Seat No. _____

HO-1603120102020500

M. Sc. (Sem. II) (CBCS) Examination

April - 2023

Biochemistry : CBC - 4

(Cell Biology & Genetics)

Time : $2\frac{1}{2}$ Hours / Total Marks : **70**

1 Answer briefly any **seven** of the following questions : **14**

(a) Give the functions of Golgi Apparatus.

(b) Justify the statement: Microtubule dependent Motor proteins.

(c) Draw a labeled diagram of mitochondria and mentions the functions of mitochondria.

(d) Explain three phases of G-actin polymerization.

(e) Explain briefly about the Segmentation genes.

(f) What are the different phases of cell cycle?

(g) What are Pluripotent stem cells?

(h) What is metastasis?

(i) Define term : Heredity.

(j) Define term : Co-Dominance.

2 Answer any **two** of the following questions : **14**

(a) Describe the fluid mosaic model of Cell membrane.

(b) Explain in detail about the Heterotrimeric G-protein.

(c) Discuss Meiosis type of cell division with proper diagrams and write important characteristics of different stages of Meiosis.

3 (a) Write note on Chromosome Mapping. 7

(b) Discuss extrinsic pathway of apoptosis. 7

OR

3 (a) Enlist differences between plant and animal cells. 7

(b) Write a note on Homologous Recombination. 7

4 Answer the following questions : 14

(a) Give a details note on the functional aspects of cytoskeleton.

(b) Write note on the molecular mechanisms of signal transduction.

5 Answer the following questions : (any **two**) 14

(a) Explain the Law of independent assortment with suitable example.

(b) Write note on DNA repair genes.

(c) Write note on early vertebrate embryo.

(d) Describe in detail: Crossing over.
