

OLD

2015

Part-I 3-Tier

ZOOLOGY

PAPER—I

(Honours)

Full Marks : 90

Time : 4 Hours

The figures in the right-hand margin indicate full marks.

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

Illustrate the answers wherever necessary.

Answer all questions.

Group—A

Answer any *two* questions of the following. 2×15

1. (a) Define canal system. State briefly the functional evolution of Leuconoid type of canal system.

1+7

(Turn Over)

- (b) What is pseudopodium? State the role of microfilament in amoeboid locomotion. 1+6
2. State the phylum and class characters of the following specimens :
- Neptune's cup, Cuttle fish, Sea lily, Silver fish, Sea pen, Sea mouse. $2\frac{1}{2} \times 6$
3. Define coral. How coral is formed? State the structure of different types of coral reefs. Write the Darwin-Dana's theory reef formation. Describe the conservation of coral reef. 1+3+4+3+4
4. (a) State the structure and physiological role of malpighian tubule in Cockroach. 4+3
- (b) State the mechanism of torsion in Gastropoda and mention the different anatomical changes due to torsion. 4+4
5. Write notes on : 3×5
- (a) Seta ;
- (b) Contractile vacuole ;

- (c) Mantle ;
- (d) Ambulaclaral groove ;
- (e) Book gill.

6. (a) Write the anatomical peculiarities of Peripatus.
 (b) State the present taxonomic status of Peripatus.

7+8

Group—B

Answer any *five* questions of the following. 5×8

7. Write the extrinsic and intrinsic causes of neoteny in Axolotl larva. Is it facultative or obligatory neoteny ? State the significance of neoteny. 4+1+3
8. State the structure of pallium in vertebrate brain. Write a note on ventricles of vertebrate brain. 4+4
9. (a) Write a note on Pronephros, Mesonephros & Metanephros.
 (b) Describe the structure of contour feather. 4+4

10. State the class and order characters (Two in each) of the following specimens :

Tylototrilon, Sphenodon, Elephas, Columba. 2×4

11. Distinguish the followings : 2×4

- (a) Urostyle and Pygostyle ;
- (b) Claw and Nail ;
- (c) Remiges and rectrices ;
- (d) Homocercal and Heterocercal.

12. State the cause of retrogressive metamorphosis in Ascidia. Describe the significance of retrogressive metamorphosis. 8

13. State briefly the structure of brain of Cavia with suitable diagram. 8

14. (a) State the accessory respiratory organ of Singhi. 4
 (b) Arterial arches of sphenodon. 4

15. Define echolocation. How microchiropteraus analyse the living and non-living objects ? 2+6

Group—CAnswer any *five* questions.

5×4

16. Describe the formation of Schizocoelic and Enterocoelic coelous. 4
17. Write a note on gastrovascular cavity. 4
18. Write a note on metamicronephridia of earthworm. 4
19. Write a note on tunic of Ascidia. 4
20. Describe the structure of lung of Dipuri. 4
21. Distinguish coelous of pseudocoelous. 4
22. Distinguish Anura & Urodela. 4
23. Compare Polyp and Medusa. 4
24. What do you mean by S.A node & A.V node. 4
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