

U.G. 3rd Semester Examination - 2020**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****(Apiculture)**

1. Answer any **five** of the following: $2 \times 5 = 10$
- What are the common names of *Apis dorsata*, and *Apis cerena indica*?
 - Name the Italian bee variety imported to India for honey. State the reasons for this.
 - Define 'Apiculture' or 'Bee Keeping'.
 - What do you mean by apiary?
 - Are bees social insects? Justify.

- Which hormone is secreted by Queen of honey bees?
- What is honey?
- If a honey bee is conveying an information by round dance, then the distance of source will be about how many meters?

2. Answer any **two** of the following: $5 \times 2 = 10$
- How does 'bee keeping' business is beneficial to the farmers?
 - What is the composition and use of bee wax?
 - What is pasturage and how is it related to honey production?
 - How is Karl Von Frisch related to Honey bees' 'waggle dance'?
3. Answer any **two** of the following: $10 \times 2 = 20$
- Describe the fungal and viral diseases of honey bees and add a note on their control.
 - Describe the equipment needed for beekeeping with their proper uses.
 - Describe with function on the different caste system of honey bees. Add a note on the role of hormone for social organization of honey bees.
 - What is Nuptial flight? Describe the communication languages of honey bees with proper diagram.

OPTION-B

ZOOL-H-SEC-T-1B

1. Answer any **five** questions : $2 \times 5 = 10$
- a) Name a fish species which has low tolerance to transport.
 - b) What is sequential hermaphroditism?
 - c) Write systematic position of butterfly fish.
 - d) What do you mean by larvivorous fish?
 - e) State scientific name of one endangered aquarium fish.
 - f) What to put in tank of Mollies?
 - g) What do you mean by conditioning of fish before transportation?
 - h) State two characters of a good supplementary fish feed.
2. Answer any **two** questions : $5 \times 2 = 10$
- a) What are the different steps of feed formulation? Name two indigenous ornamental fish of India. $3 + 2 = 5$
 - b) Name two chemicals used during fish transportation. What will fish eat naturally at pond? $2 + 3 = 5$

- c) Discuss the reproductive biology of sword tail fish. 5
 - d) Write the geographic distribution of Molly. 5
3. Answer any **two** questions : $10 \times 2 = 20$
- a) State about different varieties of Gold fish. Discuss mutualistic relationship of Anemone fish. $5 + 5 = 10$
 - b) What are the consequences of introduction of Guppy as a mosquito control agent in India? Discuss 'close system' as a method for packing and transportation of fish. $5 + 5 = 10$
 - c) Describe parental investment of Anemone fish. Discuss Guppy as a 'Life bearers'. $5 + 5 = 10$
 - d) State unique features of Butterfly fish. Differentiate between a male and female Gold fish. Why fish die during transportation? $2 + 3 + 5 = 10$