

Roll No.

Exam Code : J-21

Subject Code—51672

M. Sc. EXAMINATION

(First Semester)

(Batch 2017-2019)

BIOTECHNOLOGY

MBL-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) Sphingolipid
- (b) Microfilament
- (c) Cell differentiation
- (d) Kranz anatomy
- (e) Liposome
- (f) p⁵³
- (g) MPF

(6-06-3-0721) J-51672

P.T.O.

Unit I

2. What is the role of ER and Golgi complex in protein glycosylation ?
3. Write short notes on the following :
 - (a) Function of membrane
 - (b) Aquaporin
 - (c) Ion Channels
 - (d) Indirect active transport

Unit II

4. Discuss in detail the checkpoints that control the cell cycle.
5. What do you understand from signal transduction ? Discuss in detail about the mechanism of G-binding protein receptor pathway with example.

Unit III

6. Discuss in brief about the following :
 - (a) Extracellular Matrix
 - (b) Neurotransmission

7. Discuss in detail carcinogenesis and hallmark of cancer.

Unit IV

8. What is the difference between cyclic and non-cyclic photophosphorylation ? How are these cycles regulated ?
9. What is photorespiration ? Describe the different steps involved in photorespiration.