

B.Sc. BOTANY
SECOND SEMESTER
ANATOMY, PALYNOLOGY & EMBRYOLOGY
BSB - 201

(Use Separate Answer Scripts for Objective & Descriptive)

Duration : 3 hrs.

Full Marks : 70

(PART-A: Objective)

Time: 20 min.

Marks: 20

Choose the correct answer from the following:

1X20=20

1. The apical meristem of the root is found in
 - a. Taproots
 - b. Radicals
 - c. Adventitious roots
 - d. All roots
2. Which meristem helps in increasing the girth of the plant
 - a. Primary meristem
 - b. Apical meristem
 - c. Intercalary meristem
 - d. Lateral meristem
3. In angiosperms, xylem is made up of
 - a. Tracheids and fibres
 - b. Tracheids and vessels
 - c. Vessels and fibres
 - d. All of the above
4. Vascular bundles in dicot stem are
 - a. Closed, conjoint, endarch
 - b. Open, conjoint, endarch
 - c. Closed, conjoint, exarch
 - d. Open, conjoint, exarch
5. Which of these is composed of dead cells
 - a. Xylem parenchyma
 - b. Phellem
 - c. Phloem
 - d. Collenchyma
6. In a woody dicotyledonous tree, which of the following parts will mainly consist of primary tissues?
 - a. Shoot and root tips
 - b. Flowers, fruits and leaves
 - c. Root and Stem
 - d. All part
7. What is exine covered by?
 - a. Parenchyma
 - b. Paracellulose
 - c. Pollen
 - d. Pollenkitt
8. Pollen grains are also known as
 - a. Megaspore
 - b. Male gamete
 - c. Microspore
 - d. All above
9. Nutritive layer for developing microspore
 - a. Tapetum
 - b. Epiblema
 - c. Integument
 - d. Nucellus

10. Pollen grains are
 a. Haploid
 b. Diploid
 c. Triploid
 d. None
11. Embryo sac is
 a. 7-celled
 b. 8-celled
 c. 6-celled
 d. 9-celled
12. Double fertilization is seen in
 a. Gymnosperm
 b. Angiosperm
 c. Pteridophyte
 d. All above
13. Union of male gamete and secondary nucleus is called
 a. Double fertilization
 b. Fertilization
 c. Triple fusion
 d. All above
14. Style is a part of
 a. Stamen
 b. Anther
 c. Flower
 d. Pistil
15. Male reproductive organ of a flower is
 a. Stamen
 b. Carpel
 c. Style
 d. None
16. Base of the carpel is called
 a. Stamen
 b. Ovule
 c. Ovary
 d. Stigma
17. In Angiosperms, the functional megaspore gives rise to
 a. Ovule
 b. Embryo
 c. Embryo sac
 d. Endosperm
18. After fertilization the seed coat develops from
 a. Chalaza
 b. Ovule
 c. Embryo sac
 d. Integument
19. Anomalous secondary growth is seen in
 a. Draceana
 b. Wheat
 c. Ginger
 d. Rice
20. Regeneration of damaged growing grass following grazing is largely due to
 a. Intercalary meristem
 b. Lateral meristem
 c. Secondary meristem
 d. Apical meristem

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(PART-B :Descriptive)

Time : 2 hrs. 40 min.

Marks : 50

[Answer question no.1 & any four (4) from the rest]

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| 1. Define sporogenesis. Describe the process of microsporogenesis with suitable diagram. | 2+8=10 |
| 2. What is Palynology? Write a short note on the branches of palynology and its interdisciplinary relationship. | 2+4+4
=10 |
| 3. Describe briefly the process of double fertilization. | 10 |
| 4. What is NPC system of pollen morphology? Write a note on pollen-pistil interaction. | 5+5=10 |
| 5. Give an account on the anatomy of dicot and monocot stem. | 5+5=10 |
| 6. Write a note on heartwood and sapwood and give an account on the function of periderm. | 6+4=10 |
| 7. Write differences between sporogenesis and gametogenesis. | 10 |
| 8. Write short notes on:
a. Types of fruit
b. Dicot embryo | 8+2=10 |

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