Total number of printed pages–8

3 (Sem–6/CBCS) ZOO HE 1/2

2023



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 : 1×7=7

(i) Microbial chamber in insect gut is present in

(a) Foregut

(b) Midgut

(c) Hindgut

(d) None of the above

(ii) Crop is completely separated as a lateral diverticulum in the alimentary canal of

(a) Cockroach

(b) Beetle

(c) Housefly

(d) Termite

(iii) Insects living in large communities and have equal wings belong to order

(a) Diptera

(b) Hymenoptera

(c) Isoptera

(d) Lepidoptera

(iv) Antenna of butterfly is

(a) Moniliform

(b) Pectinate

(c) Clavate

(d) Capitate

(v) Which insect is considered as an important pollinator for plants ?

(a) Butterflies

(b) Moths

(c) Honey bees

(d) Thrips

(vi) Apterygotes like silverfishes are

(a) Hemimetabolous

(b) Holometabolous

(c) Hypermetabolus

(d) Ametabolous

(vii) Legs of predatory insects modified for capturing prey is

(a) Saltatorial leg

(b) Natatorial leg

(c) Raptorial leg

(d) None of the above

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

(i) What are the different types of metamorphosis in insects ?

(ii) What is plastron in insects ? Mention its function.

(iii) Write *two* important functions of haemolymph in insect.

(iv) Write the role of juvenile hormone (JH) in insect growth and development.

3. Answer the following questions : ***(any three)*** 5×3=15

(i) Write about the central nervous system (CNS) of insect with diagram.

(ii) Write about the mechanism of respiration in terrestrial insects.

(iii) Describe the male reproductive system in insect along with diagram.

(iv) What are the different excretory products in insects ? Write briefly about the mechanism of excretion in insects.

(v) Write about the different groups of social insects focussing their social behaviour.

4. (a) Describe different types of mouth along with feeding habit in insects with labelled diagram. 10

Or

(b) What do you mean by digestion ? How does it take place in insect ? Describe the mechanism of digestion and absorption.

5. (a) Describe the host selection behaviour of phytophagous insects and describe the mechanism by which plants protects themselves from insect attack. 10

Or

(b) Give an account of respiration in aquatic and endoparasitic insects.

6. (a) Give an outline classification of class insecta giving examples from each order. 10

Or

(b) Write an essay on general features, distribution and success of insects on Earth.

OPTION–B

(Fish and Fisheries)

Paper : ZOO–HE–6026

1. Fill in the blanks : 1×7=7

   (a) Gill rot is a _____ disease.

   (b) Gyrodactylosis is caused by a fish parasite _____.

   (c) _____ is an example of catadromous fish.

   (d) Parental care in Hippocampus is _____.

   (e) The ornamental fishes are also called _____.

   (f) Swim bladder or air bladder is main characteristic of _____ fishes.

   (g) In aquarium to remove ammonia used _____.

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

   (a) What are the functions of electric organ in fishes ?

   (b) Write difference between transgenic fish and hybrid fish.

   (c) What is oceanodromous fish, give example.

   (d) Write the disadvantages of natural spawn collection system.

3. Answer the following questions : ***(any three)*** 5×3=15

   (a) Write notes on the by-products of fishing industry.

   (b) Write briefly about different types of feeding habits in fish with example.

   (c) Write notes on advantages and disadvantages of induced breeding.

   (d) Define fish migration. Write briefly about different types of migration.

   (e) What is aquaculture ? Mention elaborately types of aquaculture.

4. *(a)* What is polyculture ? What are the basic principles of polyculture ? Write briefly about the advantages of poly-culture. 2+4+4=10

Or

(b) What is an aquarium ? Write briefly preparation and maintenance of fish aquarium. 5+5=10

5. (a) What are the types of fish culture ? Describe extensive and intensive fish culture. Write disadvantages of extensive and intensive fish culture. 2+4+4=10

Or

(b) Describe the application of Remote Sensing (RS) and Geographic Information System (GIS) in fisheries. 5+5=10

6. (a) Describe the causes of depletion of fishery resources. 10

Or

(b) Give an account of different types of scales in fish. Write briefly the uses of scales and its significance in taxonomy. 5+5=10
