

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: $5 \times 2 = 10$
- Write a short note on the life cycle of *Ancylostoma* sp. with a suitable labelled diagram. $3+2$
 - Define the term parasitism, parasitoid and vector. $2+2+1$
 - 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. $2+3$
 - Give one suitable example of a vertebrate parasite. Mention its habit and habitat. $1+4$
3. Answer any two of the following: $10 \times 2 = 20$
- Differentiate between male and female forms of *Wuchereria*. What are microfilariae? Write about nocturnal periodicity and disease diagnosis in the context of Filariasis. $4+2+2+2$
 - 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? $4+2+2+2$
 - Which pathogen causes flea-borne typhus? Write the symptoms, treatment and preventive measures of the flea-borne typhus. $1+3+3+3$
 - 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: $2 \times 5 = 10$
- Mention any two general characteristics of class Insecta.
 - Name the insect order characterised by scale-covered wings. Give two examples of social insects.
 - Differentiate between pilose and plumose antennae, with examples.
 - Mention the role of peritrophic membrane.
 - Define hemimetabolous metamorphosis with an example.
 - What do you mean by stomatodeum and Proctodeum?
 - Name two insect pests commonly found in paddy fields.
 - What is the function of antennae?
2. Answer any two of the following: $5 \times 2 = 10$
- Explain the mechanism of molting in insects, highlighting the role of ecdysone and juvenile hormones.
 - 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: 10×2=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 'halter'?