JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT
T2 EXAMINATION- April 2018
B.Tech (Biotechnology) VI Semester

COURSE CODE: 10B11BT611   MAX.MARKS: 25

COURSE NAME: Comparative and Functional Genomics   MAX. TIME: 1.5 Hrs

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 in square brackets.

1. Schematically represent a gene structure from eukaryotic genome? 1.5

2. Explain cDNA-based and oligonucleotide-based microarray? Discuss the few applications of DNA microarray? 2.5

3. Explain DNA Microarray? What are the major characteristics of DNA Microarray? (2.5)

4. What is probe? How GC content helps to determine the good efficiency of hybridization in DNA microarray? (2.5)

5. What is normalization, give example where do you find it is necessary to carry out normalization in genomics experiment and why? (2.5)

6. What is SNPs? How SNPs are introduced into the genome? At what frequency the SNPs are present in the genome and what are the methods to screen out the SNPs in the genome? (3.5)

7. If you have been given cDNA based DNA microarray of human genome, how do you set up the plan to identify the genes that are associated with lung cancer in the patient in comparison with that to healthy human subjects? (5)

8. Explain solid phase illumine sequencing methods, write the steps involved in it, illustrate the diagram to explain the mechanism? (5)