

**B.Sc. BOTANY**  
**FOURTH SEMESTER**  
**DIVERSITY OF SEED PLANTS**  
**BSB – 741**

( 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**

- The antipodal cells are made up of
  - 2 nuclei
  - 3 nuclei
  - 4 nuclei
  - None of the above
- Wing seeds are not present in
  - Pinus*
  - Cycas*
  - Gnetum*
  - None of the above
- Vascular bundles in dicot stem are
  - closed, conjoint, endarch
  - open, endarch
  - closed, conjoint, exarch
  - open, conjoint, endarch
- Most advanced dicot family among angiosperms
  - Asteraceae
  - Ranunculaceae
  - Lamiaceae
  - Solanaceae
- Female reproductive organ of a flower
  - Pistil
  - Stamen
  - Calyx
  - Corolla
- The type of Inflorescence observed in the family Poaceae is
  - Verticillater
  - Cyathitun
  - Catkin
  - Spikelet
- The structure of monocot stomata is
  - Bean shaped
  - Dumbbell shaped
  - Round shaped
  - All of above
- The orthotropus ovule found in
  - Pinus*
  - Sunflower
  - Maize
  - Bean
- Which of the plant is considered as primitive among gymnosperms?
  - Pentoxylon*
  - Pinus*
  - Abies*
  - Gnetum*

10. Most advanced monocot family among angiosperms
  - a. Poaceae
  - b. Zingiberaceae
  - c. Orchidaceae
  - d. Liliaceae
11. In angiosperms, xylem is made up of
  - a. Tracheids and fibres
  - b. Tracheids and vessels
  - c. Fibres
  - d. All of the above
12. Arrangement of leaves in plants is known as
  - a. Aestivation
  - b. Inflorescence
  - c. Phyllotaxy
  - d. Capitulum
13. The autumn wood is also known as
  - a. heartwood
  - b. annual ring
  - c. spring wood
  - d. sapwood
14. Collateral bundles are found in the stem of
  - a. Rice
  - b. Dracaena
  - c. Pumpkin
  - d. Mirabilis
15. Which of the following is a water pollinated plant?
  - a. *Oxalis*
  - b. *Vallisneria*
  - c. *Marsilea*
  - d. *Cannabis*
16. The innermost nutritive layer of anther is known as
  - a. tapetum
  - b. endothecium
  - c. hypodermis
  - d. endodermis
17. Snail pollination also known as
  - a. Zoophily
  - b. Hydrophily
  - c. Mycology
  - d. Malacophily
18. The embryo sac occurs in
  - a. endosperm
  - b. ovule
  - c. axis part of embryo
  - d. embryo
19. Anemophily is also known as
  - a. Wind pollination
  - b. Bat pollination
  - c. Water pollination
  - d. None of the above
20. An example of wind pollinated plant is
  - a. Sunflower
  - b. *Adansonia*
  - c. Maize
  - d. Dragon tree

**( PART-B : Descriptive )**

Time : 2 hrs. 40 min.

Marks : 50

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

1. Write the differences between dicot and monocot stem? 10
2. Draw and describe the anatomical structure of Cycas leaf? 10
3. Write the Morphological characteristics of Pinus? Write the classification of gymnosperms? 5+5=10
4. What do you mean by secondary growth in plants? Describe briefly the anatomical structures of a dicot stem? 2+8=10
5. Draw and describe the 7celled, 8-nucleate embryo sac of angiosperms? 10
6. Write the differences between racemose and cymose inflorescence? Draw and describe briefly the various parts of an angiospermic flower ? 2+8=10
7. Define Binomial Nomenclature? Write the rules of Binomial Nomenclature? 2+8=10
8. Describe briefly the various types of cross pollination in plants with proper example? 10

= = \*\*\* = =

[ 3 ]

USTM/COE/R-01