JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT
TEST -1 EXAMINATION- FEB-2025

COURSE CODE (CREDITS): 18B11BI412 (3)   MAX. MARKS: 15
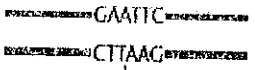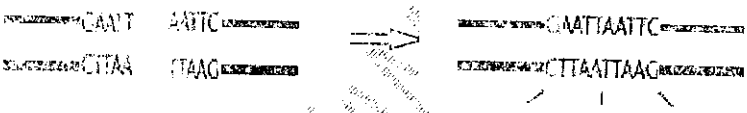
COURSE NAME: GENETIC ENGINEERING AND GENOMICS

COURSE INSTRUCTORS: DR. JATA SHANKAR

MAX. TIME: 1 Hour

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

(b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems

Q.No	Question	CO	Marks
Q1	Recognize the restriction enzyme sites in the given sequence and what happens if it is digested with the enzyme ⋯⋯GAATTC⋯⋯ ⋯⋯CTTAAG⋯⋯	1	2.5
Q2	Name the enzyme involved in the given process and their mechanism. ⋯⋯CAAT AATTC⋯⋯ ⋯⋯CAATTAATTC⋯⋯ ⋯⋯CTTAA TTAAG⋯⋯ → ⋯⋯CTTAATTAAG⋯⋯	2	2
Q3	Create a structure of pBR322pBR322 cloning vector depicting their salient feature. What is the size of the vector, when and who constructed it, how many copies of pBR322 a bacterial host cell can accommodate and the maximum size limit of a foreign DNA in the vector be accommodated?	1	3
Q4	pUC8 has three important advantages that have led to it becoming one of the most popular *E. coli* cloning vectors. Evaluate each of three advantages in comparison to the pBR322	2	3
Q5	Write on the first few recombinant DNA products using genetic engineering.	1	1.5
Q6	Notes on a. Polymerase enzyme b. Restriction endonuclease enzymes c. λPhage or Cosmid vectors	2	3