JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATIONS- 2024

B. Tech.-IV Semester (Biotechnology)

COURSE CODE (CREDITS): 18B11BT414 (03) MAX. MARKS: 15

COURSE NAME: Microbiology

COURSE INSTRUCTORS: Ashok Kumar Nadda 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

Q.No	Question	COs	Marks
	Section I		
Q1	(a) What are enriched media, and when are they used?	CO II	0.5
	(b) What are the main factors that influence microbial growth?	COII	1
	(c) Why is the binomial nomenclature system important in microbiology? How are microbial names structured in binomial nomenclature?	COI	1
	Section II		
Q2	What was Louis Pasteur's role in disproving spontaneous generation? How did Pasteur's experiments support the germ theory of disease?	COI	1.5
Q3	What was the basis of Ernst Haeckel's Three-Kingdom classification? How did Whittaker classify microbes in his system?	COI	1.5
Q4	What are Koch's postulates, and why are they important? How did Robert Koch contribute to the identification of disease-causing microbes?	COI	1.5
Q5	What is the difference between synthetic (defined) and complex media? Give suitable examples.	COII	1.5

Q 6	What methods are used to measure microbial growth. Which methods is suitable for the measurement of growth of fungi and filamentous bacteria?	COIII	1.5
	Section III		
Q 5	How does differential media help distinguish between different microorganisms? What are enriched media, and when are they used?	COII	2.5
Q 6	What are the phases of bacterial growth in a batch culture? What is the significance of the lag phase in bacterial growth? How does the exponential (log) phase contribute to microbial population increase?	COII	2.5
	Total marks		15