



B.Sc./6th Sem/ZOO/26(NEP)

2026

6th Semester Examination (CCFUP : NEP)

ZOOLOGY

Paper : MJ 13-T

(Single Core Major)

(Developmental Biology)

Full Marks : 40

Time : Two Hours

*The figures in the margin indicate full marks.*

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

**Group - A**

Answer any *five* questions :  $2 \times 5 = 10$

1. What is haemochorial placenta? Name the hormones secreted by placenta.
2. Distinguish between epimorphosis and morphallaxis.
3. What is the significance of Apoptosis in development?
4. Why is regeneration higher in lower organism?
5. Mention the role of cadherin protein in cell differentiation.
6. Mention two unique features of spiral cleavage.

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7. Name the embryonic membranes from where liver and heart originate.
8. State the functions of chorion and allantois.

**Group - B**

Answer any *four* questions :  $5 \times 4 = 20$

9. What are head and foot organizer of *Hydra*? Mention their role in regeneration process in *Hydra*.
10. Explain embryonic induction with suitable examples.
11. Explain the role of yolk in determining cleavage pattern.
12. Discuss the mechanism of slow block to polyspermy.
13. Write a short note on Hemochorial placenta with labelled diagram.
14. Describe the stages of implantation.

**Group - C**

Answer any *one* question :  $10 \times 1 = 10$

15. State the stages of limb regeneration in salamander. Elucidate the role of nerve supply in that process.  $5+5$
16. With sketched diagram describe the transplantation experiments of Spemann and Mangold which paved the way for the discovery of primary organizer in amphibians. Name two key molecules which are found in the dorsal lip of blastopore and explain their functions.

7+3

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