

Semester II Examination B.Sc. Hons

Subject: Zoology

Paper CCH03

Full marks 90

Answers of each group should be in separate answer-sheet Group – A (F.M. 10)

Answer all MCQ questions (10 x 1 = 10)

1. (i) The excretory units of annelids are-

- (a) Uriniferous tubule (b) Nephridia (c) Flame cell (d) Nephrostome

(ii) The process by which coelom arises by the splitting of meso dermal bands or masses during embryonic development-

- (a) Shizocoely (b) Enterocoely (c) Myocoely (d) None of the above

(iii) *Limulus sp.* belongs to which class?

- (a) Merostomata (b) Copepoda (c) Diplopoda (d) Arachnida

(iv) Arthrobranch refers to gills which are attached with the arthroidal membrane of third maxillipede.

Examples of arthrobranch in prawn-

- (a) First gill (b) Second and third gill (c) Third and seventh gills (d) Second and eight gills

(v) Large tracheae are internally supported by spiral ring of chitin in cockroach, is called-

- (a) Tracheols (b) Trachein (c) Atrium (d) Intima

(vi) Insect compound eye forms the image in dim light refers to-

- (a) Apposition image (b) Superposition image (c) Refracted image (d) None of the above

(vii) An insect usually metamorphose into adult when JH and Ecdysone levels are-

- (a) Equal in blood serum (b) JH > Ecdysone level (c) Ecdysone > JH level (d) Ecdysone present constantly, but JH is absent

(viii) Statocyst in mollusc serves the function as-

- (a) Organ of taste (b) Organ of defense (c) Organ for feeding (d) Organ of equilibrium, maintaining balance during locomotion

(ix) In *Pila sp.* lateral twisting of the nervous system occurs with reference to the torsion of the whole pallial complex, where the visceral loop is twisted into a figure of 8 due to torsion, which is referred to as?

- (a) Zyhoneyry (b) Detorsion (c) Chiastoneury (d) Streptoneury

(x) The main difference between Hemichordata and Chordata lies in-

- (a) Notochord forms from roof of archenteron (b) The buccal diverticula lies ventral to dorsal blood vessels (c) There is no post anal tail in hemichordates (d) None of the above

Group – B (F.M. 30)
Answer three questions (3 x 10 = 30)

2. Identify and write down the salient features of the following specimens:-

(i)



(A)



(B)

(ii)



(A)



(B)

(iii) Draw a labelled diagram of male reproductive system of *Periplaneta sp.*

Group – C (F.M. 50)

Answer all the ten short type questions (10 x 2 = 20)

3. (i) State two distinguishing features between Class Archnida and Pycnogonida.
- (ii) What do you mean by peptic nephridia?
- (iii) What is Proctodaeal trophallaxis?
- (iv) State the roles of JH in Lepidoptera.
- (v) State two features by which Onychophorans largely differ from Arthropods.
- (vi) What is detorsion? Where does it occur?
- (vii) State two differences between class Echinoidea and Holothuroidea.
- (viii) What is madreporite? Mention its function.
- (ix) State two salient features of Auricularia larva.
- (x) State two important characters of Phylum Hemichordata.

Answer any six questions (6 x 5 = 30)

- 4.
- (i) What is Metamerism? Differentiate between Polychaeta and Oligochaeta.
- (ii) Briefly describe the septal nephridia in Earthworm with labelled diagram.
- (iii) Briefly describe the respiratory system in prawn with labelled diagram.
- (iv) Mention the function of Retinal and iris pigmented sheath. State four differences between superposition and apposition image.
- (v) State two differences between commissure and connectives. Mention functions of Osphradium and statocyst.
- (vi) Briefly describe the water vascular system in *Asterias sp.* With labelled diagram.
- (vii) Briefly describe the affinities of Onychophorans with Annelids.
- (viii) Briefly describe the affinities of Hemichordates with chordates.