



## Karanjia Auto College ,Karanjia,Mayurbhanj

### 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 diagrammatic 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. *Sellaginella* 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 *Selaginella* (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 rhizophora*    d. Plectostele
- e. living fossil    f. Development 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 stellar evolution in pteridophyta ?
2. describe briefly the life history of *Pteris* ?
3. Describe the life cycle of *Ptilotum*?

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 monks.
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 petrification 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 its 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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