NCD-003-012207 Seat No. _____

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

April / May - 2017

Biochemistry - CBC-4

(Cell Biology, Membrane Biochemistry & Genetics)

(Old Course)

Faculty Code : 003

Subject Code : 012207

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

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

(a) Explain: Sterilization experiment with "Swan neck" flask of Pasteur.

(b) Write down importance of intermediate filaments.

(c) Describe structure of chloroplast.

(d) What are protofilaments?

(e) Justify: Mitochondria is a power house of the cell.

(f) Short note on cytokinesis process of mitosis.

(g) Role of cyclin in cell cycle regulation.

(h) Write a note on Microtubule dependent motor proteins

(i) What is a test cross?

(j) What is Epistasis?

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

(a) Explain the fluid mosaic model of cell membrane.

(b) Discuss: Dynamic properties of microtubule

(c) Explain in detail the Mitotic Phase of cell cycle.

3 (a) Explain the Law of independent assortment with suitable example. **7**

(b) Describe natural selection with suitable example. **7**

OR

3 (a) Explain in detail on multiple alleles **7**

(b) Discuss about intrinsic apoptotic death program. **7**

4 Answer the following questions : 14

(a) Explain the microtubule organization.

(b) Explain the techniques of FRAP and SPT.

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

(a) Explain in detail: endoplasmic reticulum.

(b) How stem cells generate a continuous supply of terminally differentiated cells?

(c) Explain in detail the Meiosis.

(d) Write a note on Holliday Junction model and Double strand break repair model.
