

U.G. 3rd Semester Examination - 2021**ZOOLOGY****[HONOURS]****Skill Enhancement Course (SEC)****Course Code : ZOOL-H-SEC-T-01(A&B)**

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.***Answer all the questions from Selected Option.****OPTION-A****ZOOL-H-SEC-T-1A****(Aquaculture)**

1. Answer any **five** of the following: $2 \times 5 = 10$
- Write about the sexual dimorphism of molly fish highlighting their anal fin structure.
 - Describe the morphology of clown fishes.
 - Give four examples of marine aquarium fishes.
 - Write the names of four indigenous ornamental fishes from west Bengal.
 - Which live bearer fish is used in aquaculture?

- What is 'probiotics' in fish food?
- Write the composition of a formulated fish food.
- Write the function of aerator in maintaining aquarium fish.

2. Answer the following questions (any **two**): $5 \times 2 = 10$

- Briefly describe the freshwater and marine water aquarium.
- What is the importance of sexual dimorphism in culturing ornamental fishes?
- What are the roles of live fish food organisms and probiotics in aquaculture?
- What are the containers and devices used in live fish transportation in India?

3. Answer the following questions (any **two**): $10 \times 2 = 20$

- What are the exotic ornamental fishes cultured in India? What is the impact of culturing these fishes in natural ecosystem? $5 + 5 = 10$
- Describe the sexual dimorphism of Guppy, Molly, butterfly fish and sword tail fish.

 $2 \frac{1}{2} \times 4 = 10$

c) How live fish feed organisms, are cultured and used in aquaculture? Write the advantages of formulated fish food over liver fish food.

5+5=10

d) Why we should give emphasis on culturing indigenous ornamental fishes along with exotic fishes in aquaculture? What is the prospect of aquarium fish keeping as profession in India?

5+5=10

OPTION-B

ZOOL-H-SEC-T-1B

(Apiculture)

1. Answer any five questions of the following:

2×5=10

- a) In which bee wax glands are found ?
- b) What is honey?
- c) Who invented the bee language?
- d) Which class the honey bees are belong to ?
- e) Write down the scientific name of commonly known Giant bee.
- f) What is the machine to centrifuge out the honey from uncapped frames?

g) What is royal jelly?

h) Mention the life span of Queen bee.

2. Answer any **two** questions of the following: 5×2=10

a) What are the importance of bee keeping?

b) Name the two species of honeybee that can be domesticated.

c) Mention any two uses of beeswax.

d) What are the main bee enemies?

3. Answer any **two** questions of the following: 10×2=20

a) What is Nuptial flight? Describe the social organization of honey bees. Write down the importance of pasturage in Apiculture. 1+5+4

b) Describe the control and preventive measures of bee diseases. 5+5

c) Write down the modern methods of extraction of honey. Explain Apiculture. 7+3

d) Write short notes on : 5+5

i) Langstroth Beehives

ii) Uses of honey
