

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION-2022

M.Tech-I Semester (BT)

COURSE CODE (CREDITS): 13B11BT111 (3)

MAX. MARKS: 25

COURSE NAME: Advances in Molecular Cell Biology

COURSE INSTRUCTORS: Dr. Udayabanu

MAX. TIME: 1 Hour 30 Min

Note: All questions are compulsory. Marks are indicated against each question in square brackets.

- Q1. Splicing mechanism in group I and group II introns are different. Justify with your explanation and a neat diagram. [5 Marks] (CO3)
- Q2. Eukaryotic mRNAs have a distinctive 3' End Structure. Discuss and explain the mechanism involved [5 Marks] (CO3)
- Q3. Explain the concept of redundancy and degeneracy in the genetic code. How degeneracy helps to minimize the effects of mutations? [3 Marks] (CO3,4)
- Q4. Protein glycosylation and ubiquitination are post translation modifications. What is the importance of such kind of modifications? Explain. [5 Marks] (CO3)
- Q5. Justify the following with your explanation [5 Marks] (CO1,2)
- Endogenous DNA damage might result from topoisomerase enzymes
 - Base deamination is a major source of spontaneous mutagenesis in human cells.
- Q6. Telomerase solves the end-replication problem. What would happen if telomerase is absent? [2 Marks] (CO2)