



FACULTY OF SCIENCE
M.Sc. IV Semester Examination, April/May 2013
BIOCHEMISTRY
Paper – I : Cell Biology

Time : 3 Hours]

[Max. Marks : 80

Note : Answer all questions in Part – A and Part – B. Each answer shall not exceed 30 lines in Part – A and 90 lines in Part – B.

PART – A
(Short Answer Type)

(5×4=20 Marks)

Answer these questions at one place only.

Write brief notes on the following :

1. Fibronectin
2. Cell junctions
3. Cellular function of VEGF
4. Totipotency
5. Role of monomeric G-proteins in cell signaling.
6. Mechanism of glycosylation.
7. Protein targeting to chloroplasts.
8. Signal recognition particle.



PART – B
(Essay Answer Type)

(4×15=60 Marks)

Each answer should not exceed 90 lines :

9. a) Bring out in detail the events that occur during the animal cell cycle.

OR

b) Enumerate and explain the major variations in structure and function of plant and animal cell.

10. a) Bring out the events that are involved in muscle cell differentiation.

OR

b) Explain the concept of apoptosis.

11. a) Describe the signaling events that bring about the cellular proliferation.

OR

b) Write brief notes on (i) Ca^{2+} and (ii) cGMP as 2nd messengers.

12. a) Write an essay on protein sorting.

OR

b) Write brief notes on (i) Ubiquitin pathway and (ii) Signal hypothesis.