GOVT. AUTONOMOUS COLLEGE, ROURKELA
PG DEPARTMENT OF BOTANY
QUESTION BANK

Paper -102 Title: Diversity Of Cryptogams And Gymnosperms

BRYOPHYTA

Short Questions

- Write the name of an Indian species of *Marchantia*.
- What is peristome teeth? Where it is found?
- Write the function of endothecium and amphithecium in the development of capsule in Hepaticopsida.
- Distinguish between Anthocerotopsida and Bryopsida on the basis of thallus structure.
- What are calyptra? What is its functions
- Name one Indian species of *Anthoceros*.
- What is elater and its functions?
- What are pseudo-elaters. Where it can be found?
- Differentiate between apothecium and perithecium.
- Write a short note on rhizoids of *Marchantia*.
- Name one xerophytic moss.
- What is annulus?
- Elaters of *Marchantia* and *Equisetum*.
- Which moss is called granite moss and why?
- From which geological age *Naiadita* was discovered?
- Give example of ecotype species in bryophytes.
- What is gemma?
- What is perichaetium and paraphyssis.
- Which part of developing embryo of *Anthoceros* gives rise to sporogenous tissue.
- Name the sterile tissue found in the mature capsule of *Funaria.*
- Name one pioneer member of Bryophyte colonizes at the bottom of submerged water.
- What is bog moss?
- Name a bryophyte involved in bog succession.
- Name a bryophyte used to monitor SO2 pollution.
- What is Bryo-meter?
- Name a bryophyte absorbing airborne-Pb (lead).
- Name a bryophyte used to monitor airborne-mercury.
- Name a bryophyte used to monitor toxic Vanadium (Vo)

- Name Ozone gas (O3) monitoring Bryophyte.
- Name Fluoride gas (in the form of HF gas) monitoring Bryophyte.
- Name a bryophyte monitoring radioisotopes.
- What is sphagnol?
- Mention two important factors necessary for Bryophyte colonization.
- Define Bog Succession.
- Why Spagnum is called as 'Peat moss'?
- Why Sphagnum is called as 'Cotton Moss'?

Long Questions

- Write the role of peristome teeth in spore dispersal?
- Write in short the role of Bryophyta in plant succession.
- Enumerate the advanced features in *Anthoceros*.
- Describe the photosynthetic tissue of *Marchantia* and *Anthoceros*.
- Write in short the spore dispersal mechanism in Bryopsids you have studied.
- How is amphibian nature exhibit in bryophyte.
- Distinguish with illustration the archegonia of *Marchantia* and *Anthoceros.*
- Narrate vegetative reproduction in Bryophyta.
- Causes of colonization of Bryophytes
- Role of Bryophytes in Plant Succession.
- Bog Succession
- Quacking bogs.
- Role of Sphagnum in vegetational succession.
- Role of Bryophyte in pollution monitoring.
- Economic importance of *Sphagnum* spp.
- Sphagnum and Peat.
- Uses of Sphagnum spp. as food, medicine and surgical dressings.
- Write an explanatory note on sterile tissus in the sporophytes of Bryophya with the help of suitable diagram.
- Distinguish between Hepaticopsida and Bryopsida. Draw a vertical sectional view of *Marchantia* archegoniophore.
- Draw and describe the gametophytic plant body of *Anthoceros.* Write a short note on the evolutionary significance of the sporophyte of *Anthoceros.*
- Write notes on Origin of Alternation of Generations (Homologous and Antithetic theory).
- Write notes on Evolution of Sporophytes (Progressive and Regressive concept).
- Describe the gametophyte morphology of *Marchantia* and *Funeria.*
- Write explanatory note on the sexual reproduction of *Marchantia*.
- Briefly describe the structural organization of the sporophyte of *Anthoceros*.

- Give an illustrated account of the structure and development of the sporophyte of *Funeria*.
- Describe briefly how *Sphagnum* plays a vital role in changing the landscape.
- Define biomonitoring. Describe the role played by Bryophytes in pollution monitoring with example.
- Describe economic significances of *Sphagnum* with reference to food, peat, horticulture, medicinal, surgical dressings and pollution monitoring.

PTERIDOPHYTA

Short Questions

- What are microphyllous and megaphyllous leaves?
- State the xerophytic characters of *Equisetum*.
- What do you mean by spore tetrad?
- What is mixed sorus? Give one example.
- What is mixed sorus? Give one example.
- Horse tail is common name of which plant.
- Spores of pteridophytes are genetically which type.
- Three chambered sporangium is present in which genus.
- Sporangia are developed in *Equisetum* in which organ.
- Distinguish between the spores of *Selaginella* and *Pteris*.
- Write the role of elaters in *Equisetum*.
- Comment on the secondary growth in living Pteridophya.
- What is incipient heterospory?
- Write the function of Ligule.
- What is apogamy and apospory?
- What is circinate prefoliation?
- What is ramenta?
- Write botanical name of 'Dhenki Sak'.
- Name a pteridophyte whose underground part is used as food by ducke & Pigs.
- Name a pteridophyte used as medicine.
- Name a pteridophyte used to cure liver disease.
- Name a pteridophyte used to treat diarrhoea.
- Name a pteridophyte used as protective dusting powder for tender skin.
- Name a pteridophyte used to cure acidity.
- Name a pteridophyte used to relieve gonorrhoea.
- Name a pteridophyte used wormicide.
- Name a pteridophyte used as a hair wash.
- Name a pteridophyte used to cure liver diseases including jaundice.
- Name a pteridophyte used as biofertilizer.
- Nmae a pteridophyte used as 'Green manure'.
- What is 'nardoo'? Name a pteridophyte producing it.
- What do you mean by 'Herba Equiseti'? Mention it's use.

Long Questions

- Write the Land adaptive features in Preridophyta.
- Why Pteridophytes are known as vascular cryptogams?
- Describe with labelled sketches the structure of the sorus of *Pteris*.
- What is eusporangiate and leptosporangiate development?
- Comment on the sporangium of *Psilotum*.
- Comment on the Rhizophore of *Selaginella.*
- What peculiarity you have observed in the gametophyte of *Psilotum*.
- Comment on the endodermis of *Selaginella*.
- Pteridophytes used as food for human beings and other animals.
- Pteridophytes used as medicine.
- Pteridophytes used in Agriculture.
- 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.
- Write notes on Heterospory in pteridophytes and the evolution of seed habit.
- Give an account of the structure and development of gametophyte in *Selaginella*.
- Write in short the Telomic concept and origin of leaves and roots in Pteridophyta.
- How the gametophyte of Equisetum and Psilotum does differs.
- Discuss the sexuality in *Equisetum*.
- Describe economic significances of Pteridophytes with reference to food, medicine and agriculture.

GYMNOSPERM

Short Questions

- Mention any two fern characters of *Cycas.*
- State the main function of scale leaves in *Cycas.*
- What is coralloid root?
- What is transfusion tissue? What is its function?
- Differentiate between pollen grains of *Cycas* and *Pinus*.
- What is cleavage polyembryony of *Pinus*?
- What is shoot dimorphism? Give an example.
- Define pre-pollen. Give one example.
- Name two Indian species of *Pinus*.
- What is long shoot?
- What is dwarf shoot?
- What types of stomata are found in *Cycas*, *Pinus* and *Gnetum*?
- State two angiospermic characters of the ovule of *Gnetum.*

- Give the botanical name of two timber yielding plants belonging to Pinaceae.
- What is sulphur shower? Name a gymnosperm producing timber.
- Name a gymnosperm used in producing plywood.
- Name a gymnosperm used to make musical instrument.
- Name a gymnosperm used to make boat.
- Name a gymnosperm used to make match sticks.
- Name a gymnosperm used to make high quality pencils and cigar box.
- What is sandarac? Name a gymnosperm producing 'sandarac'.
- What is amber?
- Name the fossil gymnosperm from which 'amber' is produced.
- Name a gymnosperm from which pine resin is obtained.
- What is 'copal'?
- Name the gymnosperm from which perfumes are prepared from its essential oil.
- Name a gymnosperm from which room sprays are prepared from its essential oil.
- Name a gymnosperm whose seeds are used as stomach purifier.
- Name a gymnosperm producing 'taxol'.
- Name a gymnosperm producing 'ephedrine'.
- Name a gymnosperm having pesticidal property.
- Name a gymnosperm used to treat vertigo & Cerebral insufficiency.
- Why wood of *Cedrus* is in great demand?
- What is 'spurce gums'? mention its use.
- Name a gymnosperm from which 'Kauri copal' is obtained. Mention its use.
- Name a gymnosperm from which 'canada balsam' is obtained. Mention its use.
- Name a gymnosperm from which Red ceder wood oil is obtained. Mention its use.
- What is taxol? Mention its use.
- What is ephedrine? Mention its use.

Long Questions

- Give an account of the female gametophyte development in *Cycas.*
- Compare the anatomy of *Cycas* and *Pinus*.
- State the geographical distribution of *Pinus* species in India.
- Describe the distribution of different species of *Gnetum* found in India.
- Describe the mechanism of pollination in *Cycas*.
- Give an account of the female gametophyte development in *Gnetum*.
- Write a note on male cone of *Pinus.*
- Comment on the morphological nature of the ovuliferous scale of *Pinus*.
- Write a note on the ovule of *Gnetum.*
- Describe briefly the economic importance of gymnosperm.

- Wood producing Gymnosperms.
- Resin-producing Gymnosperms.
- Drug-producing Gymnosperms.
- 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.
- Compare the embryogeny of *Cycas* and *Pinus* with suitable diagrams. Add a note on the angiospermic characters of *Gnetum*.
- Describe the mode of pollination and fertilization in Pinus.
- Describe the structure of ovule and post fertilization change in *Pinus.*
- Describe the structure of male and female cones of *Pinus.*
- Compare *Cycas* and *Pinus* leaflets, giving neat sketches.
- Describe the male and female flowers of *Gnetum*.
- Give an illustrated account of the development of the female gametophytes of *Cycas*.
- Give an account of the life history of *Gnetum.*
- Give an account of the anatomical characters of young and old stem of *Gnetum*.
- Describe economic significances of Gymnosperms with reference to wood, resins, essential oils and drugs.