1B4M17031 (Pages :2) Reg. No:.....

Name: .....

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Fourth Semester B.Sc Botany Degree Examination, March 2017

BOT4C04T – Plant Physiology, Ecology & Genetics

(2015 Admission onwards)

Max. Time: 3 hours Max. Marks: 64

Part A
(Answer all questions)

1. A hormone helps for fruit ripening.....
2. Di-hybrid test cross ratio is .....
3. Name two anti-transpirant chemicals.
4. Name the enzyme which fixes CO2 in C3 plants.
5. An example of a Halophytic plant.....
6. Define fermentation.
7. Mendel's findings were rediscovered by.....
8. Molecular formula of chlorophyll-a is.....
9. The term Genetics was coined by.....
10. Define water potential.

(1 x10 = 10 marks)

Part B
(Answer any seven of the following)

11 What are the aquatic adaptations of *Hydrilla* Plant?

12. What is incomplete dominance? Explain with suitable example.
13. Differentiate back cross from test cross.
14. Describe the biotic factors of an ecosystem.
15. Explain the structure of plant cell wall.
16. Describe the significance of transpiration.
17. What is the difference between osmosis and water potential?
18. Explain the role Abscisic acid in higher plants.
19. Write note on monohybrid cross.
20. What is photolysis of water?

(2 x 7 = 14 marks)

Part C
(Answer any six of the following)

21. Describe law of independent assortment with help of suitable example.

22. What is phosphorylation? Explain the various types.

23. Explain the different pigment system involved in photosynthesis.

24. What is dormancy of seeds? Describe the factors causing dormancy.

25. Describe an experiment for proving suction due to transpiration.

26. Give an account on the forest ecosystem with special reference to its ecological significance.

27. Explain Calvin cycle of photosynthesis.

28. What is ascent sap? Explain cohesion-tension theory of ascent of sap

(6 x 4 =24 marks)

Part D
(Answer any two of the following

29. What is ecological succession? Explain the different types of succession.

30. Define Complementary gene interaction. Explain the gene interaction in Sweet pea.

31. Explain steps involved in Glycolysis. Add a note on its evolutionary importance.

(2 x 8= 16 marks)

2B4M17030 (Pages : 2) Reg. No:.....

Name: .....

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Fourth Semester B.Sc Botany Degree Examination, March 2017

BOT4B04T – Phycology, Bryology, Pteridology

(2015 Admission onwards)

Max. Time: 3 hours Max. Marks: 80

PART – A

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

1. Agar is obtained from which group of algae?
2. ..... is the reserve food material in Rhodophyceae.
3. ..... the algae which is known as Stonewort.
4. Chloroplast in Spirogyra is ..... shaped.
5. ..... is known as the 'Amphibians of the plant kingdom'.
6. ..... is the nutritive tissue found in the capsule of *Riccia*.
7. Name the spore bearing structure in *Psilotum*.
8. Name a common species of *Pteris*.
9. ..... is a fern used as biofertilizer.
10. ..... is an aquatic heterosporous fern.

(10 x 1 = 10 Marks)

PART – B

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

11. What are the general characters of Phaeophyceae?
12. Explain the structure of globule and nucule?
13. What are macrandrous and nannandrous species?
14. Explain palmella stage of *Chlamydomonas*.
15. Explain the general characters of Marchantiophyta.
16. Explain the vegetative reproduction in *Riccia*.
17. What is prothallus?
18. Explain the structure of strobilus in *Equisetum*.
19. Differentiate megasporphyll and microsporophyll in *Selaginella*.
20. Explain the structure of Megasporangium in *Selaginella*.

(10 x 2 = 20 Marks)

PART – C

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

21. Explain Lateral conjugation in *Spirogyra.*

22. Explain the cell wall structure of diatoms.

23. What are the economic importance of algae.

24. Briefly describe the general classification of Bryophytes.

25. Describe the sporophyte of *Anthoceros.*

26. Explain the sexual reproduction in *Equisetum.*

27. What are the economic importance of Pteridophytes?

28. Explain heterospory and seed habit.

(6 x 5 = 30 Marks)

PART – D

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

29. Explain the general structure of *Chlamydomonas*. Describe the different reproductive methods in *Chlamydomonas*.

30. Explain the structure of *Funaria* sporophyte with neat labelled diagram.

31. Explain the stelar evolution in Pteridophytes with diagram.

(2 x 10 = 20 Marks)