

DECEMBER 2015

P/ID 40227/PBTG

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Time : Three hours

Maximum : 100 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions each in 50 words.

Write short notes on:

1. Scanning Tunneling Microscope.
2. Freeze fracturing.
3. Dictyosome.
4. Proton pump.
5. Nucleoporins.
6. S-phase.
7. Heterochromatin.
8. Isochromosome.
9. Clastogens.
10. Transposons.

PART B — (5 × 6 = 30 marks)

Answer ALL questions each in 250 words.

11. (a) Describe working principle of Ultracentrifuge.

Or

- (b) Describe the working principle of SEM.

12. (a) Mitochondrion shows semi-autonomy. Discuss.

Or

- (b) Give an account of origin and classification of Plastids.

13. (a) Write notes on mitotic inhibitors.

Or

- (b) Explain the stages in Prophase I of meiosis.

14. (a) What is Euchromatin? Explain.

Or

- (b) Write on Polytene chromosomes.

15. (a) Give an account of physical mutagens.

Or

- (b) Give an account of detection of mutation.

PART C — (5 × 10 = 50 marks)

Answer ALL questions each in 500 words.

16. (a) Describe working principle and applications of TEM.

Or

- (b) Write on the working principle and applications of Phase contrast microscope.

17. (a) Give an account of functions of the following organelles

- (i) Smooth endoplasmic reticulum,
- (ii) Cytoplasm and
- (iii) Lysosomes.

Or

- (b) Give an account of structure of plasma membrane.

18. (a) Give an account of spindle apparatus.

Or

- (b) Describe the ultra structure of nucleolus.

19. (a) Write on the structure and functions of telomere.

Or

- (b) Explain Giemsa banding technique.

20. (a) Write an essay on Chromosomal aberration.

Or

- (b) Write an essay on Polyploidy adding notes on its significance.
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