MAY 2015 **P/ID 40321/PZLC**

Time : Three hours Maximum : 100 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions each in 50 words.

Define/comment on the following :

1. Heterokaryon.

2. Cytoplast and Karyoplast.

3. Benign tumour.

4. Anaphase.

5. Griffith's Phenomenon.

6. IF_1, IF_2 and IF_3.

7. External emitters.

8. Negative regulation.

9. Cistran.

10. Soluble RNA.

PART B — (5 × 6 = 30 marks)

Answer ALL questions each in 250 words.

11. (a) Describe the process of mitochondrial biogenesis.

Or

(b) What are experimental evidence to show the action of nucleo cytoplasmic interaction?

12. (a) Analyse the environmental factors that induce cancer.

Or

(b) Briefly present the anaphasic movement of chromosome.

13. (a) Write an account on the construction of chromosomal mapping.

Or

(b) Define the concept of "One-gene-one enzyme".

14. (a) Analyse the base excision-repair and mismatch repair.

Or

(b) Write an account on RNA processing.

15. (a) Define inborn errors of metabolism. Explain it with an example.

Or

(b) List down the characteristics of ionizing radiation.

PART C — (5 × 10 = 50 marks)

Answer ALL questions each in 500 words.

16. (a) Describe the phenomenon of cell adhesion and intercellular communication.

Or

(b) Describe the composition and functions of cell membrane.

17. (a) Highlight the molecular events taking place in cell cycle.

Or

(b) 'Viruses as oncogenic agents' – Substantiate.

18. (a) Elucidate the molecular structure of DNA.

Or

(b) Illustrate the process of bacterial conjugation.

19. (a) Narrate the molecular events taking place in information transfer in Eukaryotes.

Or

(b) Interpret the process of trimming of introns and splicing of exons.

20. (a) Explain the process of gene regulation with reference to Lac operon.

Or

(b) Discuss the sources and impact of radiation on living things.

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