

Total No. of Questions - 22] [Total No. of Printed Pages - 2]

DEC-23-0072

BP-303 T (Pharmaceutical Microbiology)

B.Pharm-3rd (PCI)

Time : 3 Hours

Max. Marks : 75

Note: Answer ALL Questions from Section A (each carrying 2 marks); any Seven Questions from Section B (each carrying 5 marks) and any Two Questions from Section C (each carrying 10 marks).

#### SECTION-A

##### Short Answer (Compulsory)

- 1 Name at least two antimicrobial agents used for preservation of medicines. [02]
- 2 Name the device for counting bacterial cells. [02]
- 3 Name the equipment used in large scale industrial sterilization of glass wares and drug products. [02]
- 4 Name the methods to assess microbial contamination. [02]
- 5 Name the microscope which provides the best resolution, and state the reason. [02]
- 6 Name the raw materials required for preparation of media? [02]
7. What is inoculation? [02]
8. What is the application of cell cultures in pharmaceutical industry and research? [02]
9. Which is the most efficient method of sterilization? And why? [02]
10. Why is laminar flow equipment required in microbiology lab? [02]

2

#### SECTION-B

##### Short Note Answer (Any Seven)

11. Classify different disinfectants on the basis of their mode of action. [05]
12. Discuss the different factors influencing anti-microbial activity within medicines. [05]
13. Explain the bacterial growth curve. [05]
14. Explain the differences between the Prokaryotic and Eukaryotic cells with diagrams and examples. [05]
15. Explain the significance of microbiology in the field of Pharmacy, Pharmaceutical industry and Medicine. [05]
16. What are the different staining techniques for identification of bacteria? [05]
17. What are the nutritional requirements for growth of bacteria? Explain the different types of culture media used to cultivate microorganisms. [05]
18. Write a note on cultivation of anaerobic microorganisms. [05]
19. Write a note on prevention and control of microbial contamination for pharmaceutical products. [05]

#### SECTION-C

##### (Answer any Two Long Essay type Questions)

20. Explain the factors affecting the microbial spoilage of pharmaceutical products. [10]
21. Explain the methods for standardization of antibiotics, vitamins and amino acids, assessment of a new antibiotic and testing of antimicrobial activity of a new substance. [10]
22. Explain sterility testing of pharmaceutical products as per Indian Pharmacopoeia. [10]