

**S.No. 3540**

**P 16 BCE 4**

(For candidates admitted from 2016–2017 onwards)

M.Sc. DEGREE EXAMINATION, NOVEMBER 2021.

Biochemistry — Elective

DEVELOPMENTAL BIOLOGY

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20)

Answer ALL the questions.

1. Define Cell potency.
2. Define gap junction.
3. What is cleavage and its purpose?
4. What is Gastrulation?
5. Define chromotolysis.
6. What is the functions of vulva?
7. Define Morphogenetic movement.
8. Signify Meristem.
9. Significance of developmental biology systems.
10. What is cystic fibrosis?

SECTION B — (5 × 5 = 25)

Answer ALL questions, choosing either (a) or (b).

11. (a) Briefly explain the mechanisms of developmental commitment.

Or

- (b) Explain the role of paracrine factors.

12. (a) Narrate the embriyogenesis.

Or

- (b) Brief on the limb development and regeneration in vertebrates.
13. (a) Write an account on cell aggregation and differentiation in Dictyostelium.  
Or  
(b) Describe the life cycle of Amphibia with a neat sketch.
14. (a) Brief on phyllotaxy in plant.  
Or  
(b) Write short note on eye lens induction.
15. (a) Discuss in detail on environmental assaults of human development.  
Or  
(b) Discuss about how to create a positive learning environment.

SECTION C — (3 × 10 = 30)

Answer any THREE questions.

16. Give a detailed account on principles of cell-cell Communication.
17. Illustrate the fertilization and embryonic development in humans.
18. Narrate the cleavage and axis formation in *Caenorhabditis elegans*.
19. Describe the fundamental process of Morphogenesis.
20. Detail an account on medical implications in developmental biology.

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