

U.G. 6th Semester Examination - 2025**ZOOLOGY****[PROGRAMME]****Discipline Specific Elective (DSE)****Course Code : ZOOL-G-DSE-T-02(A&B)**

Full Marks : 40

Time : 2½ 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-G-DSE-T-02****(Parasitology)**

1. Answer any **five** of the following: 2×5=10
- a) What is an ecto-parasite? Give one example.
 - b) Write two parasitic adaptations of *Ascaris*.
 - c) What is elephantiasis?
 - d) Write two basic differences between a definitive host and an intermediate host.
 - e) What is a reservoir host? Write down the scientific name of head lice.
 - f) Name the protozoan parasite transmitted by the tsetse fly and which kind of disease it causes in the human beings.
 - g) What are the infective stages of *Ascaris* and *Schistosoma*?
 - h) Name two host of *Trypanosoma gambiense*.

[Turn Over]

2. Answer any two of the following: $5 \times 2 = 10$

a) Write a short note on the life cycle of *Ancylostoma* sp. with a suitable labelled diagram. $3+2$

b) Define the term parasitism, parasitoid and vector. $2+2+1$

c) Provide the scientific name of one soft tick and name a disease caused by the same. Discuss the migration pattern of larval *Ascaris* through different body parts in man. $2+3$

d) Give one suitable example of a vertebrate parasite. Mention its habit and habitat. $1+4$

3. Answer any two of the following: $10 \times 2 = 20$

a) Differentiate between male and female forms of *Wuchereria*. What are microfilariae? Write about nocturnal periodicity and disease diagnosis in the context of Filariasis. $4+2+2+2$

b) Compare the morphological differences between the amastigote and promastigote stages of *Leishmania donovani*. Give any two symptoms that indicate Visceral Leishmaniasis. Write a brief note on the prevention of the diseases caused by *Leishmania*. What is scabies? $4+2+2+2$

c) Which pathogen causes flea-borne typhus? Write the symptoms, treatment and preventive measures of the flea-borne typhus. $1+3+3+3$

d) What is Schistosomiasis? Give an account of morphological features of *Scistosoma* with a labelled diagram. Which Phylum does it belong to? Mention the intermediate and definitive hosts of *Scistosoma*. $2+5+1+2$

OPTION-B

ZOOL-G-DSE-T-02

(Biology of Insecta)

1. Answer any five of the following: $2 \times 5 = 10$

a) Mention any two general characteristics of class Insecta.

b) Name the insect order characterised by scale-covered wings. Give two examples of social insects.

c) Differentiate between pilose and plumose antennae, with examples.

d) Mention the role of peritrophic membrane.

e) Define hemimetabolous metamorphosis with an example.

f) What do you mean by stomatodeum and Proctodeum?

g) Name two insect pests commonly found in paddy fields.

h) What is the function of antennae?

2. Answer any two of the following: $5 \times 2 = 10$

a) Explain the mechanism of molting in insects, highlighting the role of ecdysone and juvenile hormones.

b) Give a brief note on different types of insect legs based on their adaptation. Mention two examples of each type with such legs. $3+2$

- c) Explain how allelochemicals influence insect-plant interaction. Name two types of allelochemicals. 3+2
- d) Describe the structure and functions of the foregut and midgut in a cockroach with a suitable labeled diagram. $2\frac{1}{2}+2\frac{1}{2}$
3. Answer any two of the following: $10 \times 2 = 20$
- a) Explain with suitable examples how insect mouthparts are adapted for different types of feeding. Describe the structure and function of the sucking apparatus in insects with a suitable diagram. $4+(4+2)$
- b) Illustrate the insect central nervous system (CNS), highlighting its major components with a well-labelled diagram. Classify the different types of ovarioles based on how oocytes receive nourishment. $5+4+1$
- c) Classify the class Insecta upto order with example. Write short notes on Trophallaxis. $7+3$
- d) What is caste differentiation in termites? Mention the roles of three castes in termite society. Discuss the role of mosquitoes and houseflies as vectors in disease transmission. What is 'halteres'?