

2020
Gurudas College
ZOOLOGY – HONOURS
Paper: CC-3
Full Marks: 60

Time: 2 hrs. 30 mins.

Part A

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Answer **any 25** of the following

1. Give any 2 diagnostic features of Phylum Mollusca
2. Differentiate between commissure and connective, giving one example of each.
3. Give any 1 function each of osphradium and statocyst of *Pila*
4. Name any 2 glandular cell of the liver of *Pila* and give their functions?
5. Describe structure and function of jaws of *Pila* sp.
6. What is a nuchal lobe? What is its function?
7. How does *Pila* sp respire during aestivation?
8. What is Garstang's theory of torsion in *Pila* sp?
9. State the systematic positions (up to class) of the following animals –
 - a. *Antedon* sp
 - b. *Cucumaria* sp
10. Match the following to their larvae

A. Crinozoa	i. Auricularia
B. Asteroidea	ii. Ophiopluteus
C. Holothuroidea	iii. Bipinnaria
D. Ophiuroidea	iv. Doliolaria
11. Name any 2 parts of WVS of *Asterias* sp and state their respective functions.
12. Define coelomocyte of the WVS of Echinoderms, and give any 2 of its function.
13. What are Ommatidia?
14. State the role of Corpora Allata in insect metamorphosis.
15. Explain the significance of Apterous Neotenic Caste in termite social structure.
16. Differentiate between Stomodaeal Trophallaxis and Proctodaeal Trophallaxis.
17. State two beneficial roles of termites.
18. State the systematic positions (up to class) of the following animals –
 - a. *Periplaneta* sp
 - b. *Macrobrachium* sp
19. What is Scaphognathite? State its function.

20. Define Phyllobranch Gills. Give example.
21. What is the role of Spiracles in insect respiration?
22. Explain the types of gills, depending on their origin and attachment, found in prawn.
23. Show the course of blood flow through the gill of prawn with the help of a flowchart.
24. How many types of basic metamorphosis are seen in insects? Name them.
25. Differentiate between Schizocoely and Enterocoely.
26. Write at least four features of coelom.
27. What is Septal nephridia?
28. What do you mean by pygidium and prostomium?
29. Mention at least four characters of class Oligochaeta.
30. Write the dissimilarities of phylum Onychophora with Arthropoda.
31. Mention the probable time of origin of phylum Onychophora.
32. What is clitellum?
33. Why hemichordates are called so? Mention the chordate features of *Ballanoglossus* sp.
34. What is stomochord?
35. Give the definition of pseudocoelom.

Part B

Internal Assessment

Answer any 10 of the following

1x10 = 10

1. Which of the following is true? (choose the correct answer)
 - A. In Pulmonata, detorsion is complete
 - B. Total detorsion is seen in *Aplysia* sp
 - C. In *Pterotrachea* sp, mantle and visceral sac disappear and body becomes worm-like
 - D. In Nudibranchs, mantle cavity, visceral hump, external shell and ctenidia are retained
 - E. All are true
 - F. None are true
 - G. Some are true

2. Molluscans have (choose the correct answer)
 - A. Ventral creeping foot
 - B. Mantle
 - C. Radula
 - D. All of the above
 - E. None of the above

3. Digestive enzymes of *Pila* are (choose the correct answer)
 - A. Amylase, lipase, cellulase
 - B. Lipase, protease, amylase
 - C. Cellulase, protease, amylase
4. Which echinoderm larva has oval body and long ciliated arms - preoral, anterolateral, anterodorsal, postoral, posterodorsal and posterolateral (6 pairs); and their posterolateral arms are very short and directed outwards or backwards? (choose the correct answer)
 - A. Bipinnaria
 - B. Echinopluteus
 - C. Auricularia
 - D. Ophiopluteus
5. Echinoderms are (choose the correct answer)
 - A. Nektonic
 - B. Neustonic
 - C. Planktonic
 - D. Benthonic
6. The tracheae in terrestrial insects are supported by thickened spiral rings called (choose the correct answer)
 - A. Taenidia
 - B. Stigmata
 - C. Atrium
 - D. Intima
7. The curving pleural sides of carapace in prawn is called (choose the correct answer)
 - A. Epipodites
 - B. Scaphognathites
 - C. Branchiostegites
 - D. Branchiae
8. In insect eye, a group of 8 light sensitive elongated cells creates a central refractive rod called (choose the correct answer)
 - A. Diotropical region
 - B. Optic ganglion
 - C. Crystalline cone
 - D. Rhabdome
9. *Limulus* sp belongs to Class (choose the correct answer)
 - A. Merostomata
 - B. Arachnida
 - C. Pycnogonida
 - D. Remipedia

10. *Eupagurus* sp belongs to Subphylum (choose the correct answer)
- A. Uniramia
 - B. Chelicerata
 - C. Crustacea
 - D. Trilobita
11. Which is not a feature of Annelida? (choose the correct answer)
- A. Metameric segmentation
 - B. Nephridia
 - C. Pseudocoelom
 - D. Clitellum
12. Annelids show advancement upon over the nematode in having (choose the correct answer)
- A. Metameric segmentation
 - B. True coelom
 - C. Closed circulatory System
 - D. All of the above
13. Find the correct match (choose the correct answer)
- A. Molluscs – acoelomate
 - B. Platyhelminthes – coelomate
 - C. Aschelminthes – pseudocoelomate
 - D. Insects – pseudocoelomate
14. Ladder like nervous system of *Peripatus* sp resembles with the members of which phylum? (choose the correct answer)
- A. Mollusca
 - B. Annelida
 - C. Nematoda
 - D. Phoronida
15. Members of Hemichordata are (choose the correct answer)
- A. Burrowing animals
 - B. Exclusively marine
 - C. Fresh water worms
 - D. Terrestrial