

**JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT**

**TEST -2 EXAMINATION- 2024**

M.Sc. Ist Semester (Microbiology)

COURSE CODE (CREDITS): 20MS1MB111 (03)

MAX. MARKS: 25

COURSE NAME: General Microbiology and Bacteriology

COURSE INSTRUCTORS: Dr. Ashok Kumar Nadda MAX. TIME: 1 Hour 30 Minutes

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

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

Q. No	Question	Marks
Q1	a) What is the difference between bactericidal and bacteriostatic agents? Give examples. b) How temperature and pH does affect the microbial growth? c) In which phase of their growth, the microorganisms are most sensitive towards the attack of antibiotics? d) What factors influence the effectiveness of microbial control methods? e) How does an antiseptic differ from disinfectant? Give an example of a common disinfectant.	1×5=5
Q2	What are the main mechanisms of action of antibiotics, and how do they target bacterial cells?	2.5
Q3	What factors can influence the shape and duration of the microbial growth curve?	2.5
Q4	Describe the phases of the microbial growth curve and the characteristics of each phase.	2.5
Q5	Discuss the various methods of measuring microbial growth, including both direct and indirect approaches. Highlight the advantages and disadvantages of each method.	2.5
Q6	Enlist the various antibiotics that inhibit protein synthesis, and how do they differ in their mechanisms of action?	3
Q7	How does antimicrobial resistance affect the treatment of common	3



	infections and medical procedures such as surgery? How can healthcare professionals balance the need for effective treatment with the need to prevent the development of antimicrobial resistance?	
Q 8	What clinical implications arise from the use of protein synthesis-inhibiting antibiotics, particularly regarding side effects and resistance? Enlist the various antibiotics which are inhibiting protein synthesis by acting against 30S and 50S ribosomal subunits.	4

JUIT TEST-2 EXAMINATION-OCT-2024