

Or

Explain the causative agent, symptoms and preventive measures of protozoan diseases in cultivable fishes. 3+5+2=10

6. Write a note on the different fishing crafts and gears used in fishery. 10

Or

Describe the different methods of preservation techniques of harvested fishes.

Total number of printed pages-8

3 (Sem-6/CBCS) ZOO HE 1/2

2024

ZOOLOGY

(Honours Elective)

Answer the Questions from any one Option.

OPTION-A

(Biology of Insecta)

Paper : ZOO-HE-6016

OPTION-B

(Fish and Fisheries)

Paper : ZOO-HE-6026

Full Marks : 60

Time : Three hours

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

Contd.

OPTION-A

(Biology of Insecta)

Paper : ZOO-HE-6016

1. Choose the correct option : $1 \times 7 = 7$

(i) Ommatidia are associated with—

- (a) locomotion
- (b) digestion
- (c) vision
- (d) flight

(ii) The cuticle is secreted by—

- (a) epidermis
- (b) basement membrane
- (c) dermis
- (d) molting gland

(iii) Plumose antennae are found in

- (a) Termite
- (b) Mosquito
- (c) Cockroach
- (d) Butterfly

(iv) Sponging mouthparts are found in

- (a) Housefly
- (b) Mosquito
- (c) Butterfly
- (d) Grasshopper

(v) Which part of the alimentary canal acts as a reservoir of food in insects?

- (a) Midgut
- (b) Illium
- (c) Gizzard
- (d) Crop

(vi) Which of the following is an Ametabolous insect?

- (a) Termite
- (b) Collembola
- (c) Silkworm
- (d) Dragonfly

(vii) Corpora cardiaca is a part of

- (a) Respiratory system
- (b) Endocrine system
- (c) Excretory system
- (d) Integumentary system

2. Answer the following questions :

2×4=8

- (i) Name the different segments of an insect's leg.
- (ii) What is an ommatidium?
- (iii) What are the four main anatomical components of insect endocrine system?
- (iv) What is hemimetabolous metamorphosis?

3. Answer the following questions : (any three)

5×3=15

- (i) Describe the mouthparts of a mosquito.
- (ii) Write briefly about excretion by Malpighian tubules.
- (iii) What are haemocytes? Mention some of their functions.

(iv) Write about different types of receptors in insects.

(v) Draw a labelled diagram of ommatidium.

4. Answer the following questions : (any three)
10×3=30

- (i) Describe the social organization and social life of any insect.
- (ii) Describe different types of metamorphosis in insects.
- (iii) How are insects attracted towards host plants? Describe how plants protect themselves from insects.
- (iv) Mention some characters of insects of order Lepidoptera. Give some examples of insects of order Lepidoptera.
- (v) Write about houseflies and mosquitoes as insect vectors.
- (vi) Describe briefly the tracheal system of respiration in terrestrial insects.

OPTION-B
(Fish and Fisheries)
Paper : ZOO-HE-6026

1. Fill in the blanks :

1×7=7

(a) Fish migration in search of food and water is known as _____.

(b) _____ is a soil sealant used for the treatment of porous soil in a fish farm.

(c) Common name of *Vallisneria* sp is _____.

(d) Tail and fin rot disease in fish is caused by _____.

(e) Breweries use _____ made from swim bladder of sturgeon as filtering agent.

(f) A mixture of chorionic gonadotropin and mammalian pituitary extract is known as _____.

(g) _____ tubes are used to encourage plant growth in an aquarium.

2. Answer the following questions : 2×4=8

(a) What are red bodies ?

(b) Write *two* advantages of polyculture.

(c) Write *two* causes of depletion of fishery resources.

(d) What is intensive culture of fish ?

3. Write short notes on : (*any three*) 5×3=15

(a) Transgenic fish

(b) Fisheries law and regulations

(c) Mechanoreceptors

(d) Cage culture

(e) Classification of fishes based on feeding habits

4. What is bioluminescence ? Give an account of bioluminescence in fishes with examples. 2+8=10

Or

Give an account of different scales of fishes with diagrams. How is scale of fish used for the determination of age ? 8+2=10

5. What is bundh breeding ? Describe briefly the method of hypophysation in carps. 3+7=10