### B.Sc. (HONOURS) MICROBIOLOGY

### DSE-3: INHERITANCE BIOLOGY (THEORY) SEMESTER–VI

### Model questions

**Short answer type**

1. What are the key features possessed by model genetic organism? Give an example.
2. Draw a well labelled diagram of a chromosome and comment on its parts.
3. What are multiple alleles? Explain with suitable example
4. Write a short note on Turner syndrome.
5. What is dominant recessive interaction of alleles?
6. Define linkage and explain the idea of recombinant frequency.
7. Discuss the phenomenon of incomplete dominance with example.
8. How is DNA packaged into chromosomes?
9. What is co-dominance? Give examples
10. What are recombinants and chiasmata?
11. What is meant by infectious heredity? Give an example
12. Define the terms alleles and pseudoalleles.
13. What is extra-nuclear inheritance?
14. What are the structural abnormalities in chromosome?
15. Discuss the normal and abnormal karyotype of human chromosome.

**Long answer type**

1. Discuss the advantages, stats, genetic contribution of model genetic organism *Drosophila melanogaster*.
2. Give an account of historical development, genetic analysis and experimentation of model genetic organism *E coli*.
3. What are gaint chromosomes?
4. Briefly discuss chromosome banding.
5. What is the chromosome theory of inheritance?
6. Define epistasis and describe its types.
7. Explain the concept of penetrance and expressivity.
8. Discuss in detail about Mendel’s laws.
9. What is meant by multiple allels? Give detailed example.
10. What is maternal effect? Describe shell coiling in *Limnaea peregra*