JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- 2023

M.Sc.-I Semester (Microbiology)

COURSE CODE (CREDITS): 20MS1MB111 (03) MAX. MARKS: 25

COURSE NAME: General Microbiology and Bacteriology

COURSE INSTRUCTORS: Ashok Kumar Nadda MAX. TIME: 1.5 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

Section I

(a) In which phase during the growth of bacteria endospore formation occurs? **(1 mark)**

(b) Give an example of antibiotic that inhibit the cell membrane synthesis. **(1 mark)**

(c) What are the various mode of reproduction found in bacteria and fungi? **(1 mark)**

(d) Give the examples of the microbes that can be cultured on Chockolate agar? **(1 mark)**

(e) Write the mechanism of action antibiotics named amikacin and Erythromycin used to control the growth the microbes **(1 mark)**

Section II

Q 2 Give a detailed account of various techniques used to obtain pure culture from given soil sample? **(3 marks)**

Q 3 Discuss the various factors that affect the death rate of microbes during the application of antimicrobial agents? **(3 marks)**

Q 4 Among the gram negative bacteria and non-enveloped viruses which one is more susceptible towards the attack of antimicrobial agents? and why? Explain briefly. **(2 marks)**

Q 5 Enlist the various antibiotics that can inhibit the cell synthesis and DNA replication in microbial pathogens. **(2 marks)**

Section III

Q 6 How does the low and high temperature treatment is used to control the growth of microorganisms? Explain briefly the mechanism of action by temperature treatment **(3 marks)**

Q 7 With the help of a suitable diagram describes various phases of bacterial growth curve. Why does the cell number remain constant during the stationary phase of growth curve? **(3 marks)**

Q 8 Describe the following chemical agents for microbial control

    a) Halogens

    b) Oxidizing agents

    c) Surfactants

    d) Phenols   **(1×4= 4 marks)**