

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT  
TEST -1 EXAMINATION- 2023

M.Tech-I

I Semester (BT)

COURSE CODE(CREDITS): 13M11BT111 (3)

MAX. MARKS: 15

COURSE NAME: Advances in Molecular Cell Biology

COURSE INSTRUCTORS: Dr. Udayabanu, M.

MAX. TIME: 1 Hour

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*Note: (a) All questions are compulsory.*

*(b) Marks are indicated against each question in square brackets.*

*(c) The candidate is allowed to make suitable numeric assumptions wherever required for solving problems*

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1. More than one DNA polymerases are involved in the DNA replication. Name them and describe their function. [3 Marks]
2. In eukaryotes replication ends at telomere. What is the nucleotide sequence of telomere? How it is associated with cell aging and death? [2 Marks]
3. Base deamination is a major source of spontaneous mutagenesis in human cells. Explain [2 Marks]
4. Reactive oxygen species (ROS) are the typical byproducts of the electron transport chain (ETC) during cellular respiration. Briefly, describe their role in DNA damage. [3 Marks]
5. UV radiation emanating from the sun is the leading cause of skin cancers in humans. Justify. [2 Marks]
6. Write a note on Linking Number, Twist and Writhe. [3 Marks]