

MAY 2015

**P/ID 40313/PZLJ**

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Time : Three hours

Maximum : 100 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions each in 50 words.

Define/Explain the following :

1. Spermatids.
2. Cortical granule.
3. Acrosome.
4. Capacitation.
5. Organiser.
6. Emboly.
7. Involution.
8. Cell determination.
9. Imaginal discs.
10. Teratology.

PART B — (5 × 6 = 30 marks)

Answer ALL questions each in 250 words.

11. (a) Write on account on epigenesis.

Or

- (b) Describe the events in spermiogenesis.

12. (a) Explain the process of cortical reaction and its importance.

Or

- (b) Describe any three types of cell growth.

13. (a) Explain micro-injection experiments and their significance.

Or

- (b) Discuss the significance of gastrulation.

14. (a) Explain the role of cell death in development.

Or

- (b) Discuss the process of ageing.

15. (a) Write on the type of embryonic induction in amphioxus.

Or

- (b) What are transgenics, explain any two examples?

PART C — (5 × 10 = 50 marks)

Answer ALL questions each in 500 words..

16. (a) Discuss Vitellogenesis.

Or

(b) Illustrate and explain electron microscopic and biochemical aspects of egg activation during fertilization.

17. (a) Describe the experimental analysis in the early development of amphibians.

Or

(b) Explain with examples the morphogenetic movements during gastrulation.

18. (a) Illustrate and explain the development of heart in a mammal.

Or

(b) Discuss nuclear transplantation experiments and their significances.

19. (a) Explain with illustrations the early development of annelids and write on larval metamorphosis of them.

Or

- (b) Illustrate and explain the neuro-endocrine systems and their control of insect metamorphosis.

20. (a) Discuss Neoplasia and Teratoma and also gene activation in neoplasia.

Or

- (b) Write on the developmental genetic defects.
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