

2017

M.Sc.

3rd Semester Examination

FISHERIES SCIENCE

PAPER—FSC-302

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

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

Illustrate the answers wherever necessary.

Unit-I

(Genetic Engineering and Biotechniques)

1. Answer any two of the following questions : 2×2
- (a) Write in brief the principle of chromatography.
 - (b) Write a note on DNA therapy.
 - (c) Draw the chemical structure of a Deoxyribonucleotide.

(Turn Over)

(d) Name the crosslinker and chain initiator used in Gel-Electrophoresis.

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

(a) Briefly write on the features of the Watson-Crick model of DNA.

(b) Discuss in brief the technique of SDS-PAGE with suitable diagram.

(c) What do you mean by recombinant DNA? Write short note on transgenic fish. 2+2

(d) (i) State the principle of centrifugation technique.

(ii) What is the maximum RCF applied when RBCs are sedimented at 1000 rpm in a rotor of maximum sample radius equal to 10 cm? 2+2

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

(a) (i) Briefly explain Isoelectric focussing with a note on its utility. 3+1

(ii) Discuss in brief about the structural forms of DNA. 4

(b) (i) Write a short note on *Taq* polymerase.

- (ii) Briefly write different steps involved in PCR technique. 3+5

Unit-II

(Fisheries Technology and Harbor Engineering)

4. Answer any *two* of the following questions : 2×2
- (a) Enlist name of fishing crafts used in Gujarat coast.
 - (b) What are the objectives of Mesh size regulation ?
 - (c) Point out the criteria for and ideal fishing gear.
 - (d) Name four popular inland fishing gears used in West Bengal.
5. Answer any *two* of the following questions : 2×4
- (a) Write a brief note on life saving appliances used in fishing vessels.
 - (b) Briefly discuss the characteristics of floats.
 - (c) Briefly explain the mechanism of trawling.
 - (d) Describe the gear selection and its impact on aquatic ecosystem.

6. Answer any *one* question of the following :

1×8

- (a) What is fishing craft? Briefly describe the characteristics of fishing craft. Add a note on echosounder. 1½+3½+3
- (b) What is anchor? Briefly explain different types of anchor used in fishing vessels. Add a note on fishing harbour development in India or Turtle Excluder Device (TED). 1½+4+2½
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