

S.No. 1105

P 16 BCE 4

(For candidates admitted from 2016–2017 onward)

M.Sc. DEGREE EXAMINATION, NOVEMBER 2018.

Biochemistry — Elective

DEVELOPMENTAL BIOLOGY

Time : Three hours

Maximum : 75 marks

PART A — (10 × 2 = 20)

Answer ALL questions.

1. What is potency?
2. Define cell adhesion.
3. Specify egg types.
4. What is germ layers?
5. State organogenesis.
6. What is metamorphogenesis?
7. Define apical root.

8. State any two taxonomical significance of arabidopsis. 15
9. Name any two environmental assaults.
10. What is genetic disorders?

PART B — (5 × 5 = 25)

Answer ALL questions.

11. (a) Discuss on paracrine factors in short. 10

Or

- (b) Explain cell fate and cell lineages. 10

12. (a) Give a brief account on egg formation. 10

Or

- (b) Explain gastrulation stage of egg. 10

13. (a) Discuss on differentiation in dictyostelium. 10

Or

- (b) Explain the limb development and regulation in vertebrates. 10

14. (a) Describe in short on leaf development and phyllotaxy. 10

Or

- (b) Explain floral meristems. 10

15. (a) Outline the future therapies for genetic disorders in human.

Or

(b) "Environmental as tool for normal development" – Comment.

PART C — (3 × 10 = 30)

Answer any THREE questions.

16. Write an essay on the general principle of cell-cell communication.

17. Describe fertilization and developments in humans.

18. Explain in detail on the organogenesis of chick.

19. Discuss on the following :

(a) Shoot apical meristem.

(b) Floral meristem

(c) Phyllotaxy.

20. Enlist environmental assaults and regulation in animal development.

MSc. BC.
NOV 16, Apr 17, Nov. 17 (1)

S.No. 8098

P 16 BCE 4

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Biochemistry — Elective

DEVELOPMENTAL BIOLOGY

Time : Three hours

Maximum : 75 marks

PART A — (10 × 2 = 20)

Answer ALL questions.

1. What are integrins?
2. Define genomic equivalence.
3. How eggs are classified?
4. Define Blastulation.
5. How cell aggregation is noted in amphibia?
6. Define metamorphosis, and its stages.
7. What is root Meristem?
8. Define phyllotaxy.

9. Outline any two environmental assaults on human development.
10. Define plasticity and learning.

PART B — (5 × 5 = 25)

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

11. (a) Give a brief note on extracellular matrix and their uses.

Or

- (b) Distinguish cell determination and differentiation.

12. (a) Draw neat sketch on ultra structure of sperm and label its parts.

Or

- (b) Discuss about on gamatogenesis with neat sketch.

13. (a) Explain in brief on axes formation in chick.

Or

- (b) Comment on sex determination.

14. (a) How shoot is organised discuss in brief?

Or

- (b) Describe the floral development in arabidopsis with a neat sketch.

15. (a) Outline the medical implications of developmental biology.

Or

(b) Write short notes on polyphenisms.

PART C — ($3 \times 10 = 30$)

Answer any THREE questions.

16. Explain in detail about cell – adhesion and role of adhesion molecules.
17. Write an essay on fertilization.
18. Give a detailed account on morphogenesis of amphibia.
19. Describe the process of organogenesis in plants.
20. Outline the environmental regulation and future therapies in animal development.
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