

2018

M.Sc. 1st Seme. Examination

FISHERIES SCIENCE

PAPER—FSC-104

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

Biology, Biodiversity and Conservation

[Marks : 20]

1. Answer any *two* questions : 2×2
- (a) Define Species Richness and Species Dominance.
- (b) What is Red Data Book ?

(Turn Over)

- (c) Give an idea of **habit & habitat of *Tor tor***.
- (d) What is **Index of Biotic Integrity (IBI)** ? State its importance.

2. Answer any *two* questions : 2×4

- (a) Write down the **ex-situ** conservation mode of aquatic biodiversity.
- (b) State about **life cycle** of *Penaeus monodon*.
- (c) Write about **distribution** and **Fecundity** of *Wallago attu*.
- (d) Elucidate the **fish diversity** in India and its recent status.

3. Answer any *one* question : 1×8

- (a) (i) Discuss '**Shannon Winer Biodiversity**' Index with an example.
- (ii) Define **Endangered** and **Threatened** fishes based on IUCN categorisation.
- (iii) What do you mean by **Biodiversity hotspot** ?

$$3\frac{1}{2} + 3 + 1\frac{1}{2}$$

- (b) (i) Write down the distribution and feeding habit of *Hypophthalmichthys molitrix*.
- (ii) Enlist the different causative factors for lowering fish diversity.
- (iii) Add a note on the maturity stages of *Macrobrachium rosenbergii*. 3+2+3

Unit-II

Oceanography, Remote Sensing and GIS

[Marks : 20]

4. Answer any *two* questions : 2×2
- (a) Define Epifauna and Infauna with example from marine environment.
- (b) What is upwelling? Mention its importance.
- (c) Mention name of two satellites involved in Fisheries resource identification in India.
- (d) State about renewable and non-renewable resources in the ocean.

5. Answer any *two* questions : 2×4

- (a) Classify tide. Mention causes of tide.
- (b) Discuss about the application Remote Sensing Technology in coastal fisheries resource management.
- (c) Write notes on *La Nina* and *El Nino*.
- (d) Discuss the causes of salinity in Sea water.

6. Answer any *one* question : 1×8

- (a) (i) Classify plankton. Enumerate the factors controlling the distribution of Zooplankton in the ocean.
- (ii) Discuss different Zonation of sea. (2+2)+4
- (b) (i) Discuss distribution of salinity and temperature with particular reference to the depth of the ocean.
- (ii) Mention different causes of ocean pollution.
- (iii) Add a note on PFZ. 4+2+2