

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT
M. Tech./BTDD Biotechnology
Semester I Test 1 (September 2016)

Course Code: 13M11BT114

Max. Marks: 15

Course Name: High Throughput Technologies

Max. Time: 1 Hr

Course Credit: 03

Note: Attempt all questions. Be precise in answers

1. What is the genome size of *E. coli* and approximate number of genes? (1 mark)
2. What is use of microbial typing using high throughput sequencing approach? (1 marks)
3. Write of Genomic survey sequence (1 marks)
4. Describe that how human genome is organized, highlight no. of bases that adds complexity to the genome? (2 marks)
5. Draw a well labeled structure of a eukaryotic gene; highlight the splicing signals and their importance? (2 marks)
6. What is BLAST? Discuss the importance of different BLAST programs? Who develop the BLAST and when? Write the formula used to calculate the E-value? (2 marks)
7. Write on pyrosequencing with different reactions steps? Discuss enzymes and their role and sources? What are the applications of this high throughput sequencing methods? (3 marks)
8. Describe high throughput illumine sequencing method? Describe each step with a well labeled diagram? Where do you find the importance of illumina sequencing method? And where it differs from Sanger sequencing method? (3 marks)