



21. Give the economic importance of bryophytes.
22. Describe the structure of sporophyte of Riccia.
23. Describe the internal structure of thallus of Marchantia.
24. Describe the formation of micro gametophyte of Selaginella.
25. Explain the variations of endodermis seen in different species of Equisetum.
26. What are the common characters shared by the pteridophytes and gymnosperms? (6×2=12)

## SECTION – E

Answer any one.

(Long essay type questions : Each question carries a weightage of 4)

27. Describe the life cycle of Nephrolepis.
28. Explain the alternation generation in moss plant.
29. Describe the diplobiontic life cycle seen in Pinus. etc. (1×4=4)

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SECTION - D



Reg. No. : .....

Name : .....

**IV Semester B.Sc. Degree (CCSS – Reg./Supple./Improv.)**  
**Examination, May 2015**  
**CORE COURSE IN BOTANY/PLANT SCIENCE**  
**4B04BOT/PLS : Diversity of Life – 2 : Bryology, Pteridology and**  
**Gymnosperms**  
**(2012 Admn. Onwards)**

Time : 3 Hours

Total Weightage : 30

**Instruction : Draw diagrams wherever necessary.**

## SECTION – A

Answer all.

(Questions in Bunches of four : Each bunch carries a weightage of 1)

1. Choose the correct answer.
  - i) Winged pollengrains are found in
 

a) Pinus	b) Marchantia
c) Funaria	d) Nephrolepis
  - ii) The gametophytic generation is dominant in the plant group
 

a) Gymnosperms	b) Angiosperms
c) Pteridophytes	d) Bryophytes
  - iii) Profusely branched negatively geotropic roots present in Cycas are called
 

a) Pneumatophores	b) Coralloid roots
c) Rhizoids	d) Velamen roots
  - iv) Ovule of Cycas is sessile and
 

a) Campylotropous	b) Anatropous
c) Circinotropous	d) Orthotropous

2. State **true** or **false**.

- i) Omega shaped disposition of the vascular bundles are noticed in the petiole of Cycas.
- ii) Tracheids of Gnetum show trabeculae.
- iii) Nephrolepis is called club moss.
- iv) Xylem development in Equisetum is in centrifugal pattern.

## 3. Fill in the blanks.

- i) The most primitive type of stele is \_\_\_\_\_
- ii) Bisporangiate sporocarp is seen in \_\_\_\_\_
- iii) The cyanophycean member associated with the coralloid roots of Cycas is \_\_\_\_\_
- iv) Gymnosperms flourished well during the \_\_\_\_\_ era.

4. Answer in **one** word or in **one** sentence.

- i) Actinostele.
- ii) Zoodigamy.
- iii) Circinate vernation.
- iv) Synangium.

## 5. Match the following.

	A	B	C
i	Nostoc	Equisetum	Aquatic fern
ii	Turpentine	Marsilea	Horsetails
iii	Sorophore	Anthoceros	Gymnosperm
iv	Vallecular canal	Pinus	Horn worts

(5×1=5)



## SECTION – B

Answer **any four**.(Differentiate the following : **Each** question carries a weightage of 1)

6. Protostele and siphono stele.
7. Smooth walled and tuberculate rhizoids.
8. Apogamy and apospory.
9. Paraphysis and columella.
10. Rhizophore and sorophore.
11. Sporophyte of Riccia and Funaria.

(4×1=4)

## SECTION – C

Answer **any five**.(Short answer questions : **Each** question carries a weightage of 1)

12. What is Perigonium ?
13. Protonema.
14. Name two aquatic species of Riccia.
15. What is the economic importance of gymnosperms ?
16. Explain Transfusion tissue.
17. What are the important features of the class Bryopsida ?
18. Marchantia is dioecious. Discuss.

(5×1=5)

## SECTION – D

Answer **any six**.(Short essay questions : **Each** question carries a weightage of 2)

19. Describe the internal structure of the stem of Equisetum.
20. Explain the angiosperm characters of Gnetum.