2017

(October)

FISHERY SCIENCE

(Honours)

SIXTH PAPER, (Paper—6A)

(Fish Physiology, Biochemistry and Applied Genetics)

(Theory)

Marks : 56

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer Question No. **1** which is compulsory and *any* **four** from the rest

1. Briefly describe the following : 4×3=12

(a) Techniques of chromosomal manipulation in fishes

(b) Osmoregulation in freshwater and marine water fishes

(c) Cellular components of fish blood

(Turn Over)

2. Write the difference between *in situ* and *ex situ* conservation methods of fish genetic resources. Explain the cryopreservation technique of fish male gamete. 4+7=11

3. Describe the structure of the pituitary gland and mention the functions of its hormones. 6+5=11

4. Describe TCA cycle. 11

5. Describe gas-exchange mechanism and effects of different factors in gas exchange across the gills in fish. 5+6=11

6. What are the various approaches in selective breeding programme of fishes? Write on interspecific and intergeneric hybridization of Indian Major carps. 4+7=11

7. What are enzymes? Write a note on different properties of enzymes. Discuss briefly classification of enzymes with suitable examples. 2+4+5=11

(Continued)

8. Write short notes on any *two* of the following : 5½×2=11

   (a) Functions of blood cells

   (b) Transgenic fish

   (c) Corpuscles of stannius

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