

123/Zool

UG/1st Sem/ZOOL(H)/CC-02-T/19

U.G. 1st Semester Examination - 2019

ZOOLOGY

[HONOURS]

Course Code : ZOOL(H)/CC-02-T

Full Marks : 40

Time : $2\frac{1}{2}$ 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 questions no. 1 - 3.

1. Answer any **five** questions: 2×5=10
- a) Write a note on Cyclomerism theory of origin of metamerism. 2
 - b) What do you mean by homonomous and heteronomous metamerism? Give examples. 1+1
 - c) Write down the distribution of pharyngeal nephridia and integumentary nephridia in *Pheretima*. 1+1
 - d) What do you know about protonephromyxium and mixonephridium? Give examples. 1+1

[Turn over]

- e) Why termites are regarded as social and polymorphic insects?
- f) State the similarities of Onychophora with Annelida.
- g) What is Protoneurous condition? Give example.
- h) Who proposed the Dipleurula concept? What is the main view of proposed Dipleurula concept? 1+1

2. Answer any **two** questions: 5×2=10

- a) Differentiate class Polychaeta and Hirudinea with examples. Write down the mechanism of excretion in Annelida. 3+2
- b) i) Give an account of the organs of aerial respiration in insects other than trachea. 3
- ii) Discuss the role of Corpora cardiaca and PTTH in metamorphosis. 2
- c) State two salient features of phylum Mollusca. Write down the characteristic features of class Polyplacophora and class Scaphopoda with examples. 1+(2+2)

d) i) Draw a neat labelled diagram of water vascular system of *Asterias*.

ii) Write down the structure and function of stone canal. 3+2

3. Answer any **two** questions: 10×2=20

a) i) Give an account of the types of coelom according to its origin. State the significance of coelom. 3+2

ii) Describe the structure and functions of worker termites. Write down the mechanism of caste differentiation of a termite colony. $(1\frac{1}{2}+1\frac{1}{2})+2$

b) i) Describe the mechanism of transformation of pupa to imago. What is the role of Ecdysone in metamorphosis? 3+2

ii) State the characteristic features of class Echinoidea and class Holothuroidea with examples. What is madreporite? $(2+2)+1$

c) i) Distinguish between torsion and coiling. What is Chiastoneury? Discuss the theory of C. M. Young regarding torsion. 2+1+2

ii) Draw and describe the structure of Brachiolaria larva and Doliolaria larva.

$2\frac{1}{2} + 2\frac{1}{2}$

d) i) Draw and discuss on the types and arrangement of gills in *Palaemon*. What is brachistegal membrane? 4+1

ii) Describe different types and distribution of nephridia in Polychaeta. 3

iii) State the salient features of phylum Hemichordata with example. 2