14

B4M20141 (Pages : 2) Reg. No:.....

Name: .....

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Fourth Semester BSc Zoology Degree Examination, March/April 2020

BBOT4C04 – Plant Physiology, Ecology & Genetics

(2018 Admission onwards)

Time: 3 hours Max. Marks: 64

Part A
(Answer all questions)

1. Define a gene
2. Name an epiphyte
3. What is meant by ecological succession?
4. What is red drop ?
5. Write any one difference between phosystems I & II.
6. State the difference between genotype and phenotype.
7. A seed that requires light for germination is known as .....
8. What is meant by heterozygous condition.
9. What is Vernalisation.

(10 x 1 = 10 marks)

Part B
(Answer all questions)

11. Briefly describe the different phases of plant growth?
12. What is a hydrosere?
13. What is action spectrum
14. Explain Terminal oxidation
15. What are biotic and abiotic factors in ecosystem.
16. What are the reasons for Mendel's success?
17. List the seven pairs of traits selected by Gregor Mendel

(7 x 2 = 14 marks)

Part C

(Answer any six of the following)

18. Describe Complementary gene action and their influence on flower colour
19. Explain different processes in ecological succession.
20. Explain the role of auxins and cytokinins in plant growth and development.
21. Describe the processes of Senescence and abscission during plant growth
22. Briefly explain EMP pathway.
23. Describe Epistasic interactions with example.
24. What is the habitat of Avicennia and how is it adapted to live there?
25. Describe the causes and different techniques to break seed dormancy.

(6 x 4 = 24 mar

Part D

(Answer any two of the following)

26. Explain the mechanism, products and significance of Calvin Cycle.
27. Describe the morphological, anatomical and physiological adaptations of a hydrophyte when compared to a xerophyte.
28. State Mendelian laws and explain the concepts with the help of suitable examples

(2 x 8 = 16 mar

15

34M20140 (Pages : 2) Reg. No:.....

Name: .....

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Fourth Semester B.Sc Botany Degree Examination, March/April 2020

BBOT4B04 – Phycology, Bryology & Pteridology

(2018 Admission onwards)

Time: 3 hours Max. Marks: 80

PART - A

Answer *all* questions. Each question carries *one* mark

Name a *Chlamydomonas* species, which imparts red or pink colour to snow.

Reserve food material in *Vaucheria* is .....

Discoid shaped chloroplast is found in which algae?

Name of the specialized fertile branches in *Sargassum* is .....

..... is a bryophyte with pyrenoids in its cells.

..... is a fossil bryophyte.

Number of flagella present in each male gamete of selaginella is .....

..... is a free floating fern.

..... is a species of *Selaginella* showing resurrection nature.

10. The gametophyte of *Pteris* is ..... shaped. **(10 x 1 = 10 Marks)**

PART - B

Answer *all* questions. Each question carries *two* marks

1. Describe the thallus structure of *Volvox*.
2. Describe the sexual reproduction in *Pinnularia*.
3. Write a note on scalariform conjugation in *Spirogyra*.
4. Describe Palmella stage.
5. Describe the internal structure of *Riccia*.
6. Write a brief note on economic importance of Bryophytes.
7. Describe the structure and dispersal of spores in *Equisetum*.
8. Make a comparative account of the structure of sporangia in Lycophytes (Fern-allies) and Ferns.
9. Describe the structure of *Pteris prothallus*.
10. Write a brief note on stotlen and stotlen's classification of pteridophytes.

(10 x 2 = 20 Marks)

PART - C

Answer *any six* questions. Each question carries *five* marks

21. Describe the internal and external features of thallus in *Sargassum.*
22. Write a brief note on the structure and life cycle of *Oedogonium.*
23. Describe the structure of sex organs in *Chara.*
24. Explain the evolution of sporophyte in Bryophytes.
25. Describe structure of sporophyte in Funaria. Draw diagram.
26. Describe the structure of gametophyte in *Psilotum.*
27. What is heterospory? Discuss its significance in the evolution of the seed habit.
28. Describe the structure of sporocarp in *Marsilea.*

(6x 5 = 30 Marks)

PART - D

Answer *any two* questions. Each question carries *ten* marks

29. Write an essay on economic importance of algae, citing examples.
30. Describe the morphology, anatomy and reproduction in *Anthoceros.*
31. Describe the structure of strobilus and gametophyte in *Equisetum.* Draw diagrams.

(2 x 10 = 20 Marks)