

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- Sept. 2018

B.Tech Vth Semester

COURSE CODE: 10B11BT513

MAX. MARKS: 15

COURSE NAME: Genetic Engineering

COURSE CREDITS: 04

MAX. TIME: 1Hr

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.

Q.1 Attempt any four of following.

1X4=4.0 CO I CII

- a. What is genetic engineering? Mention any two general objectives to genetically modify organisms.
- b. Human have been genetically modifying different organisms since hundreds of years via traditional methods. Justify and give any two striking examples of such modifications.
- c. Genetic engineering is also done to practice genetic engineering or to produce some tools of genetic engineering. Justify the statement by citing two suitable examples.
- d. Why ligation of cohesive DNA fragments is done at 4-15 °C whereas temperature optimum for DNA ligase is 37 °C?
- e. What is most striking feature of restriction sites of type II restriction enzymes?

Q.2 Attempt any four of following.

2x4=8.0 COII CIV CO V

- i. Discuss applications of genetic engineering in the area of agriculture? Give suitable examples.
- ii. In the field of medicines, genetic engineering facilitates the generation of engineered therapeutic proteins. Explain with help of examples.
- iii. How restriction sites can be introduced in PCR products during their amplification?
- iv. Design a conversion adapter for given restriction enzymes with their restriction sites
Sal I G/TC , Bcl I T/GA
- v. Briefly discuss steps involves in process of genetic engineering.

Q.3

3.0 COII

Discusses the experiment which lead to discovery of host controlled restriction and modification followed by restriction enzymes.