

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE  
 Fourth Semester B.Sc Degree Examination, March /April 2019  
 BBOT4B04 – Phycology, Bryology & Pteridology  
 (2017 Admission onwards)

Time: 3 hours

Max. Marks: 80

**PART A (Answer all questions)**

*Chrysolaminarin* is the reserve food of .....

Name a parasitic algae

The asexually reproducing cells in *Volvox* are called as .....

Eye spot is seen in .....algae

.....is the rosette of spreading leaves surrounding the sex organs in *Funaria*

Name a fossil liverwort

*Sporangiophores* are seen in.....

Which pteridophyte is known as the spike moss or small club moss?

.....is the development of sporophyte directly from the gametophyte without gametic fusion

.....is the free living gametophyte of pteridophytes

(10 × 1 = 10 Marks)

**PART B (Answer all questions)**

1. Differentiate between a *Zoospore* and *Aplanospore*
2. What are frustules? Comment on its structure
3. What is a carposporophyte?
4. Differentiate between a palmelloid and dendroid thallus
5. Comment on the vegetative reproduction in *Funaria*
5. Enumerate any two medicinal uses of bryophytes
7. What is a sporocarp?
8. Differentiate between eusporangiate and leptosporangiate sporangia
9. What is apospory?
10. Write down the salient features of Lycopsidea

(10 × 2 = 20 Marks)

**PART C (Answer any six of the following)**

21. Comment on the structure and morphological nature of synangium in *Psilotum*
22. Briefly explain the sexual reproduction in *spirogyra*
23. Explain the internal structure of *Riccia* with the help of a labelled diagram
24. Explain heteropsory in pteridophytes. Comment on its significance.
25. Give a brief account of sexual reproduction in *Oedogonium*
26. Explain the structure of strobilus in *Selaginella* with the help of a labelled diagram
27. Write an account on the pigments present in Algae
28. Compare the sex organs of *Anthoceros* and *Funaria*

(6 × 5 = 30 Marks)

**PART D (Answer any two of the following)**

29. With the help of labelled diagrams, explain the life cycle of *Anthoceros*
30. Give a brief account of different types of reproduction and life cycles in Algae
31. Briefly explain the origin and evolution of stele in pteridophytes with the help of suitable diagrams.

(2 × 10 = 20 Marks)

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE  
 Fourth Semester B.Sc Degree Examination, March /April 2019  
 BBOT4C04 – Plant Physiology, Ecology & Genetics  
 (2017 Admission onwards)

Time: 3 hours

Max. Marks: 64

**PART A**  
 (Answer all the questions)

- The characteristic ratio of dominant epistasis is \_\_\_\_\_
- Name a cytokinin that induces cell division in plants.
- Who is known as father of Ecology?
- Conversion of pyruvic acid to acetyl CoA is catalysed by \_\_\_\_\_
- The water potential of a solution is always \_\_\_\_\_
- Who coined the term 'gene' ?
- Name a mineral ion is involved in the photolysis of water?
- Give an example for a short day plant.
- The hormone that induces fruit ripening is \_\_\_\_\_
- Root pockets are seen in plants belongs to which ecological group?

(10 x 1=10 marks)

**Part B**  
 (Answer any seven of the following)

- What is the importance of imbibition to plants?
- Write a note on chemi-osmotic hypothesis.
- What are the products of fermentation?
- How will you find out the genotype of an unknown hybrid plant ?
- Give two important adaptations found in halophytes.
- Expand NADPH and PEP .
- What is ferredoxin ?
- Write about Blackman's law of limiting factors ?
- What is phytochrome ?
- Describe photophosphorylation.

(7 x 2=14 marks)

## Part C

(Answer any six of the following)

21. Explain the mode of inheritance of flower colour in *Lathyrus*.
22. Describe glycolytic pathway with the help of suitable diagrams.
23. Define water potential. Explain the components of water potential.
24. Give an account of Mendel's dihybrid cross with the help of a schematic diagram.
25. Briefly explain the adaptations of hydrophytes.
26. Give an account of the physiological effects of auxins in plants.
27. Explain  $K^+$  ion theory of stomatal opening and closure.
28. Give a brief account of different types of senescence found in plants.

(6 x 4 = 24 marks)

## Part D

(Answer any two of the following)

29. Briefly explain the steps of TCA cycle with the help of schematic diagram ?
30. Define ecological succession. Describe the different stages of xerarch succession.
31. Briefly explain steps of Dark reactions in  $C_4$  plants. Why  $C_4$  plants are photosynthetically more efficient than  $C_3$  plants?

(2 x 8 = 16 marks)

Time:

1. .  
2. .  
3. ( .  
4. .  
5. | .  
6. ( .  
7. 2 .  
8. v .  
9. U .  
10. F .  
11. T .V  
V  
F  
F  
V