

B.Sc. (CBCS Pattern) Semester-IV
012A - Botany Paper-I - Cell Biology, Genetics and Biotechnology

P. Pages : 2

Time : Three Hours



GUG/W/24/11992

Max. Marks : 50

-
- Notes : 1. All questions are compulsory and carry equal marks.
2. Draw well labeled diagrams wherever necessary.

1. Write notes on :
- a) Structure of DNA. 5
 - b) Stages of mitosis. 5

OR

Write short notes on :

- c) Endoplasmic reticulum. 2½
- d) Structure of Nucleus 2½
- e) Chloroplast 2½
- f) Golgi bodies 2½

2. Write notes on :
- a) Supplementary Genes. 5
 - b) Law of independent Assortment. 5

OR

Write short notes on :

- c) Mitochondrial DNA. 2½
- d) Law of Dominance. 2½
- e) Back Cross 2½
- f) Complementary genes. 2½

3. Write notes on :
- a) Define Linkage and its types. 5
 - b) Structural changes in Chromosome. 5

OR

Write short notes on :

- c) Types of polyploidy. 2½
- d) Induced mutation. 2½

- | | |
|------------------|----|
| e) Crossing over | 2½ |
| f) Aneuploidy | 2½ |

4. Write notes on :
- | | |
|--|---|
| a) Lac-Operon concept. | 5 |
| b) Tools and techniques of Recombinant DNA technology. | 5 |

OR

- Write short notes on :
- | | |
|-------------------------|----|
| c) c-DNA Libraries. | 2½ |
| d) Jumping genes | 2½ |
| e) Transcription | 2½ |
| f) Restriction enzymes. | 2½ |

5. Write two or three lines **any ten**. **10**
- | | |
|----------------------|-----------------------|
| a) B-DNA | b) Plasmodesmata |
| c) Unit membrane | d) Homozygous |
| e) Phenotype | f) Law of segregation |
| g) Monoploidy | h) Colchicine |
| i) Synapsis | j) Bacteriophage |
| k) Termination codon | l) Ligase enzyme |
