

M.Sc. 3rd Semester Examination, 2022

FISHERIES SCIENCE

*(Genetic Engineering and Biotechniques/Fisheries
Technology and Harbor Engineering)*

PAPER – FSC-302(U1 & U2)

Full Marks : 40

Time : 2 hours

The figures in the right hand margin indicate marks

*Candidates are required to give their answers in their
own words as far as practicable*

PAPER—FSC-302 (U1)

(Genetic Engineering and Biotechniques)

A. Write short notes on any *two* questions : 2×2

1. Palindromic sequences

2. Principle of chromatography
3. Transgenic fish
4. DNA fingerprinting.

B. Answer any *two* questions : 4 × 2

5. Briefly describe the principle and procedure of Iso-electric focusing.
6. Write a note on immunoblot techniques and their utility.
7. Describe the features of a right-handed double-helix of DNA.
8. Write a note on progress and challenges in fish vaccine development.

C. Answer any *one* question : 8 × 1

9. (i) Describe different steps of polymerase chain reaction with suitable diagramme.
- (ii) Explain the steps of differential centrifugation of cell homogenate. 4 + 4

10. (i) What is the principle of ELISA ? 2

(ii) Discuss the types and procedure of ELISA techniques. 2 + 4

PAPER—FSC-302 (U2)

(Fisheries Technology and Harbor Engineering)

D. Answer any *two* of the following : 2 × 2

11. State the functions of Trawl Eye/Net sonde.

12. Differences between traditional and commercial fishing.

13. What is Bycatch Reduction Device (BRD) ?

14. Enlist name of indigenous fishing crafts used in Gujrat coast.

E. Answer any *two* of the following : 4 × 2

15. Write a brief note on life saving appliances used in fishing vessels.

16. Briefly explain different factors influencing the design of fishing craft.
17. Describe advanced communication system used in fishing vessels.
18. Describe different types of gears operated in coastal West Bengal.

F. Answer any *one* of the following : 8 × 1

19. What is fishing harbor ? Briefly describe the facilities provided in the fishing harbor. Give a brief account on public health hygiene and waste disposal in fishing harbor. $1\frac{1}{2} + (2\frac{1}{2} + 4)$

20. Write short notes on : 4 + 4

(i) Echo-sounder and SONAR

(ii) Fishing Vessel Monitoring System.
