

<b>CSM – 29/17</b>
<b>Fisheries Science</b>
<b>Paper – II</b>

*Time : 3 hours*

*Full Marks : 300*

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

*Candidates should attempt Q. No. 1 from Section – A and Q. No. 5 from Section – B which are compulsory and any **three** of the remaining questions selecting at least **one** from each Section.*

**SECTION – A**

1. Answer any **three** of the following : 20×3 = 60
- Write on species diversification to enhance Aquaculture Production and its outlook in current plan period.
  - Write on the importance and systems of region specific Freshwater aquaculture and issues involved.
  - Write on nutritional bioenergetics in fish.
  - Write on the hybridization of fishes, its merits and demerits.

2. (a) Write down the merits and demerits of the following : 20

(i) Androgenesis

(ii) Gynogenesis

(iii) Polyploidy

(iv) Gene Bank

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(b) Write down brief notes on the following :

20

(i) Homeostasis

(ii) Common symptoms of fish diseases

(iii) Crustacean parasites of fish

(iv) Protozoan diseases

(c) Write on Biotechnological prospects in Aquaculture. 20

3. (a) Write on different varieties, advantages and processes involved in Fish feed preparation for carp culture. 20

(b) Write on pre-requisites for induced breeding of carps. 20

(c) Write on Eco-hatchery, its advantages and disadvantages. 20

4. (a) Write on the basic considerations in the selection of species. For culture and name important cultivable finfish and shellfish. 20
- (b) Write on the significance of pond fertilization and various manures used in fish culture management. 20
- (c) Write on code of conduct for responsible fisheries. 20

**SECTION – B**

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5. Answer any **three** of the following:  $20 \times 3 = 60$
- (a) Write on the history of mechanization of Indian Fishing Craft, Equipments and advantages.
- (b) Write on the basic considerations taken to develop a fishing vessel.
- (c) Write on Inland fishing gears with diagrams.
- (d) Write on materials used for making and mending fish nets.
6. (a) Write on various modern commercial fishing methods in India. 20
- (b) What is drying ? Write on various methods and steps of drying and its advantages. 20

- (c) Write on the proximate composition of fish.  
Give an account of freezing of fish. 20
7. (a) Give a brief note on the following : 20
- (i) Fish spoilage
  - (ii) Trawling
  - (iii) Purse seine
  - (iv) Modified Atmospheric Packaging(MAP)
- (b) Write on the different characteristics of a fishing vessel. 20
- (c) Write on organoleptic indices of fresh fish and steps for quality control. 20
8. (a) Write on the processes and steps involved in smoking of fish and its advantages in processing. 20
- (b) Write on prerequisites on canning, processes involved and self life of canned products. 20
- (c) Give an account of the following : 20
- (i) Individually Quick Frozen (IQF) Products
  - (ii) Vacuum packaging
  - (iii) Value added fish products
  - (iv) Floats and Sinkers

