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BR—01—2016

FACULTY OF SCIENCE

M.Sc. (First Semester) EXAMINATION

OCTOBER/NOVEMBER, 2016

(CBCS Course)

BIOTECHNOLOGY

Paper (BTT-I)

(Cell Biology and Developmental Biology)

(Wednesday, 16-11-2016)

Time : 10.00 a.m. to 1.00 p.m.

Time—3 Hours

Maximum Marks—75

N.B. :— (i) Attempt *All* questions.

(ii) *All* questions carry equal marks.

(iii) Represent your answer with suitable diagram wherever necessary.

1. Describe in detail active transport across the cell membrane. 15

Or

(a) Describe the structure and function of endoplasmic reticulum. 8

(b) Add a note on Neurotransmission and its regulation. 7

2. What is cell signaling ? Give the mechanism of regulation signaling pathway. 15

Or

(a) Describe in brief cell cycle. 8

(b) What is oncogenes ? Add a note on suppressor genes. 7

3. Describe in detail the development of embryo upto three germ layer. 15

Or

(a) What is double fertilization ? Explain in detail double fertilization. 8

(b) Add a note on maternal genes in *Drosophila melanogaster*. 7

P.T.O.

4. Give an account of development in *Arabidopsis thaliana*. 15
- Or
- (a) Add a note on structure and function of Golgi bodies. 8
- (b) Describe in brief bacterial chemotaxis. 7
5. Write notes on (any *three*) : 15
- (a) Peroxisomes
- (b) Gap junction
- (c) Virus induced cancer
- (d) Gametogenesis
- (e) Gap genes in *Drosophila melanogaster*.