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3 (Sem-2/CBCS) ZOO HC 1

2023

ZOOLOGY

(Honours Core)

Paper : ZOO-HC-2016

(Non-Chordates II : Coelomates)

Full Marks : 60

Time : Three hours

The figures in the margin indicate full marks for the questions.

1. Choose the correct option : $1 \times 7 = 7$
- (a) The animals belonging to phylum Onychophora
- (i) have Arthropoda characteristics and thus also considered as a class of Arthropoda
 - (ii) have both annelidan and arthropodan characteristics
 - (iii) have both arthropodan and molluscan characteristics
 - (iv) serve as a connecting link between Annelida and Mollusca

Contd.

(b) The larva which present only in the members of Gastropods is

- (i) glochidium
- (ii) bipinnaria
- (iii) veliger
- (iv) None of the above

(c) The excretory units of Annelids are called

- (i) flame cells
- (ii) nephrostomes
- (iii) nephridia
- (iv) uriniferous tubules

(d) Respiration in Arthropoda takes place by

- (i) trachea
- (ii) gills
- (iii) book lungs
- (iv) All of the above

(e) Crural glands are a characteristic feature of which group of organisms?

- (i) Onychophorans
- (ii) Placophorans
- (iii) Nematodes
- (iv) None of the above

(f) Compound eyes in Arthropods comprise from a few to many distinct photoreceptive units, called

- (i) infrared receptors
- (ii) ommatidia
- (iii) phaosome
- (iv) stemmata

(g) Absence of excretory organs, great power of regeneration and exclusively marine animals belong to the phylum

- (i) Mollusca
- (ii) Echinodermata
- (iii) Arthropoda
- (iv) Amphibia

2. Very short answer : 2×4=8

- (i) Differentiate between Protonephridia and Metanephridia.
- (ii) What is swarming behaviour of honey bees?
- (iii) Distinguish between cutaneous respiration and branchial respiration.
- (iv) What is detorsion?

3. Write short notes on **any three** of the following : 5×3=15

- (i) General characteristics of Arthropoda
- (ii) Basic theories pertaining to the evolution of coelom
- (iii) Evolutionary significance of Onychophora
- (iv) Various modes of respiration in Mollusca
- (v) Formation of pearl in natural environment

4. (a) What are the general characteristics of Annelida? Discuss the process of excretion takes place in Annelids.

4+6=10

Or

(b) Write the distinctive characters of Mollusca. Classify Mollusca up to class mentioning at least three important characters of each class with example.
4+6=10

5. (a) What do you mean by social organization? Discuss the social behaviour in bees explaining how they communicate with each other.
2+8=10

Or

(b) What is metamorphosis? Write on various types of insect metamorphosis. Discuss on the hormonal control of insect metamorphosis. 2+2+6=10

6. (a) Discuss the water vascular system in Asterozoa with suitable diagram. State the function of water vascular system in Echinoderms. 7+3=10

Or

(b) Explain the phenomenon of torsion in Gastropoda with diagram. Write about its significance. 8+2=10