

Jaypee University of Information Technology

Make-up Examination- April 2018-04-19

B. Tech (Biotechnology) VI Semester

Course Code: 10B11BT611

Max. Marks. 25

Course Name: Comparative and Functional Genomics

Max. Time: 1.5hrs

Course Credits: 04

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

1. Write down the number genes in *E. coli* and *S. cerevisiae* and what is the estimated genome size of these organism (3)
2. What are major characteristics and application of DNA Microarray? (5)
3. Describe SNP? Discuss how SNPs are introduced in the genome? What are the methods available to determine the SNPs in the genome? Describe a disease where screening SNPs is required? (5)
4. What is pyrosequencing? What are the steps that are involved in this sequencing mechanism? Also mention the enzymes with their source agent? What are the different applications of the pyrosequencing? (6)
5. If you have provided with oligonucleotide based DNA microarray from mice, how do proceed to indentify the differentially regulated gene expression in cancerous and non-cancerous tissue? (6)