

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)**

**CLASS: BPHARM
BRANCH: PHARMACY**

SUBJECT: BP303T PHARMACEUTICAL MICROBIOLOGY

**SEMESTER: III
SESSION: MO/2023**

TIME: 3.00 Hours

FULL MARK: 75

INSTRUCTIONS:

1. The missing data, if any, may be assumed suitably.
 2. Before attempting the question paper, be sure that you have got the correct question paper.
 3. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
 4. This question paper consists of (03) three parts. Read the part wise instructions before attempting the questions.
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PART-I

Objective types questions (Instruction: Answer all questions)

Q1. (10 x 2 = 20 Marks)

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| A. What are the different methods of enumeration of microorganisms? | C01 |
| B. Compare the functions of fimbriae with pilli and Capsule with Slime layer. | C01 |
| C. Indicate the nomenclature of industrial microorganisms which are generally procured in India? | C02 |
| D. What is the principle of working of fluorescence microscope? | C03 |
| E. Propose the role of dimerization of thymine in microbial death. | C04 |
| F. Outline the functions of different macro and micronutrients in microbial growth. | C02 |
| G. Evaluate various factors involved in sterilization of milk. | C04 |
| H. Which is the suitable phase of growth of microbes to employ sterilizing agent for its killing and why? | C02 |
| I. Define TDP and TDT. | C04 |
| J. Define MIC and name the tests under antibiotic assays. | C05 |

PART-II

Short Answers

(Instruction: Answer seven out of nine questions)

(7 x 5 = 35 Marks)

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| Q2. Differentiate between prokaryotic and eukaryotic cells. | C01 |
| Q3. Compare the compositions of gram positive and gram-negative cell wall. | C01 |
| Q4. Classify major nutritional types of microorganisms with examples. Indicate their source of energy. | C02 |
| Q5. Illustrate and explain the growth curve of bacteria. | C02 |
| Q6. How the phase contrast microscope works? | C03 |
| Q7. Elaborate the limitations and advantages of Phenol Co-efficient Tests. | C03 |
| Q8. What are the different classes of fungi? Discuss with examples. | C01 |
| Q9. Illustrate different equipments used for mechanical sterilization process | C04 |
| Q10. How microorganisms are used for evaluation of antibiotics? Detail out the procedure. | C05 |

PART-III

Long Answers

(Instruction: Answer two out of three questions)

(2 x 10 = 20 marks)

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| Q11. Discuss the principles of different Electron Microscopes. | C01 |
| Q12. Classify and elaborate the chemical sterilization methods. | C04 |
| Q13. Evaluate and explain different tests used for evaluation of disinfectants | C05 |