

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Third Semester M.Sc Zoology Degree Examination, November 2023

MZL3C07 – Physiology

(2022 Admission onwards)

Time: 3 hours

Max. Weightage : 30

I. Answer any eight of the following questions. (Weightage-1)

1. Briefly explain renal clearance.
2. What is vital capacity?
3. Comment on BMR and its significance.
4. Explain cardiac cycle.
5. What is acclimatization?
6. List out the functions of mammalian kidney.
7. Comment on the composition and formation of lymph.
8. Give an account on the structural organization of spinal cord.
9. Explain Glaucoma.
10. Differentiate neurogenic heart and myogenic heart.
11. What is JGA? Write note on its mode of action.
12. Write a brief note on the Ischemic heart disease.

(8x1=8 weightage)

II. Answer any four of the following questions. (Weightage-3)

13. What is surfactant? Explain its role in alveolar expansion.
14. Describe photochemistry of vision.
15. Briefly explain the physiology of olfaction.
16. Comment on the functional areas of cerebral cortex.
17. Explain the physiological response to stress.
18. Describe the structure and functions of limbic system.
19. Comment on pain receptors and their stimulation.

(4x3=12 weightage)

III. Answer any two of the following questions. (Weightage-5)

20. Write an essay on the mechanism of urine formation.

21. Describe temperature regulating mechanisms in organisms.

22. Write a brief account on the formation of image on the retina.

23. What is oxygen dissociation curve? Elaborate the factors affecting binding of oxygen to haemoglobin.

(2x5=10 weightage)

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE
Third Semester M.Sc Zoology Degree Examination, November 2023
MZL3C08 – Microbiology & Biotechnology
(2022 Admission onwards)

Time: 3 hours

Max. Weightage : 30

I. Answer any eight of the following: - (Weightage-1)

1. Differentiate between DNA virus and RNA virus.
2. What is probiotics? Comment on its significance today.
3. Comment on Hassuer counting chamber.
4. What is microbial bioremediation? Cite an example.
5. Write on bacterial growth curve.
6. What is Bergey's Manuel? Mention major groups.
7. What is GATT and TRIPS.
8. Write on two special types of FISH techniques.
9. What are molecular markers? Cite examples.
10. What is biopesticide? Cite example.
11. Comment on Antisense RNA and RNAi.
12. What is the role of biotechnology in restoration of degraded lands?

(8 x 1=8 Weightage)

II. Answer any four of the following:-(Weightage-3)

13. How do bacteria transport nutrients?
14. Write an account on microbiological analysis of drinking water.
15. Write on Food spoilage and strategies to control it.
16. Discuss various nutritional types of microbes and their culture media.
17. Describe the raw materials and steps involved in PCR. Briefly mention the types of PCRs
18. Discuss various transfection methods.
19. Discuss major methods of DNA sequencing.

(4 x 3=12 Weightage)

III. Answer any two of the following: - (Weightage-5)

20. Write an essay on bacterial cell structure and function. Comment on gram-positive and gram-negative cell wall.
21. Write a short essay on strategies to control microorganisms.
22. What is a cloning vector? Write on various type of vectors and comment on properties of vectors.
23. Write an essay on genomic library construction and screening with comments on different types of blotting techniques.

(2x5=10 Weightage)

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Name:

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Third Semester M.Sc Zoology Degree Examination, November 2023

MZL3E01(5) – Wildlife Biology I – Biodiversity & Biota

(2022 Admission onwards)

Time: 3 hours

Max. Weightage : 30

I. Answer any *eight of the following* questions.(Weightage-1)

1. Brood parasitism
2. Marsh crocodile
3. Indian Pangolin
4. Gondwana hypothesis
5. Pigmy sperm whale
6. Barn Owl
7. Cooperative breeding
8. Flyways
9. Endemic bird areas
10. Endemic fishes of Western Ghats
11. Guano and its commercial value
12. Ecological role of Vultures

(8x1=8 weightage)

II. Answer any *four of the following* questions. (Weightage-3)

13. Comment on Indian Monitor Lizards.
14. Explain territoriality and functions of territory.
15. Briefly explain the major threats to the survival of Crocodiles.
16. Describe the feeding and breeding habits of Bonnet Macaques.
17. Give an account on economic importance of birds.
18. Explain the endemic mammals of Western Ghats.
19. Briefly explain the breeding behavior of Hornbills.

(4x3=12 weightage)

III. Answer any two of the following questions. (Weightage-5)

20. Write an essay on the sociobiology of Elephant.
21. Describe the endangered and endemic fishes of Western Ghats.
22. Brief account on the population status and major threats to the survival of Tiger.
23. Write an essay on Passeriformes with suitable examples.

(2x5=10 weightage)