

Roll No.

Exam Code : J-21

Subject Code—52987

M. Sc. EXAMINATION

(Batch 2020 Onwards)

(First Semester)

BIOTECHNOLOGY

BTL-513

Cell Biology

Time : 3 Hours

Maximum Marks : 70

Note : Attempt *Five* questions in all. Q. No. 1 is compulsory. All questions carry equal marks.

1. Write in brief about the following :

- (a) Model membrane
- (b) Neurotransmitter
- (c) MPF
- (d) Kranz anatomy
- (e) p⁵³

(f) Adenylate cyclase

(g) Aquaporins.

Unit I

2. Discuss in detail of the following :

(a) Microtubule and microfilament

(b) Difference between Golgi complex and E.R.

3. Draw a well labeled diagram of the following :

(a) Singer and Nicolson model of the membrane

(b) Facilitated Diffusion.

Unit II

4. Explain in detail the checkpoints of cell that control the cell cycle.

5. Discuss in detail about various mechanism of signal transduction.

Unit III

6. What are the hallmarks of cancer along with its diagnosis, screening and treatment ?

7. What do you understand from extra cellular matrix ? Discuss in detail along with its component.

Unit IV

8. Explain the phenomenon of photorespiration in detail. How is it overcome by C-4 plants ?

9. What is the difference between cyclic and non-cyclic photophosphorylation ? How are these cycles regulated ?