

M.Sc. 1st Semester Examination, 2019

FISHERIES SCIENCE

PAPER — FSC-104 (Unit-I & II)

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

Illustrate the answers wherever necessary

Write the answers to questions of each Unit in separate books wherever necessary

UNIT-I

(Biology, Biodiversity and Conservation)

1. Answer any two of the following : 2 × 2

(a) What do you mean by *In-situ* conservation ?

(b) Define biodiversity hotspot.

(Turn Over)

(c) What is bioindicator species ?

(d) State the sexual dimorphism of *Lates Calcarifer*.

2. Answer any *two* questions : 4 × 2

(a) Discuss the life cycle of *Penaeus monodon*.

(b) Give details the Simpson's Index with example.

(c) Write an account of feeding habit and distribution of Mahaseer (*Tor tor*).

(d) State about feeding behaviour and maturity stages of *Macrobrachium rosenbergii*.

3. Answer any *one* question from the following :

(a) (i) Enlist different IUCN categories. 8 × 1

(ii) Discuss the different *ex-situ* conservation mode of fish.

(iii) Add a note on aquatic biodiversity of India.

2 + 4 + 2

- (b) (i) What do you mean by exotic species and Invasive species ?
- (ii) Discuss the regulation regarding introduction of exotic/invasive species introduction.
- (iii) State different factors threat the indigenous fishes. 2 + 4 + 2

UNIT—II

(Oceanography, Remote Sensing & GIS)

4. Answer any *two* questions from the following : 2×2
- (a) Define *El Nino*. Mention its impact on fisheries.
- (b) What is Intertidal Zone and Hadal Zone ?
- (c) State about PFZ.
- (d) What is GPS ?
5. Answer any *two* of the following questions : 4×2
- (a) Give an account on Ocean Current with Special reference to Indian Ocean.

- (b) State the temperature variation in Ocean water.
- (c) Discuss the antropogenic activity in an Ocean.
- (d) Write down the fisheries forecasting system in India.

6. Answer any *one* question from the following : 8×1

- (a) (i) Classify tides with their causes.
- (ii) How remote sensing technology helps to enhance fisheries production in Ocean.
- (iii) Add a note on Ocean wave as the renewable energy. $3 + 3 + 2$
- (b) (i) State about continental shelf in respect to Indian fisheries.
- (ii) Why Ocean water is salty ?
- (iii) Add a note on the density of Ocean water. $3 + 3 + 2$