FOLLOWING QUESTIONS IN ABOUT 1000 WORDS EACH. DRAW DIAGRAMS WHEREVER NECESSARY.****(2x20=40)**

34. Describe the process of Double Fertilization.
35. Describe Microsporogenesis.
36. Describe the process of secondary growth in normal dicot root.
37. Write an essay on secondary phloem.

**\*\*\*\*\***