

MAY 2014

P/ID 40321/PZLC

Time : Three hours

Maximum : 100 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions.

All questions carry equal marks.

Each answer should not exceed 50 words.

1. Heterochromatin
2. Ion – Selective channel
3. G₂ – Phase
4. Malignant neoplasm
5. Nucleotide
6. Promotor gene
7. Pyrimidine
8. Sexduction
9. Termination codon
10. UV – radiation

PART B — (5 × 6 = 30 marks)

Answer ALL questions.

All questions carry equal marks.

Each answer should not exceed 250 words.

11. (a) Briefly explain the ultra structure of plasma membrane with suitable illustrations.

Or

- (b) Describe various kinds of Lysosomes.

12. (a) What are the phases of cell cycle?

Or

- (b) Distinguish benign from cancerous tumour.

13. (a) Briefly explain one gene one poly peptide concept.

Or

- (b) Illustrate and explain the molecular structure of DNA.

14. (a) Describe the polymorphism of DNA.

Or

- (b) Write about the types of RNA and their functions.

15. (a) Give an account of operon concept.

Or

(b) Write a short note on radiation in cancer treatment.

PART C — (5 × 10 = 50 marks)

Answer ALL questions.

All questions carry equal marks.

Each answer should not exceed 500 words.

16. (a) Write a detailed account on membrane transports in plasma membrane.

Or

(b) Elucidate the role of mitochondria in cellular respiration and cell energetics.

17. (a) Describe the molecular events in cell cycle and its importance.

Or

(b) Discuss the cytological molecular and surface changes in cancer cell.

18. (a) Describe the classical experiments which demonstrate that DNA is the genetic material.

Or

(b) Elucidate chromosome mapping in *Drosophila*.

19. (a) Discuss the chemistry of DNA and compare it with that of RNA.

Or

- (b) Write an account on the mechanisms of DNA replication.

20. (a) Describe the regulation of gene action in Prokaryotes.

Or

- (b) Write an essay on inborn errors of metabolism.
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