

Dr Harish

JAYPEE UNIVERSITY OF INFORMATRION TECHNOLOGY, WAKNAGHAT

T2 EXAMINATION-October 2019

M.Sc. I Semester

COURSE CODE: 18MS1BT112

MAX. MARKS: 25

COURSE NAME: Molecular Genetics and Genomics

COURSE CREDITS: 03

MAX. TIME: 1.5 HRS

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

(CO; Marks)

1. DNA microarray has been extensively used for whole genome expression analysis studies due to its salient features; write the characteristics of DNA microarray. (CO2; 2)
2. DNA microarray often needs normalization to rectify the technical and systemic bias, write the equation applied to normalize the gene expression data and give details of it? (CO3; 2)
3. What is solid phase sequencing by illumine technology? Describe the steps with well labeled diagram. (CO2; 3)
4. If you have been given DNA microarray slides of mouse genome; how are going to identify differentially expressed genes from lung tissue from cancerous and non-cancerous mouse model? (CO3; 3)
5. Write a note on mismatch DNA repair mechanism. (CO2; 3)
6. Describe rho-independent transcription termination in bacteria with the help of diagram. (CO1; 3)
7. Draw a well labeled structure of transcription bubble. (CO2; 3)
8. Describe spliceosomal mediated splicing of RNA. (CO2; 3)
9. Write a note on Meselson and Stahl experiment to demonstrate semi-conservative model of DNA replication. (CO1; 3)