

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATIONS-2022

M.Tech-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: All questions are compulsory. Marks are indicated against each question in square brackets.*

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- Q1. During transcription in eukaryotes, the Pre-initiation complex formation is followed by the elongation phase. How would a polymerase escape from the promoter region and initiate elongation? Explain. [2 Marks] (CO2)
- Q2. What kind of role the Transcription Binding Proteins play in the eukaryotic transcription? [2 Marks] (CO2)
- Q3. The replication machinery always has a problem replicating the end of a linear chromosome. How would an eukaryote solves this problem? [2 Marks] (CO2)
- Q4. From fifteen different known DNA polymerases, three are very important in replication of nuclear DNA. Discuss. [3 Marks] (CO1)
- Q5. UV radiation emanating from the sun is the leading cause of skin cancers in humans. Justify. [3 Marks] (CO2)
- Q6. Consider a relaxed DNA such as pBR322 of 4361 base pairs. If 10.5 is the approximate number of base pairs per turn for B-form DNA, what is the linking number of the DNA? [2 Marks] (CO1)