

61129

**First Semester B.Sc. Degree Examination, December 2018**

(CBCS – Semester Scheme – 2018-19 onwards)

**Genetics**

**Paper I – FUNDAMENTALS OF CELL BIOLOGY**

Time : 3 Hours]

[Max. Marks : 70

Instructions to Candidates : Draw neat labelled diagrams wherever necessary.

PART – A

I. Answer any **FIVE** of the following :

(5 × 3 = 15)

1. Define 'Resolving Power'.
2. List the applications of stereozoom microscope.
3. Draw a neat labelled diagram of Bacteriophage.
4. Differentiate between phagocytosis and pinocytosis.
5. Write a note on 'Plasmodesmata'.
6. Draw a neat labelled diagram of nucleus.
7. What is cell senescence?



PART – B

II. Answer any **FIVE** of the following :

(5 × 5 = 25)

8. Explain the principle involved in phase contrast microscope.
9. Describe the life cycle of Arabidopsis thaliana.
10. Explain the 'cell theory'.
11. Draw a neat labelled diagram of an 'Animal cell'.
12. Describe the ultrastructure and functions of lysosomes.
13. Explain the role of chloroplast in photosynthesis.
14. Mention the differences between mitosis and meiosis.

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PART - C

III. Answer any **TWO** of the following :

(2 × 10 = 20)

15. Describe the process of conjugation in E. coli.
16. Explain the ultrastructure and chemical composition of plasma membrane.
17. Write short notes on :
  - (a) Golgi bodies
  - (b) Nucleolus
18. Describe :
  - (a) Apoptosis
  - (b) Cell cycle

PART - D

IV. Answer any **ONE** of the following :

(1 × 10 = 10)

19. Describe the ultrastructure and chemical composition of mitochondrion.
20. Explain the stages of prophase I of meiosis.

