JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST-2 EXAMINATION-2024

M. Tech.-I Semester (BT)

COURSE CODE (CREDITS): 13M11BT114 (3) MAX. MARKS: 25

COURSE NAME: HIGH THROUGHPUT TECHNOLOGIES

COURSE INSTRUCTORS: DR. JATA SHANKAR MAX. TIME: 1 Hour 30 Min

Note: *(a) All questions are compulsory.*

(b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems

Q. No.	Questions	Marks
Q1	High throughput DNA sequencing is an emerging area in biotechnology; for genomic DNA or transcriptome, Illumina sequencing has shown great promise. Evaluate the methodology and working of Illumina and point out major differences with Sanger's sequencing technology	3
Q2	Apply the strategies to ensure the gene encoding region in the genome of newly identified organisms from ocean microflora/microfauna	3
Q3	Analyze the role of DNA microarray technology in studying the expression profile of drug-treated cancer cells versus relapse cancer cells	3
Q4	Describe the techniques to construct different types of DNA microarrays. Analyze the details of the photolithography technology to construct the DNA Chip	3
Q5	Create a strategy for sequential extraction of protein from the given sample to enrich the abundance of protein identification	3
Q6	Apply the purpose and how protein modification occurs in the cells	2.5
Q7	Normalization method in DNA Microarray Technology	2.5
Q8	Apply the role of Chip Seq technology in stem cell or cancer research	2.5
Q9	Create an experimental design for Functional Metagenomics	2.5