

FACULTY OF SCIENCE
M.Sc. IV-Semester Examination, April / May 2014

Subject: Biochemistry
Paper- I : Cell Biology

Time : 3 Hours

Max. Marks: 80

Note : Answer all questions from Part - A and Part - B. Each question carries 4 marks in Part - A and 12 marks in Part - B.

PART – A (4 x 8 = 32 Marks)
(Short Answer Type)

- 1 Ultrastructure of chloroplast
- ~~2~~ Cell junctions
- ~~3~~ VEGF and its functions
- ~~4~~ Totipotency
- 5 Inhibitors of signaling pathways
- 6 Which are the non-cyclic second messengers? Comment.
- ~~7~~ Signal hypothesis
- ~~8~~ Protein stability and turnover number

PART – B (4 x 12 = 48 Marks)
(Essay Answer Type)

- 9 (a) Give an account of the components of extra cellular matrix and their interactions.
OR
 (b) Explain cell cycle and its regulation in multicellular organisms.
- 10 (a) Discuss the roles of PDGF, EGF, IGF and nerve growth factors in cell differentiation and proliferation.
OR
 (b) Explain :
 (i) Fibroblast and muscle cell differentiation
 (ii) Basis for body pattern in Drosophila
- 11 (a) Which of the post translational protein modification play role in signal transduction? Explain any four.
OR
 (b) Give an account of cell signaling cascades.
- 12 (a) Elaborate the mechanism of protein targeting to mitochondria and chloroplast.
OR
 (b) Write short notes on :
 (i) Cell organelles in protein sorting (ii) PEST sequences and N-End rule
