

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

B.Tech-Vth Semester (BT)

COURSE CODE(CREDITS):18B11BT512(04)

MAX. MARKS: 15

COURSE NAME: Genetic Engineering

COURSE INSTRUCTORS:Dr. Anil Kant

MAX. TIME: 1 Hour

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

Q1. Do any two of following

[1x2 = 2] CO I

- Write any three abstract general objectives for which genetic Engineering is being practiced.
- Interpret and analyze why genetic engineering, recombinant DNA technology and gene cloning are used synonymously.
- Give three discrete points which differentiate genetic engineering from traditional practices of crop or animal breed improvement.

Q.2. Do any two of following

[2x2 = 4] CO I

- Write about any three product oriented applications of genetics which have been commercialized.
- Discuss three advantages of production of recombinant therapeutic drugs? Give examples to prove each argument.
- What is biopharming? Give two examples of drugs that are approved to be produce by via biopharming

Q.3

[2x2 = 4] CO II

- How Type I, Type II and Type III restriction endonucleases are different from each other?
- What is the enzymatic activity of alkaline phosphatase? Mention its single most application in Genetic engineering with the help of a suitable diagram. Why Shrimp alkaline phosphatase is preferred.

Q.4. One of following question

[5] CO V

- Write the pattern of symmetry found in Type II Restriction enzyme sites. Let a 6 bp site is represented by short notation 5' C/TG. Write a complete double stranded site of restriction enzymes and show the fragments that would be generated by the action of this enzyme.
- Diagrammatically show how a blunt ended DNA can be converted into cohesive ended DNA with help of linkers. Write one limitation of linkers and two possible solutions to obviate the problem.