REV-01
BSB/08/13

2023/12

SET A

B.Sc. BOTANY
FIRST SEMESTER
ARCHEGONIATES AND PALAEOBOTANY
BSB-101 (IDMj)

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 3 hrs. **Full Marks: 70**

Objective

Time: 30 mins. **Marks: 20**

Choose the correct answer from the following: ***1×20=20***

1. In Cycas, the endosperm is a:
   a. Post fertilization product and diploid
   b. Post fertilization product and haploid
   c. Pre fertilization product and diploid
   d. Pre fertilization product and haploid

2. Choose the true statement about fossilization from the given options.
   a. Fossilization is more common for the animals in forests and mountains compared to the animals from oceans and deserts
   b. Fossilization is a very common occurrence
   c. Small animals with very less weight are more likely to become fossils
   d. None of the above

3. This is the most commonly occurring ornamental species of Cycas:
   a. *Cycas revoluta*
   b. *Cycas beddomei*
   c. *Cycas circinalis*
   d. *Cycas rumphii*

4. Winged seeds are present in:
   a. Pinus
   b. Cycas
   c. Papaver species
   d. None of the above

5. The first cycads appear in:
   a. Permian
   b. Silurian
   c. Jurassic
   d. Cretaceous

6. Antheridia and archegonia are most reduced in:
   a. Bryophyta
   b. Selaginella
   c. Ferns
   d. Pinus

7. *Rhynia* is a ..... plant.
   a. Devonian
   b. Silurian
   c. Cambrian
   d. Jurassic

8. To which of the following the genus *Williamsonia* belongs?
   a. Cycadales
   b. Coniferales
   c. Bennittitales
   d. Ginkgoales

9. Though Cycas has an embryo with two cotyledons, it is not grouped under dicotyledonous plants as:
   a. Ovules are naked
   b. Possesses compound leaves
   c. Has megasporophyll
   d. Resembles a palm tree

10. Leaf arrangement in Gnetum is:
    a. Opposite decussate
    b. Opposite superposed
    c. Whorled phyllotaxy
    d. Alternate phyllotaxy

11. What is the dominant stage in the life cycle of bryophytes?
    a. Gametophyte
    b. Sporophyte
    c. Zygote
    d. Seed

12. What is the role of the rhizoids in bryophytes?
    a. Photosynthesis
    b. Water absorption and anchorage
    c. Reproduction
    d. Nutrient storage

13. Why Bryophyte are called amphibians of plant kingdom?
    a. Because they grow inwater during summer and on land in winter
    b. Because they grow on land but water is necessary for them to reproduce
    c. Because they grow in water during first half of the year and on land in the second half of the year
    d. Because they grow in water in north part of world and on land in southern part of the world

14. *Riccia* belongs to.....
    a. Liverworts
    b. Mosses
    c. Hornworts
    d. Pteridophytes

15. Gemmae are present in:
    a. Some Liverworts
    b. Pteridophytes
    c. Mosses
    d. Some Gymnosperms

16. The dominant stage in the life cycle of most pteridophytes is the:
    a. Seed
    b. Sporophyte
    c. Zygote
    d. Gametophyte

17. What is the primary reproductive structure in pteridophytes?
    a. Flower
    b. Cone
    c. Spore
    d. Seed

18. Which of these is a member of vascular Cryptogams?
    a. Bryophyta
    b. Gymnosperms
    c. Angiosperms
    d. Pteridophyta

19. The Stele in which xylem forms several plates is:
    a. Haplostele
    b. Plectostele
    c. Actinostlele
    d. Polycyclic

20. *Lycopodium* is often referred to as:
    a. Club moss
    b. Sphagnum moss
    c. Peat moss
    d. Fern moss

-- --- --

(Descriptive)

Time : 2 hr. 30 mins. **Marks : 50**

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

1. Discuss the anatomy of stem and root of *Gnetum* with suitable diagrams. 5+5=10
2. Mention the different Periods of Mesozoic Age and the presence of their respective floras. 5+5=10
3. Describe in detail the occurrence and reproduction in *Williamsonia* with necessary illustrations. 5+5=10
4. Discuss in detail the structure of *Marchantia*with necessary diagrams. 10
5. Discuss the general life cycle of Gymnosperms with proper diagrams. 10
6. Explain the life cycle of a typical bryophyte. Highlight the key stages, emphasizing the significance of alternation of generations. 5+5=10
7. Discuss the structural features that distinguish ferns from other plant groups. Include details about the vascular tissue, leaves, and sporangia. 5+5=10

   Or

   Describe the classification pteridophytes.
8. Define the term "stele". Explain its structural features and provide examples of different types of steles found in pteridophytes. 2+8=10

= = *** = =