

21170



I SEMESTER B.Sc. EXAMINATION – MARCH/APRIL 2022

SCHEME: CBCS (NEP)

BIOTECHNOLOGY

CELL BIOLOGY AND GENETICS

Time: 2 ½ Hours

Max Marks: 60

Instructions to Candidates: 1. All Questions are Compulsory.

2. Draw neat and labeled diagram wherever necessary.

- I. Answer any **SIX** questions. 6x2=12
1. Write two applications of Biotechnology.
 2. What is a vacuole?
 3. Define heterochromatin.
 4. What is synaptonemal complex?
 5. State the law of segregation.
 6. Define allele.
 7. What is linkage map?
 8. Write the functions of autosome.
- II. Answer any **ONE** question. 1x12 =12
1. Describe the structure and functions of chloroplast. 12
 2. Explain.
 - a) Structure of nucleus. 6
 - b) Functions of Golgi bodies and Peroxisomes. 6
- III. Answer any **ONE** question. 1x12 =12
1. Explain nucleosome model of chromosome. 12
 2. Write short notes on
 - a) Prophase I of meiosis. 6
 - b) Cell senescence. 6
- IV. Answer any **ONE** question. 1x12 =12
1. Explain epistasis and supplementary gene interaction. 12
 2. Write an account on
 - a) Maternal inheritance. 6
 - b) Sex linked inheritance. 6
- V. Answer any **ONE** question. 1x12 =12
1. Write an account on structural aberrations of chromosomes. 12
 2. Explain
 - a) Karyotype in man. 6
 - b) Linkage in Drosophila. 6

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