

BH-6517
M.Sc. (Ist Semester) Examination, 2022
ZOOLOGY

**(Entomology : Insect Physiology, Toxicology &
Vector Biology)**

Time Allowed : Three Hours

Maximum Marks : 70

Note : Attempt questions of all the sections. Instructions are given with the sections.

SECTION - A

(Objective Type Questions)

Note : Attempt all the questions. Each question carries 1 mark. **10×1=10**

- Q. 1.** (i) Exoskeleton of cockroach and other insects is formed of :
- (a) Chitinous cuticle
 - (b) Nonchitinous cuticle
 - (c) Amino acids
 - (d) Keratin

(2)

- (ii) Complete metamorphosis occurs in :
- (a) Grass hopper
 - (b) Moth
 - (c) Bed bug
 - (d) Silver fish
- (iii) The membrane at the side that can connect the tergum and sternum is called :
- (a) Sternum
 - (b) Pleuron
 - (c) Epithelium
 - (d) Chitin
- (iv) Haemolymph of insects contain :
- (a) Erythrocytes and plasma
 - (b) Respiratory pigments only
 - (c) Haemocytes, leucocytes and plasma
 - (d) Haemocytes and plasma

(3)

(v) Function of malpighian tubules in insects is :

- (a) Excretion
- (b) Homoeostasis
- (c) Osmoregulation
- (d) All of these

(vi) Insecticides kill :

- (a) Harmful insects
- (b) Only plant pests
- (c) Specific insects
- (d) Both harmful and useful insects

(vii) IPM stands for :

- (a) International pest management
- (b) Instant pest mortality
- (c) Integrated pest management
- (d) Internal pest metabolism

(4)

(viii) Introducing a predator to control a pest is :

- (a) Biotechnology
- (b) Artificial control
- (c) Biological control
- (d) Genetic engineering

(ix) Which pesticide gets quickly deposited in mammalian body and for a long duration :

- (a) Rodenticides
- (b) Chlorinated hydrocarbons
- (c) Organophosphorus compounds
- (d) Fungicides

(x) Vector for Kala-azar is :

- (a) Sand fly
- (b) Bed bug
- (c) Louse
- (d) Housefly

(5)

SECTION - B

Note : Attempt any five questions. Each question carries
2 marks. **5×2=10**

Q. 2. Very short answer type questions (25-30 words) :

- (i) Structure of ommatidium.
- (ii) Trachea of insect.
- (iii) Mutagenic effects of pesticides.
- (iv) What is toxicity ?
- (v) What are fumigants ?
- (vi) What is insecticide resistance ?
- (vii) Define "Parasites".
- (viii) What are parasitoids ?

SECTION - C

Note : Attempt any five questions. Each question carries
4 marks. **5×4=20**

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P.T.O.

(6)

Q. 3. Short answer type questions (250 words) :

- (i) What are the excretory substances of insects ?
- (ii) Discuss "Diapause in insects."
- (iii) Describe the pesticide industries.
- (iv) Write the teratogenic effects of insecticides.
- (v) Functions of pyrethroids.
- (vi) Health hazards of insecticides.
- (vii) Control of bugs.
- (viii) Host-pathogen interactions.

SECTION - D

Note : Attempt any three questions. Each question carries
10 marks. **3×10=30**

Q. 4. Essay types questions (more than 500 words) :

- (i) Write an essay on endocrine system of insects.

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