Nayagarh Autonomous College, Nayagarh

CC-IV: Archegonitae

Unit-1

(1) Answer the following questions:(1×8)

(i) The basal swollen portion of archegonium is called_____.

(ii) ____ is the dominant phase in bryophytes.

(iii) ____is known as bog moss.

(iv) The antherizoids of funaria are _____.

(V) _____is present in center of the capsule.

(Vi) Spore dispersal is aided by _____.

(Vii) In mosses, meiosis takes place during_____.

(Viii) The leaves adjacent to sex organs are called_____.

(2) Answer the following questions:(1.5×8)

(i)Write notes on Protonema (ii) Gemmae

(iii) Archegoniates (iv) Amphibians of plant kingdom

(V) Capsule

(Vi) Alternation of generation

(Vii) Columella. (Viii) Apospory

(ix) Elaters (X)Archesporium

(3)Answer the following questions:(2×8)

(i) Classification of bryophytes

(ii) Anatomy of Marchantia thallus

(iii)Sporogonium of Anthoceros

(iv) Vegetative reproduction in Riccia

(V) Economic uses of Sphagnum

(Vi) Funaria capsule

(Vii)Peristome of Funaria

(Viii) Spore dispersal of mechanism of Funaria

(ix) Thallus of Riccia

(X) Origin of land plants

(4) Answer the following questions:(6×4)

(i) Describe various adaptive features of Archegoniates to survive on land?

(ii)Describe the alternation of generation in Archegoniates?

(iii)Give an account of life history of Riccia?

(iv) Describe the ecological and economical importance of bryophytes?

(V) Draw a labelled and diagramatic life cycle of Marchantia and show alternation of generation?

(Vi) Describe the Sporogonium of Anthoceros and point out its advanced features?

(Vii) Give a brief account of life history of Funaria?

(Viii) Describe the evolutionary trends in sporophytes of bryophytes?

Unit-2

Q.1 Fill in the blanks : (1X8=8)

a. Telome theory was proposed by _____.

b. A vascular bundle where xylem forms the central part and is completely surrounded by phloem called _____.

c. Sellaginela produces two types of spores , this condition is called _____.

d. When sporangium develops from a single initial called _____.

e. _____ are treated as first vascular and seedless land plants.

f. In Marsilea , the sporangia are produced in a specialized structure called _____.

g. Heterospory leads to seed habit is seen in selanginella (correct it if error is there).

h. Apogamy is the development of a sporophyte directly from _____ without the help of sex organs.

Q.2 write short notes in 1-2 sentences (1.5X8)

a. Ribbon fern b. Whisk fern

c. Selaginella rhizophore d. Plectostele

e. living fossil f. Devlopment of leptosporangiate sporangium

g. Apospory h. Advantages of a seed

Q.3 write short notes within 75 words (2X8=16)

a. Economic importance of pteridophyta

b. Telome theory c. Beech fern / Male shield fern

d. gametophytic generation in pteridophyte

e. Siphonostele f. Alternation of generation

g. Function of indusium

h. Equisetum strobilus

Q.4.Answer the following questions within 500 words (6X4)

1.Discuss the stelar evolution in pteridophyta ?

2.describe briefly the life history of pteris ?

3.Describe the life cycle of psilotum?

4.Discuss the mode of reproduction in selaginella?

5.Discuss the morphological nature of sporocarp in marsilea?

6. Discuss the anatomical features of aerial stem of Equisetum?

Unit-3

1.Objective type questions (1 mark each)

1. In gymnosperm the ploidy of endosperm is _____.
2. Generally in Gymnosperm the ovule is of _____ type?
3. Coralloid root is found in _____.
4. The gymnosperm in which the Archegonia is absent in _____.
5. In gymnosperm the pollination is of _____ type.
6. _____ is called as maiden hair tree.
7. _____ is called living fossil.
8. The main function of coralloid root is _____.
9. Winged pollen grain is found in _____.
10. In _____ the male cone is largest.
11. In _____ the ovule is largest.
12. Pinus comes under the order _____.
13. Each arch gonium of cycas consist of 2 _____ cell, a _____ nucleus and an _____.
14. In cycas the shedding and pollen grain takes place at _____ celled stage.
15. In cycas the male gametes are formed from _____ cell.
16. The starch extract of cycas stem is called _____.
17. _____ is the oldest living seed plant.
18. The branches of Ginkgo biloba are _____ in nature.
19. _____ type of stomata are restricted to only lower epidermis of Ginkgo leaf.
20. The development of microsporangium in Ginkgo is of _____ type.
21. In Ginkgo the microspores are dispersed at the _____ celled stage.
22. Tent pole is found during the development of _____ in Ginkgo.
23. In Ginkgo and Cycas the seed Germination is of _____ type.
24. _____ is regards as Holy tree by Buddhist munks.
25. _____ is called as white fruit tree.
26. _____ is called as Grandfather – Grandson tree.
27. In generation the component of Xylem agent in _____.
28. The component of Phloem absent in Gymnosperm is _____.
29. Algal zone is found in _____ of cycas.
30. In Cycas rachis the vascular bundles are arranged in the shape of _____.

31. _____ is popularly known as “chir”.
32. In pinus the dwarf shoots are also known as _____.
33. In pinus Resin canal is found between the bifurcation of _____.
34. In pinus the development of Micro-sporangium is of _____ type.
35. In the pollen grain of pinus the exine and intine are also called as _____ and _____ respectively.
36. In Pinus the pollination occur at _____ celled stage.
37. In Gnetum root casporian strips are found in the cells of _____.
38. The gymnosperm in which vessel is present in _____.
39. The leaf of Gnetum represents the leaf of _____.
40. In the young stem of genum the stomata is of _____ type.
41. In the young stem of Gnetum the vascular bundles are _____ type and arranged in _____ manner.
42. In Gnetum the innermost wall layer enclosing the sporigenous tissue is known as _____.
43. The pollination in Gnetum occur at _____ called stage.
44. In Gymnosperm a cell similar to companion cell found and is called _____.
45. Tetrasporic development of female gametophyte is found in _____.

2.Answer in 1 to 2 sentences:- [1.5 marks]

(1)What is celluloid root?
(2)How many types of leaves are found in pinus? What are those?
(3)What is transfusion tissue?
(4)What is male cone?
(5)What is female cone?
(6)What is eusporangiate type of development?
(7)What is leprosporangiate type of development?
(8)Why the Gymnosperm are called naked seeded plants?
(9)What is the nature of wood of Cycas and Pinus?
(10)What is siphongamy and zoodiogamy?

3.Answer within 75 words [2 marks]

(1)Write a brief note on Morphological mature of the ovuliferous scale of Pinus?
(2)Write a short note on Endosperm of Gymnosperm?
(3)Write a short note on ovule of Gymnosperm?
(4)Write a short note on coralloid root of Cycas?

(5)Briefly describe the male cone of Cycas?
(6)Briefly describe the megasporophyll of cycas?
(7)Write short note on female flower of Gnetum?
(8)Outline the classification of Gymnosperm?

4.Answer within 500 words [6 marks]

(1)Describe the life cycle of Cycas?

(2)Describe the life cycle of Pinus?
(3)Describe the life cycle of Ginkgo?
(4)Describe the life cycle of Gnetum?
(5)Describe the Angiospermic character of Gnetum?
(6)Discuss Ginkgo as a living Fossil?
(7)Describe the ecological and Economic importance of Gymnosperm?

Unit-4

(1)Fill in the blanks with one words (1 mark each)

(i) The scientific study of fossils of plants preserved in rocks is known as_____.

(ii) The flowers in cycadeoidea are _____ in majority of species.

(iii) Lyginopteris oldhamia belongs to family_____ of the order pteridospermales.

(iv) "Age of Cycads" is known as_____.

(V) The stem of Williamsonia was covered with _____.

(Vi) An interesting example of heterospory is found in the cone of _____.

(Vii) Those fossil which presence both external form and internal structure is known as _____.

(Viii) Each branch of Rhynia stem are terminated finally into single _____.

(2)Short answer type: Answer the questions in 2-3 sentences

(I) Describe the chronology of era of the Geological time table?

(ii)What are incrustation fossils?

(iii) Write note on external morphology of Rhynia?

(iv) What was characteristic of stem of Lyginopteris?

(V) Which is known as Scale tree and dominated in which period?

(Vi) write notes on Secondary growth in stem of Cycadeoidea?

(Vii) Give Unique characters of Williamsonia,not exhibited by any other living group?

(Viii) Describe heterospory in Calamities?

(3) Short answer type: Answer the questions within 75 words

(I) Give two factors that affecting fossilization process?

(ii) What are petrifaction fossils? Why are they important?

(iii) Write a note on external structure of sporangium of Rhynia?

(iv) Write a note on heterospory in Lepidodendron?

(V) Describe affinities of Williamsonia with gymnosperm?

(Vi) What is the scientific name of giant horsetail?

(Vii) On what basis scientists consider Cycadeoidea as a probable ancestors of angiosperms?

(Viii) Write a brief note on"age of seed ferns".

(4) Long answer type: answer the questions with 500 words

(I) What is geological time table? Describe the plant life in different eras?

(ii) What are fossils? Which are the major fossil types that occur in nature?

(iii) Give an illustrated account of heterospory and seed habit in Lepidodendron and it's evolutionary significance?

(iv) Describe external morphology and reproductive structures of Lyginopteris?

(V) Describe internal structure and reproductive structure of Calamities?

(Vi) Describe the morphology, reproductive structure and affinities of Cycadeoidea?

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