

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- 2024

B.Tech-VIII Semester (BT/BI)

COURSE CODE (CREDITS): 18B1WBI834 (3)

MAX. MARKS: 15

COURSE NAME: NGS Data Analysis & Applications

COURSE INSTRUCTORS: Dr. Shikha Mittal

MAX. TIME: 1 Hour

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

*(b) Marks are indicated against each question in square brackets.*

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

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- Q1. Briefly explain the considerations required for NGS data analysis? (2 marks) [CO-1]
- Q2. What do understand by Phred score in a fastq file? For a sequence, if Phred score is 30, what will be the percentage inaccuracy? [2 marks] (CO-3)
- Q3. Write the salient features and outcomes of Human Genome Project (3 marks) [CO-1 & CO-2]
- Q4. Explain pyrosequencing and its principle using a flowchart. (2 marks) [CO-2]
- Q5. Explain the following – (6 marks) (CO-1 & CO-2)
- (a) Difference between Sanger and Maxam-Gilbert sequencing
  - (b) Define second generation sequencing with 2 examples.
  - (c) Difference between emulsion and Bridge PCR.