TDC (CBCS) Even Semester Exam.,
September—2021

ZOOLOGY

(6th Semester)

Course No. : ZOOHCC-601T

(Developmental Biology)

Full Marks : 50
Pass Marks : 20

Time : 3 hours

The figures in the margin indicate full marks for the questions

SECTION—A

Answer any *ten* of the following questions : 2×10=20

1. Define embryology. Who proposed the 'preformation theory'?

2. "The fifth phase of embryogenesis is organogenesis." What is organogenesis?

3. State the 'biogenetic law'.

4. What does the 'mosaic theory' of embryology state?

5. What is oogenesis? What are the different stages of oogenesis?

6. What is 'fertilizin-antifertilizin' reaction in the process of fertilization?

7. Define holoblastic cleavage in brief.

8. Write the significance of gastrulation in the process of development.

9. What do you mean by the term implantation in embryology?

10. Name the different types of extra-embryonic membranes formed during the development of mammals.

11. Mention the function of allantois in birds.

12. What are the main functions of placenta?

13. What is metamorphosis and in which group of animals metamorphosis generally occurs?

14. Enlist the progressive metamorphic changes found in Anurans.

15. Name the hormones responsible for metamorphosis in insects.

16. Define the term 'compensatory regeneration'.

17. Write the significance of embryonic stem cell (ESC) in Biology.

18. Define genetic teratogenesis.

19. What do you mean by ageing?

20. Name two main theories of ageing.

SECTION—B

Answer any *five* of the following questions :

21. Discuss the different phases of development of an animal species in the light of embryology. 6

22. Who proposed the 'germplasm theory' of embryology? Discuss the theory in detail. 1+5=6

23. What are egg membranes? Classify the different kinds of egg membranes on the basis of their origin giving examples from each type. 1+5=6

24. What is fate map? Explain the construction of fate maps using different marking methods. 1+5=6

25. Discuss the development of extra-embryonic membranes in chick with labelled diagram. 4+2=6

26. Define placenta. Describe various kinds of placenta found in mammals. 1+5=6

27. Discuss the hormonal control of metamorphosis in amphibians. 6

28. Write short notes on the following : 3+3=6

(a) Regeneration

(b) Epimorphosis

29. What is teratogenesis? Enumerate the environmental factors that act as teratogens. 1+5=6

30. Write short notes on the following : 3+3=6

(a) In vitro fertilization

(b) Importance of amniocentesis

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