

M.Sc. ZOOLOGY
FOURTH SEMESTER (SPECIAL REPEAT)
ENTOMOLOGY-II
MSZ-402 D

SET
A

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 3 hrs.

Full Marks: 70

Time: 30 mins.

Marks: 20

(Objective)

Choose the correct answer from the following:

1 × 20 = 20

1. In pest control, 'Use of radiant energies' is the technique involved in the method:
 - a. Physical control
 - b. Cultural control
 - c. Biological control
 - d. Hormonal control
2. Bamboo pest, *Dinoderus minutus* spent their pupal stage on:
 - a. Soil
 - b. Leaf
 - c. Root
 - d. Larval tunnel
3. Which of the following device belongs to 'Biological methods' of pest control?
 - a. Use of certified seeds
 - b. Use of insecticides
 - c. Use of natural enemies
 - d. Use of radiant energies
4. Which one of the following is a monophagous pest?
 - a. Citrous butterfly
 - b. Brinjal borer
 - c. Locust
 - d. Rice weevil
5. Which one of the following is a non-biodegradable insecticide?
 - a. Organophosphate
 - b. Carbamate
 - c. Organochlorine
 - d. Pyrethroid
6. Which one of the following pest control method is essential for prevention of pest to spread over the globe?
 - a. Biological method
 - b. Autocidal method
 - c. Chemical method
 - d. Quarantine method
7. The insect orders mostly used in forensic investigations are:
 - a. Diptera and coleopteran
 - b. Lepidoptera and hemiptera
 - c. Orthoptera and Isoptera
 - d. Hymenoptera and odonata
8. Gram negative bacteria involve in:
 - a. Toll signaling pathway
 - b. JAK-STAT pathway
 - c. Imd pathway
 - d. All of the above
9. PAMPS are found in:
 - a. Insect's Body
 - b. In pathogen
 - c. In hemocyte
 - d. In hemolymph
10. The first insect appears in the corpse is:
 - a. Hide beetle
 - b. Carpet beetle
 - c. Blow fly
 - d. Moth larva

11. The main function of proventriculus is:
 - a. Storage of food
 - b. Grinding of food
 - c. Both Storage & grinding
 - d. None of these
12. Pyloric valve is present in between:
 - a. Foregut and midgut
 - b. Pharynx and oesophagus
 - c. Midgut and hindgut
 - d. Crop and proventriculus
13. Respiratory siphon is present in:
 - a. Mosquito larva
 - b. Cockroach nymph
 - c. Butterfly larva
 - d. Beetle larva
14. Which respiratory pigment present in insects blood?
 - a. Haemoglobin
 - b. Haemocyanin
 - c. Melatonin
 - d. No pigment present
15. Which one of the following hemocyte shows polymorphic character?
 - a. Prohemocyte
 - b. Plasmatocyte
 - c. Oenocytoid
 - d. Granulocyte
16. Part of the insect brain involved in all intelligent activities is:
 - a. Pons cerebralis
 - b. Corpus centrale
 - c. Corpus pedunculatum
 - d. Corpus ventralia
17. Excretory product of aquatic insect is:
 - a. Ammonia
 - b. Urea
 - c. Uric acid
 - d. All of the above
18. Malpighian tubules absent in:
 - a. Diptera
 - b. Ephemeroptera
 - c. Collembola
 - d. Orthoptera
19. The distal ends of the Malpighian tubules are held in contact with the rectal wall by the perinephric membrane, is termed as:
 - a. Holonephry
 - b. Oligonephry
 - c. Cryptonephry
 - d. All of the above
20. *Pyrilla perpusilla* is the pest of:
 - a. Cotton
 - b. Paddy
 - c. Sugarcane
 - d. Stored grain

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(Descriptive)

Time : 2 hr. 30 mins.

Marks : 50

[Answer question no.1 & any four (4) from the rest]

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| 1. Explain digestive system of insect with labeled diagram. | 8+2=10 |
| 2. What are the types of neurons found in insects? Write the mechanism of nerve impulse transmission in insect. | 4+6=10 |
| 3. Describe the medical importance of any two types of mosquitoes as a vector of human diseases. | 10 |
| 4. Write about the life cycle and damage done by any one of the insect pest of forestry. | 7+3=10 |
| 5. Write short notes on:
a) Tracheal respiration in insects.
b) Different types of reproduction in insects. | 5+5=10 |
| 6. What is innate immune system in insects? Explain any signaling pathway for humoral immunity against pathogen. | 5+5=10 |
| 7. Describe cultural or physical methods of pest control. | 10 |
| 8. Describe the mechanism of haemolymph circulation in insect. Write a note on chemical composition of haemolymph. | 5+5=10 |

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