

MAY 2016

P/ID 40227/PBTG

Time : Three hours

Maximum : 100 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions each in 50 words.

Write short notes on

1. Autoradiography
2. Freeze etching
3. Glyoxysomes
4. F₁ particles
5. Nucleolar organizing region
6. G II phase
7. Nucleosome
8. Isochromosome
9. Clastogens
10. Allopolyploid

PART B — (5 × 6 = 30 marks)

Answer ALL questions each in 250 words.

11. (a) Describe working principle of SEM.

Or

(b) What is the principle behind density gradient centrifugation for isolation of cellular components?

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

Or

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

13. (a) Explain abnormal mitosis in cancer cells.

Or

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

14. (a) Write on lampbrush chromosomes.

Or

(b) Write on the structure and functions of telomere.

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15. (a) Give an account of detection of mutation.

Or

- (b) Give an account of chemical mutagens.

PART C — (5 × 10 = 50 marks)

Answer ALL questions. each in 500 words.

16. (a) Write on the working principle of Phase contrast microscope.

Or

- (b) Describe working principle and applications of TEM.

17. (a) Give an account of structure and function of Rough Endoplasmic reticulum.

Or

- (b) What are the physical and chemical properties of cytoplasm?

18. (a) Describe the ultra structure of nucleolus.

Or

- (b) Describe structure of nucleus.

19. (a) Explain Giemsa banding technique.

Or

(b) Give an account of heterochromatin and euchromatin.

20. (a) Write an essay on Chromosomal aberration

Or

(b) Write an essay on physical mutagens.
