

2007 JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY

II B.TECH I SEMESTER REGULAR EXAMINATIONS
CELL BIOLOGY
(BIO-TECHNOLOGY)

NOVEMBER 2007

TIME: 3 HOURS

MAX MARKS: 80

Answer any FIVE Questions
All Questions carry equal marks

1. Enumerate the characteristics of a living Cell. [16]
2. Describe the properties of the three classes of membrane proteins and how they differ from one another and how they vary among themselves. [16]
3. Cite the one unique function of each of the following: plasma membrane, nucleus, nuclear envelope, mitochondrion, chloroplast, RER, SER, Golgi complex, secretory vesicles, lysosome, peroxisomes, ribosomes, cytoskeleton, microtubules, microfilaments, intermediate filaments, extracellular matrix, cell wall. [16]
4. Write a note on ATP powered pumps in detail. [16]
5. Justify the statement "There are variations observed in cell cycle patterns of some cells". [16]
6. What is meant by stem cell differentiation? [16]
7. Briefly explain the different classes of cell surface receptors. [16]
8. With respect to secondary messengers, write short notes on:
(a) cAMP
(b) cGMP [16]