

**JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT**  
**Test-1, Examination- February 2016**  
**B.Tech.- VI Semester**

COURSE NAME: Genetic Engineering & Genomics  
COURSE CODE: 15BIIBI411  
COURSE CREDIT: 04

MAX MARKS:15  
MAX TIME:1 hr

**Note: All questions are compulsory. Carrying of Mobile phone during examination will be treated as case of unfair means.**

- Q. 1. What technological developments resulted in the emergence of bioinformatics as a separate discipline, how & why? (2.0)
- Q. 2. Cleavage of a DNA fragment results in 5'- overhangs, whereas 3'-overhangs with another restriction enzyme. What strategy would you use to clone this fragment in a plasmid vector having blunt ends? (2.0)
- Q. 3. Why do we have cloning vectors with different cloning capacities? Which vector would you choose to clone entire genomic DNA of human and why? (3.0)
- Q. 4. Draw a design strategy used in constructing a plasmid vector with a Lac selection marker? Why do we have more than one selection marker in a plasmid vector? (2.0)
- Q. 5. DNA fingerprinting has implications in forensics. How can we generate a DNA fingerprint database for all students of JUIT? (3.0)
- Q. 6. What is the current status of whole genome sequencing in different classes of organisms, i.e. bacteria, fungi, animals, plants, and human? What possible practical outcomes can you visualize from these genome sequences for the growth of BT/BI in India? (3.0)