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63/1 (SEM-6) DSE3/ZOOHE 6036

2024

**ZOOLOGY**

Paper : ZOOHE 6036

**( Fish and Fishery )**

Full Marks : 60

Pass Marks : 24

Time : Three hours

***The figures in the margin indicate full marks for the questions.***

1. Choose the correct option from the following  
**(any five):** 1×5=5

(a) Members of living fishes with jaws fall under the group

(i) Gnathostomata

(ii) Agnatha

(iii) Osteichthyes

(iv) Chondrichthyes

Contd.

(b) Which shape of cage for fish farming is more effective ?

- (i) Rectangular
- (ii) Square
- (iii) Round
- (iv) Oblong

(c) Limiting nutrients of the freshwater pond is

- (i) nitrogen
- (ii) phosphorous
- (iii) potassium
- (iv) calcium

(d) Most fishes exchange dissolved oxygen and carbon dioxide in water by means of the

- (i) swim bladder
- (ii) muscles
- (iii) gills
- (iv) skin

(e) Fins are membranous extension of the

- (i) integument
- (ii) exoskeleton
- (iii) gills
- (iv) scale

(f) Swim bladder is primarily a \_\_\_\_\_ organ.

- (i) hydrostatic
- (ii) digestive
- (iii) respiratory
- (iv) circulatory

(g) Catla Catla is a \_\_\_\_\_ feeder.

- (i) bottom
- (ii) surface
- (iii) column
- (iv) All of the above

(h) Fish tuberculosis disease is caused by

- (i) *Mycobacterium tuberculosis*
- (ii) *Costia necatrix*
- (iii) *Ichthyophthirius multifiliis*
- (iv) *Myxobolus cerebralis*

(i) Fishes that produce both sperm and eggs are

- (i) hermaphrodite
- (ii) protogyny
- (iii) monogamous
- (iv) All of the above

(j) Most nitrogenous waste in marine fishes appear to be secreted by the gills as

- (i) ammonia
- (ii) urea
- (iii) uric acid
- (iv) trimethylamine oxide

2. Answer the following questions : **(any five)**

2×5=10

- (a) What is Weberian ossicles.
- (b) Define aquaculture.
- (c) What are different types of fin in fishes ?
- (d) Define bioluminescence.
- (e) Write the role of scales in determination of age of fish.
- (f) What do you mean by transgenic fish ?
- (g) What is osmoregulation ?

3. Answer **any five** of the following questions :

5×5=25

- (a) Write a short note on transgenic zebra fish.
- (b) Write about different types of swim bladder found in fishes.
- (c) Write briefly about the advantages of broad and tools management.
- (d) Describe briefly about various modifications of fins.

- (e) Write in short on different types of migration in fishes.
- (f) Describe the process of fish classification based on their feeding habit and the habitat.
- (g) Write the drawback of polyculture.
- (h) Explain different types of diseases found in aquarium fishes with their treatment measures.
- (i) Write a note on the Indian Fisheries Act, 1897.

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

10×2=20

- (a) What is extensive fish culture? Describe briefly about the modern pen and cage culture system.
- (b) Describe the induced breeding mechanism applied in commercial fish farming.
- (c) Write about different fishing crafts and gears used in marine fishery.

- (d) What is composite fish culture? Write briefly about the fishes used in composite fish culture.
  - (e) Write in short on different types of migration in fishes.
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