

**QUESTION BANK**  
**SEMESTER II**  
**CORE COURSE-4**  
**ARCHAEGONIATE (BOT-A-CC-2-4-TH)**

**Bryophyta:-**

Short answer type questions- (1 or 2 marks):-

1. Write the name of an Indian species of *Marchantia*.
2. What is peristome teeth? Where it is found?
3. Write the function of endothecium and amphithecium in the development of capsule in Hepaticopsida.
4. Distinguish between Anthocerotopsida and Bryopsida on the basis of thallus structure.
5. What are calyptra? What is its functions
6. Name one Indian species of *Anthoceros*.
7. What is elater and its functions?
8. What are pseudo-elaters. Where it can be found?
9. Differentiate between apothecium and perithecium.
10. Write a short note on rhizoids of *Marchantia*.
11. Name one xerophytic moss.
12. What is annulus?
13. Elaters of *Marchantia* and *Equisetum*.
14. Which moss is called granite moss and why?
15. From which geological age *Naiadita* was discovered?
16. Give example of ecotype species in bryophytes.
17. What is gemma?
18. What is perichaetium and paraphyssis.
19. Which part of developing embryo of *Anthoceros* gives rise to sporogenous tissue.
20. Name the sterile tissue found in the mature capsule of *Funaria*.
21. Name one pioneer member of Bryophyte colonizes at the bottom of submerged water.
22. What is bog moss?
23. Name a bryophyte involved in bog succession.
24. Name a bryophyte used to monitor SO<sub>2</sub> pollution.
25. What is Bryo-meter?
26. Name a bryophyte absorbing airborne-Pb (lead).
27. Name a bryophyte used to monitor airborne-mercury.
28. Name a bryophyte used to monitor toxic Vanadium (Vo)
29. Name Ozone gas (O<sub>3</sub>) monitoring Bryophyte.
30. Name Fluoride gas (in the form of HF gas) monitoring Bryophyte.
31. Name a bryophyte monitoring radioisotopes.
32. What is sphagnol?
33. Mention two important factors necessary for Bryophyte colonization.
34. Define Bog Succession.
35. Why Spagnum is called as 'Peat moss'?
36. Why Sphagnum is called as 'Cotton Moss'?

### Short Note Type Questions- (5 Marks):-

1. Write the role of peristome teeth in spore dispersal?
2. Write in short the role of Bryophyta in plant succession.
3. Enumerate the advanced features in *Anthoceros*.
4. Describe the photosynthetic tissue of *Marchantia* and *Anthoceros*.
5. Write in short the spore dispersal mechanism in Bryopsids you have studied.
6. How is amphibian nature exhibit in bryophyte.
7. Distinguish with illustration the archegonia of *Marchantia* and *Anthoceros*.
8. Narrate vegetative reproduction in Bryophyta.
9. Causes of colonization of Bryophytes
10. Role of Bryophytes in Plant Succession.
11. Bog Succession
12. Quacking bogs.
13. Role of Sphagnum in vegetational succession.
14. Role of Bryophyte in pollution monitoring.
15. Economic importance of *Sphagnum* spp.
16. Sphagnum and Peat.
17. Uses of Sphagnum spp. as food, medicine and surgical dressings.

### Broad Answer Type Questions- (8 or 10 Marks):-

1. Write an explanatory note on sterile tissue in the sporophytes of Bryophyta with the help of suitable diagram.
2. Distinguish between Hepaticopsida and Bryopsida. Draw a vertical sectional view of *Marchantia* archegoniophore.
3. Draw and describe the gametophytic plant body of *Anthoceros*. Write a short note on the evolutionary significance of the sporophyte of *Anthoceros*.
4. Write notes on Origin of Alternation of Generations (Homologous and Antithetic theory).
5. Write notes on Evolution of Sporophytes (Progressive and Regressive concept).
6. Describe the gametophyte morphology of *Marchantia* and *Funeria*.
7. Write explanatory note on the sexual reproduction of *Marchantia*.
8. Briefly describe the structural organization of the sporophyte of *Anthoceros*.
9. Give an illustrated account of the structure and development of the sporophyte of *Funeria*.
10. Describe briefly how *Sphagnum* plays a vital role in changing the landscape.
11. Define biomonitoring. Describe the role played by Bryophytes in pollution monitoring with example.
12. Describe economic significances of *Sphagnum* with reference to food, peat, horticulture, medicinal, surgical dressings and pollution monitoring.

### **Pteridophyta-**

#### Short answer type questions- (1 or 2 marks):-

1. What are microphyllous and megaphyllous leaves?
2. State the xerophytic characters of *Equisetum*.
3. What do you mean by spore tetrad?

4. What is mixed sorus? Give one example.
5. What is mixed sorus? Give one example.
6. Horse tail is common name of which plant.
7. Spores of pteridophytes are genetically which type.
8. Three chambered sporangium is present in which genus.
9. Sporangia are developed in *Equisetum* in which organ.
10. Distinguish between the spores of *Selaginella* and *Pteris*.
11. Write the role of elaters in *Equisetum*.
12. Comment on the secondary growth in living Pteridophyta.
13. What is incipient heterospory?
14. Write the function of Ligule.
15. What is apogamy and apospory?
16. What is circinate pefoliation?
17. What is ramenta?
18. Write botanical name of 'Dhenki Sak'.
19. Name a pteridophyte whose underground part is used as food by duck & Pigs.
20. Name a pteridophyte used as medicine.
21. Name a pteridophyte used to cure liver disease.
22. Name a pteridophyte used to treat diarrhoea.
23. Name a pteridophyte used as protective dusting powder for tender skin.
24. Name a pteridophyte used to cure acidity.
25. Name a pteridophyte used to relieve gonorrhoea.
26. Name a pteridophyte used wormicide.
27. Name a pteridophyte used as a hair wash.
28. Name a pteridophyte used to cure liver diseases including jaundice.
29. Name a pteridophyte used as biofertilizer.
30. Name a pteridophyte used as 'Green manure'.
31. What is 'nardoo'? Name a pteridophyte producing it.
32. What do you mean by 'Herba Equiseti'? Mention its use.

#### Short Note Type Questions- (5 Marks):-

1. Write the Land adaptive features in Pteridophyta.
2. Why Pteridophytes are known as vascular cryptogams?
3. Describe with labelled sketches the structure of the sorus of *Pteris*.
4. What is eusporangiate and leptosporangiate development?
5. Comment on the sporangium of *Psilotum*.
6. Comment on the Rhizophore of *Selaginella*.
7. What peculiarity you have observed in the gametophyte of *Psilotum*.
8. Comment on the endodermis of *Selaginella*.
9. Pteridophytes used as food for human beings and other animals.
10. Pteridophytes used as medicine.
11. Pteridophytes used in Agriculture.

#### Broad Answer Type Questions- (8 or 10 Marks):-

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1. With the help of neat sketches describe the variations in arrangement of sporophylls & stem anatomy of *Selaginella*. Mention the views regarding the division of this genus.
2. Write notes on Heterospory in pteridophytes and the evolution of seed habit.
3. Give an account of the structure and development of gametophyte in *Selaginella*.
4. Write in short the Telomic concept and origin of leaves and roots in Pteridophyta.
5. How the gametophyte of *Equisetum* and *Psilotum* does differs.
6. Discuss the sexuality in *Equisetum*.
7. Describe economic significances of Pteridophytes with reference to food, medicine and agriculture.

## Gymnosperm-

### Short answer type questions- (1 or 2 marks):-

1. Mention any two fern characters of *Cycas*.
2. State the main function of scale leaves in *Cycas*.
3. What is coralloid root?
4. What is transfusion tissue? What is its function?
5. Differentiate between pollen grains of *Cycas* and *Pinus*.
6. What is cleavage polyembryony of *Pinus*?
7. What is shoot dimorphism? Give an example.
8. Define pre-pollen. Give one example.
9. Name two Indian species of *Pinus*.
10. What is long shoot?
11. What is dwarf shoot?
12. What types of stomata are found in *Cycas*, *Pinus* and *Gnetum*?
13. State two angiospermic characters of the ovule of *Gnetum*.
14. Give the botanical name of two timber yielding plants belonging to Pinaceae.
15. What is sulphur shower? Name a gymnosperm producing timber.
16. Name a gymnosperm used in producing plywood.
17. Name a gymnosperm used to make musical instrument.
18. Name a gymnosperm used to make boat.
19. Name a gymnosperm used to make match sticks.
20. Name a gymnosperm used to make high quality pencils and cigar box.
21. What is sandarac? Name a gymnosperm producing 'sandarac'.
22. What is amber?
23. Name the fossil gymnosperm from which 'amber' is produced.
24. Name a gymnosperm from which pine resin is obtained.
25. What is 'copal'?
26. Name the gymnosperm from which perfumes are prepared from its essential oil.
27. Name a gymnosperm from which room sprays are prepared from its essential oil.
28. Name a gymnosperm whose seeds are used as stomach purifier.

29. Name a gymnosperm producing 'taxol'.
30. Name a gymnosperm producing 'ephedrine'.
31. Name a gymnosperm having pesticidal property.
32. Name a gymnosperm used to treat vertigo & Cerebral insufficiency.
33. Why wood of *Cedrus* is in great demand?
34. What is 'spurge gums'? mention its use.
35. Name a gymnosperm from which 'Kauri copal' is obtained. Mention its use.
36. Name a gymnosperm from which 'canada balsam' is obtained. Mention its use.
37. Name a gymnosperm from which Red cedar wood oil is obtained. Mention its use.
38. What is taxol? Mention its use.
39. What is ephedrine? Mention its use.

#### Short Note Type Questions- (5 Marks):-

1. Give an account of the female gametophyte development in *Cycas*.
2. Compare the anatomy of *Cycas* and *Pinus*.
3. State the geographical distribution of *Pinus* species in India.
4. Describe the distribution of different species of *Gnetum* found in India.
5. Describe the mechanism of pollination in *Cycas*.
6. Give an account of the female gametophyte development in *Gnetum*.
7. Write a note on male cone of *Pinus*.
8. Comment on the morphological nature of the ovuliferous scale of *Pinus*.
9. Write a note on the ovule of *Gnetum*.
10. Describe briefly the economic importance of gymnosperm.
11. Wood producing Gymnosperms.
12. Resin-producing Gymnosperms.
13. Drug-producing Gymnosperms.

#### Broad Answer Type Questions- (8 or 10 Marks):-

1. Distinguish between the wood anatomical features of *Cycas* and *Pinus*. State the geographical distribution of *Cycas* in India. Add a note on the economic importance of the gymnosperms with reference to wood and essential oil.
2. Compare the embryogeny of *Cycas* and *Pinus* with suitable diagrams. Add a note on the angiospermic characters of *Gnetum*.
3. Describe the mode of pollination and fertilization in *Pinus*.
4. Describe the structure of ovule and post fertilization change in *Pinus*.
5. Describe the structure of male and female cones of *Pinus*.
6. Compare *Cycas* and *Pinus* leaflets, giving neat sketches.
7. Describe the male and female flowers of *Gnetum*.
8. Give an illustrated account of the development of the female gametophytes of *Cycas*.
9. Give an account of the life history of *Gnetum*.
10. Give an account of the anatomical characters of young and old stem of *Gnetum*.
11. Describe economic significances of Gymnosperms with reference to wood, resins, essential oils and drugs.