Time: 1 hour $\quad$ Max marks = 30

PART - A

I. Answer any FIVE of the following. $\qquad$ 5×2=10

1. Define the resolving power of a microscope and write the Abbe's formula to determine the resolving power

2. Briefly explain the process of water transport across the cell membrane

3. Elucidate the structure of the repeating units in DNA

4. What is a nucleosome? Add a note on histone subunits

5. Name the types of constrictions on a chromosome. What are their significance

6. Depict and label the components of endomembrane system

PART- B

II. Answer any FOUR questions. $\qquad$ 4 x 5= 20

7. Describe the formation of polytene chromosome

8. What is a cell cycle? Elaborate the 'S' phase of the cycle

9. With a neat labeled diagram explain the fluid mosaic model of plasma membrane

10. Explain the role of a) T_H cells b) Anti-Microbial Proteins (2.5 + 2.5)

11. Draw a labeled diagram of a immunoglobulin and add a note on agglutination (3 + 2)