



B.Sc. I Semester (NEP) Degree Examination, March/April - 2022

BIOTECHNOLOGY

Paper No. 1 - Cell Biology and Genetics

Time : 3 Hours

Maximum Marks : 60

Instruction : Answer *all* Sections.

SECTION - A

Answer the following sub-questions. Each sub-question carries **one** mark. **10x1=10**

1. (a) What do you mean by Cell Cycle ?
- (b) What is Epistasis ?
- (c) Define Coupling.
- (d) What is Karyotype ?
- (e) What is Biotechnology ?
- (f) Define Kinetochore.
- (g) What is Mutation ?
- (h) What is Heterozygous ?
- (i) Define Aneuploidy.
- (j) Mention two sub-units of Ribosomes.

SECTION - B

Answer **any four** of the following questions. Each question carries **five** marks.

2. Write a short note on the importance of mutation in Evolution. **4x5=20**
3. Explain briefly about the Chloroplast with a neat labelled diagram.
4. Briefly explain the Klinefelter's Syndrome and Turner's Syndrome.
5. Describe the Ultra Structure of Salivary gland Chromosome with the help of neat labelled diagram.
6. What is incomplete dominance ? Briefly explain by taking suitable example.
7. Give an account of the Cell Cycle with the schematic representation.



SECTION - C

Answer **any three** of the following questions. Each question carries **ten** marks.

3x10=30

8. Write a detailed note on the Ultra Structure of Chromosome with a neat labelled diagram.
9. Explain the dominant Epistasis with suitable example.
10. Give the detailed account of the fluid mosaic model of Plasma membrane with a neat labelled diagram. Add a note on its functions.
11. Explain the linkage and crossingover in Maize.
12. Explain in detail about the Structural changes in Chromosomes.

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