

**ELECTIVE- FISHERY SCIENCE**

**Fourth Semester M.Sc. Degree Examination (CSS) –Zoology**

**ZY 4B ET 01 Course 1-ICHTHYOLOGY**

**Time: 3 hours**

**Total Weight:30**

**Section A-Short answer type questions**

**Weight-1**

**Answer any 10 out of 12**

1. Comment on Meristics in fish taxonomy.
2. How do fishes regulate buoyancy ?
3. What are the Functions of Weberian ossicles?
4. Write a note on Statoacoustic receptors in fishes.
5. Briefly describe the Territorial recognition in fishes.
6. What is aplacental viviparity?
7. Comment on Fish protozoan diseases.
8. What is fish barcoding?
9. Comment on parental care in fishes.
10. Briefly describe the physiology of colour change in fishes.
11. What is luminescence? Give two examples.
12. Distinguish between aplacental and placental viviparity with examples.

**Section II- Short essay type questions**

**Weight- 2**

**Answer any 5 out of 8**

13. Acoustic communication is a specialized character in fishes. Comment
14. Discuss the structural dissimilarity in the alimentary system of fishes based on their feeding habits.
15. Give an account of the adaptations of Hill stream fishes.
16. Pathogenic crustaceans are a threat of fish populations .Substantiate this statement.
17. Give an account on the fish fauna of the Western Ghats.

18. Cell mediated immune response is an important part of fish immunology. Comment
19. Distinguish between hibernation and aestivation in fishes. Give examples.
20. Discuss the role of environmental factors in fish reproduction.

**Section III - Long essay type questions**

**Weight- 5**

**Answer any 2 out of 3**

21. Write an account of major viral and bacterial infections of fishes.
22. Describe the mechanism of air breathing in fishes.
23. Discuss the various theories on the origin of fins in fishes.

**Fourth Semester M.Sc. Degree Examination (CSS) –Zoology**

**ZY 4B ET 02 Course II - FISHERY SCIENCE**

**Time: 3 hours**

**Total Weight: 30**

**Section I-Short answer type questions**

**Weight-1**

**Answer any 10 out of 12**

1. Comment on Back water fishery sources of Kerala.
2. What is FIRMA? What are its functions?
3. Write notes on Fish passes.
4. What are Marine parks?
5. Briefly describe Coastal tourism.
6. Comment on Potential fish zones.
7. What are mudbanks? Why they are important?
8. How sand mining is detrimental to fishery resources?
9. Distinguish between continental shelf and continental slope.
10. What is endemism? Name two endemic fishes.
11. Give a brief account on Monsoon in Kerala.

12. What are sensor platforms?

**Section II- Short essay type questions**

**Weight- 2**

**Answer any 5 out of 8**

13. Describe the potential threats to fisheries in Vembanad Backwaters.

14. Discuss the effects of dams on riverine fisheries.

15. How remote sensing and GIS are applicable in fisheries management.

16. Discuss how degradation and destruction of mangrove ecosystem has affected our fishery resources?

17. What are Derelict water bodies? Discuss its problems and management in the context of fisheries.

18. What is meant by Exclusive economic zone? Comment on its significance.

19. Give an account on Red Data Book and its relevance in fishery management.

20. Briefly describe the physic-chemical properties of seawater.

**Section III - Long essay type questions**

**Weight- 5**

**Answer any 2 out of 3**

21. Discuss marine biodiversity and its threats.

22. Describe inland fishery resources in Kerala and its management.

23. Write an essay on coral reefs, its importance in fisheries, threats and conservation.

**Fourth Semester M.Sc. Degree Examination (CSS) –Zoology**

**ZY 4B ET 03 Course III-FISHERY TECHNOLOGY**

**Time: 3 hours**

**Total Weight : 30**

**Section I-Short answer type questions**

**Weight-1**

**Answer any 10 out of 12**

1. Which are the major fish landing centers in Kerala?

2. Comment on Fish finders.

3. What is vessel monitoring system?
4. Briefly describe fish food organisms.
5. Write on the merits and demerits of sewage fed culture.
5. Write notes on Edible oysters.
6. What is Rotational aquaculture?
7. Comment on optimum yield.
8. Briefly describe Fish protein concentrate.
9. What is meant by bycatch reduction?
10. Briefly describe Carp culture in Kerala.
11. What are exotic fishes? Give two examples.
12. Comment on Chitosan.

**Section II- Short essay type questions**

**Weight-2**

**Answer any 5 out of 8**

13. Give a brief account on various gears used in fishery.
14. Comment on the importance of aquatic weed management for fresh water fish culture.
15. Discuss how production of transgenic fish is a prospective approach in culture fisheries. and comment on its impact on aquatic biodiversity
16. Discuss the importance of integrated farming for sustainable aquaculture.
17. What is microbial evaluation? Discuss its importance.
18. Describe the importance of plant sanitation and hygiene for high quality fishery products.
19. Discuss the factors regulating fish population.
20. Comment on the significance of selection of Compatible species in aquarium management.

**Section III - Long essay type questions**

**Weight-5**

**Answer any 2 out of 3**

21. Give an account of the construction and management of a fresh water fish farm.

22. Induced breeding of major carps has enhanced the availability of fingerlings to farmers for fish farming. Discuss the procedure of induced breeding.

23. Discuss the traditional and modern methods of prawn culture.