

61134

First Semester B.Sc. Degree Examination, December 2018

(CBCS Scheme)

Biotechnology

Paper I – CELL BIOLOGY AND GENETICS

Time : 3 Hours]

[Max. Marks : 70

Instructions to Candidates : Draw neat labelled diagrams wherever necessary.

SECTION – A

I. Write short notes on the following : (5 × 2 = 10)

1. Pinocytosis
2. Euchromatin
3. Cell cycle
4. Back cross
5. Polyploidy



SECTION – B

II. Answer any **FOUR** of the following : (4 × 5 = 20)

6. Write a note on Davson and Danielli model of plasma membrane.
7. What are cytoskeletal elements? Explain intermediate filaments.
8. Explain normal karyotype of human male.
9. What is linkage? Explain coupling and repulsion hypothesis.
10. What is cytoplasmic inheritance? Explain plastid inheritance in *Mirabilis*.

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SECTION - C

- III. Answer any **THREE** of the following : (3 × 10 = 30)
11. Explain the structural organization of nuclear pore complex and add a note on its functions.
 12. Explain nucleosome model of chromosome in detail.
 13. Differentiate between Mitosis and Meiosis.
 14. What are mutagens? Explain chemical mutagens in detail.
 15. What is epistasis? Explain dominant epistasis in detail.

SECTION - D

- IV. Answer the following in a word or a sentence each : (10 × 1 = 10)
16. Power house of cell is called as _____.
 17. The cell wall is made up of _____.
 18. The circular DNA is called as _____.
 19. The sex determination in insects is by _____ method.
(a) XX-XY (b) XX-XO (c) ZZ-ZO (d) None of these
 20. Kappa particles are present in _____.
 21. Vacuoles are present in _____.
(a) Plant cell (b) Animal cell (c) Viruses (d) None of these
 22. Blood group _____ is called as universal recipient.
 23. Define law of independent assortment.
 24. _____ was awarded noble prize for the discovery of blood group system.
 25. Out of the following, _____ is not a type of chromosome.
(a) Salivary gland chromosome (b) Lamp brush chromosome
(c) Y-chromosome (d) SAT-chromosome

