

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- 2026

B.Tech-III Semester (BT/BI)

COURSE CODE (CREDITS):25B11BT313 (4)

MAX. MARKS: 15

COURSE NAME: BIOCHEMISTRY

COURSE INSTRUCTOR: Dr. JITENDRAA VASHISTT

MAX. TIME: 1 Hour

Note: (a) All questions are compulsory. (b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems. (c) Use of calculator is not allowed.

Q. No.	Question	CO	Marks
Q1	A group of proteins are predominantly present in the nucleus with DNA. Name these proteins and explain the basis of interactions of these DNA with proteins. Also define the amino acids with their structures responsible for the interactions of above mentioned biomolecules.	I	3
Q2	"Artificial sugar is not the sugar". Justify your answer and also define the structure of the molecule. Explain which group of disease individuals is restricted to use this artificial sugar and why?	I	3
Q3	Explain the similarity and dissimilarity between glucose, mannose and galactose. Define the phenomenon with structural differences.	I	3
Q4	Explain the following in brief with structures. a) Aromatic amino acids and their significance b) Essential amino acids and non essential amino acids with respect to humans	I	1.5X2=3
Q5	a) Among maltose and sucrose, which is considered as reducing sugar? Justify your answer along with structural representations. b) Define the following structures (i) α -D glucose (ii) β -D glucose (iii) Glucose open chain structure	I	1.5X2=3