

1B4M18139

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Reg. No:.....

Name: .....

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE  
Fourth Semester B.Sc Degree Examination, March 2018  
BOT4B04T – Phycology, Bryology, Pteridology  
(2016 Admission onwards)

Max. Time: 3 hours

Max. Marks: 80

**PART A (Answer all questions)**

1. Female reproductive organ of *Chara* is called as.....
2. Name an algae with siphonaceous thallus
3. Carrageenan is extracted from .....
4. ....are protein bodies associated with algal chloroplasts involved in storage of starch
5. ....is the 2-layered protective covering around the sporophyte of *Riccia*
6. Name a fossil liverwort
7. The oval or bean shaped reproductive structures found in *Marsilea* are called as.....
8. Which pteridophyte is known as the ‘goddess of fertility’?
9. ....is the development of gametophyte directly from the sporophyte without formation of spores
10. An embryo with its apical pole directed towards the base of the archegonium is called.....

(10 × 1 = 10 marks)

**PART B (Answer all questions)**

11. What is a coenobium? Give an example
12. What are Synzoo spores?
13. Differentiate a conceptacle and cryptostomata
14. What are the similarities between Red algae and Blue green algae?
15. Comment on the vegetative reproduction in *Anthoceros*
16. Write down the salient features of Marchantiophyta

17. What is a mixed sorus? Give an example
18. What are rhizophores? Comment on its morphological nature
19. Write down the salient features of Psilophyta
20. Enumerate any two medicinal uses of pteridophytes

(10 × 2 = 20 marks)

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

21. Comment on the xerophytic and hydrophytic features of *Equisetum*
22. Briefly explain the post fertilization changes in *Polysiphonia*
23. Explain the internal structure of *Riccia* with the help of a labeled diagram
24. Explain Apospory and Apogamy in pteridophytes
25. Describe the ultra structure of flagella in Algae with the help of a labelled diagram.
26. What is a protostele? Comment on the different types of protosteles in pteridophytes with an example.
27. Briefly explain the industrial uses of algae with suitable examples
28. Enumerate the ecological importance of Bryophytes

(6 × 5 = 30 marks)

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

29. With the help of labelled diagram, explain the structure of sporophyte in *Funaria*
30. Briefly explain the reproduction of diatoms.
31. What is heterospory? Comment on the origin of Heterospory and seed habit in pteridophytes and explain its significance.

(2 × 10 = 20 marks)

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FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE  
Fourth Semester B.Sc Degree Examination, March 2018  
BOT4C04T – Plant Physiology, Ecology & Genetics  
(2015 Admission onwards)

Max. Time: 3 hours

Max. Marks: 64

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

1. Who discovered light reaction in photosynthesis?
2. The proportion of recessive individuals in a monohybrid genotypic ratio is \_\_\_\_\_
3. Give an example for a free floating hydrophyte.
4. Conversion of pyruvic acid to acetyl CoA is catalysed by \_\_\_\_\_
5. Which is the first stable product of  $C_3$  cycle?
6. The phenotypic ratio of incomplete dominance is \_\_\_\_\_
7. Which are the two amino acid intermediates of photorespiration?
8. The enzyme which fixes  $CO_2$  in  $C_4$  plants is \_\_\_\_\_
9. Give the names of any two synthetic hormones.
10. The cross of the  $F_1$  with its parents is called \_\_\_\_\_

(10 x 1=10 marks)

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

11. Differentiate between primary succession & secondary succession with examples.
12. Write about Kranz anatomy. Name two plants showing Kranz anatomy.
13. What are velamen roots ?
14. What are alleles ? Who coined the term allele ?
15. What are pneumatophores ? Write their functions.
16. What are true breeding plants ? How can we make a plant true breeding ?
17. Compare oxidative phosphorylation & substrate phosphorylation.
18. What are gene interactions?
19. What are photosystems ?
20. Write about two methods for breaking the seed dormancy.

(7 x 2=14 marks)

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

21. Define epistasis ? Give an example and explain with the help of schematic diagram.
22. How can we classify plants according to their light requirement? Give examples.
23. What is fermentation ? Which are the different types ?
24. Give an account of transpiration pull theory of ascent of sap.
25. Briefly explain the special adaptations found in parasites.
26. Write a short note on the evidences in support of dark and light reactions of Photosynthesis.
27. Write about the physiological effects of gibberellins in plants.
28. Give a brief account of the non-cyclic electron transport in plants.

**(6 x 4 = 24 marks)**

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

29. Write an essay on photorespiration and in plants. Comment on the importance of the process.
30. Describe the morphological, anatomical and physiological adaptations of xerophytes.
31. With the help of suitable diagram trace the path of carbon in photosynthesis.

**(2 x 8 = 16 marks)**