**MAY 2012** **P/ID 40227/PBTG**

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.

Write short notes on :

1. Freeze etching
2. Annular phase plate
3. Tracer technique
4. Dictyosome
5. Nuclear pore
6. Nucleoplasmic index
7. Chromosomal loop
8. Karyolymph
9. Clastogens
10. Transposans.

PART B — (5 × 6 = 30 marks)

Answer ALL questions.

All questions carry equal marks.

Each answer should not exceed 250 words.

11. (a) Write an account on the Polarizing Microscope.

Or

(b) Explain the method for separating cellular components by density gradient centrifugation.

12. (a) Differentiate Glyoxysomes and Peroxysomes.

Or

(b) Write short account on the plastid classification.

13. (a) Write short notes on the persistence Nucleolus.

Or

(b) Write an account on functions of Nuclear membrane.

14. (a) Write short notes on Chromosome banding.

Or

(b) Describe the structure of lamp brush chromosome.

15. (a) Write brief notes on chemical mutagens.

Or

(b) Write short notes on Carcinogens.

PART C — (5 × 10 = 50 marks)

Answer ALL questions.

All questions carry equal marks.

Each answer should not exceed 500 words.

16. (a) Write an essay on the principle and uses of the Transmission electron microscope.

Or

(b) Describe the structure and uses of Phase contrast microscope.

17. (a) Write an essay on the ultra structure and chemical composition of Mitochondria.

Or

(b) Discuss origin and development chemistry of Plastid.

18. (a) Write an essay on the Mitosis.

Or

(b) Describe the ultra structure of Nucleus.

19. (a) Describe the ultra structure of Chromosome with illustration

Or

(b) Describe the structure of Polytene Chromosome with illustration

20. (a) Describe different types of Polyploidy.

Or

(b) Write an essay on the harmful and beneficial mutations.

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