

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE
Third Semester B.Sc Botany Degree Examination, November 2021
BZL3C03 – Physiology and Ethology
(2019 Admission onwards)

Time: 2 hours

Max. Marks : 60

I. Short answer questions. Each question carries 2 marks.

1. Mention two contractile proteins?
2. Enumerate the difference between the striated and non-striated muscle fibres?
3. Differentiate between hibernation and aestivation.
4. Comment on effects of smoking.
5. Differentiate between arteriosclerosis and atherosclerosis.
6. Mention the significance of courtship
7. Write a short note on heart lung machine
8. Comment on regulation of heartbeat
9. What are advantages of a territory
10. What is lunar rhythm?
11. Write short notes on haemodialysis.
12. Differentiate between Osmoconformers and osmoregulators.

(Ceiling: 20 marks)**II. Paragraph questions. Each question carries 5 marks.**

13. Explain the neural and chemical control of respiration.
14. Explain briefly the mechanism of muscle contraction.
15. With a suitable diagram, describe the structure of a neuron. Mention different types of neuron?
16. Give an account on communication behaviour in animals.
17. Discuss the neural and chemical control of respiration
18. Explain the social organization in chimpanzee
19. Briefly explain the behavioural patterns of social organization

(Ceiling: 30 marks)**III. Essay questions. Answer any one question.**

20. Enumerate the molecular organization of haemoglobin. Add notes on its properties.
21. Briefly explain the biological clock and circadian rhythm

(1 x 10 = 10 marks)

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(Pages : 1)

Reg. No:.....

Name:

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Third Semester B.Sc Botany Degree Examination, November 2021

BBT3B03 - Phycology, Bryology & Pteridology

(2019 Admission onwards)

Time: 2 hours

Max. Marks: 60

SECTION A

(Answer all questions, each question carries 2 marks. Ceiling: 20 Marks)

1. Define algae. Cite two examples.
2. Comment on parasitic algae. What is red rust?
3. Define heterocysts? Describe their functions.
4. What is Gemmae? What is its function?
5. What is Apospory? What are the features of the progeny formed?
6. What are the features of the sporophytes of Bryophytes? Which are its parts?
7. What is the feature of the photosynthetic zone in *Riccia*?
8. Give 2 examples each for aquatic and xerophytic pteridophytes
9. Give the vegetative reproductive methods of *Selaginella*.
10. Give the systematic position of *Pteris*.
11. What you mean by phytobenthos ?
12. Differentiate between homosporous and heterosporous pteridophytes

SECTION B

(Answer all questions, each question carries 5 marks. Ceiling: 30 Marks)

13. What are colonial algae? What are the major differences between unicellular and colonial algae?
14. What is a triphasic life cycle? Mention its types.
15. Write a short account on the sex organs in *Chara*.
16. Give a note on Fossil Bryophytes.
17. Describe the life cycle of *Riccia*.
18. Explain the salient features of *Psilotum*
19. Explain the anatomy of *Pteris* petiole.

SECTION C

(Answer any one question, each question carries 10 marks. (1 x 10 = 10 Marks)

20. With suitable illustrations, give a detailed account of the life cycle of *Oedogonium*.
21. Describe the life cycle and alternation of generation of *Equisetum*, with the aid of a flow chart.

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(Pages : 2)

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FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Third Semester B.Sc Degree Examination, November 2021

BCH3C03 – Organic Chemistry

(2019 Admission onwards)

Time: 2 hours

Max. Marks: 60

Section A (Short answers)

(Answer questions up to 20 marks. Each question carries 2marks)

1. What is meant by electromeric effect ?
2. Draw the resonance structures of aniline.
3. Mention a method to distinguish maleic acid and fumaric acid.
4. Draw the possible conformations of methyl cyclohexane.
5. Illustrate Friedel-Crafts alkylation reaction with a suitable example. Give equation and name the product.
6. Explain the term Williamson's synthesis with an example?
7. What is Fittig reaction ? Illustrate with an example.
8. What is meant by denaturation of alcohol?
9. How can fluorobenzene be obtained from benzene diazonium chloride ?
10. What are essential aminoacids ? Name two of them.
11. Draw the structure of nicotine.
12. What is meant by vulcanization ? Explain with example.

[Ceiling of marks: 20]

Section B (Paragraph)

(Answer questions up to 30 marks. Each question carries 5 marks)

13. Explain the different kinds of bond fission observed in organic reactions.
14. Explain the term hyper conjugation and its significance with illustrative examples.
15. Explain the relative stability of conformations of cyclohexane.
16. State and explain Hückel's rule.
17. Explain the Lucas test to distinguish between 1°, 2° and 3° alcohols.
18. Arrange aniline, N-methylaniline and N, N dimethylaniline in the increasing order of basicity and explain the variation.
19. State the important characteristics of enzyme action.

[Ceiling of marks: 30]

Section C (Essay)
(Answer any one. Each question carries 10 marks)

- 20. Illustrate the different structural levels of protein.
- 21. Discuss the optical isomerism in tartaric acid.

[1 x 10 = 10 Marks]