

MAY 2011

P/ID 40321/PZLC

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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. Active transport.
2. Peroxisomes.
3. M – phase.
4. Oncogene.
5. Nucleotide.
6. Sexduction.
7. Transcription.
8. LAC operon.
9. Albinism.
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) Write the ultrastructure and any two functions of Lysosomes.

Or

- (b) Illustrate and describe the ultrastructure of plasma membrane.

12. (a) Describe the characteristics of cancer cells.

Or

- (b) Explain the molecular events of a cell cycle.

13. (a) Give an account of the molecular structure of DNA.

Or

- (b) Explain the fine structure of the gene.

14. (a) Write an account on intercellular recognition.

Or

- (b) Discuss DNA as the genetic material.

15. (a) Write an account on any two DNA repair mechanisms.

Or

- (b) Discuss the effects of radiation on genetic material.

PART C — (5 × 10 = 50 marks)

Answer ALL questions.

All questions carry equal marks.

Each answer should not exceed 500 words.

16. (a) Describe the structure and functions of polytene and lamp brush chromosomes.

Or

- (b) Discuss the nuclear transplantations and their significance.

17. (a) Describe the origin of cancer and the theories of carcinogenesis.

Or

- (b) Explain spindle organization and the regulation of cell division.

18. (a) Illustrate and explain transduction in bacteria.

Or

(b) Describe chromosome mapping in Eukaryotes.

19. (a) Write an account on the types of RNA and their functions.

Or

(b) Explain the mechanism of information transfer in Eukaryotes.

20. (a) Give an account on the evidences for regulation of genes.

Or

(b) Describe the inborn errors of metabolism in man with reference to proteins.