

Code No: 243AC**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Pharmacy II Year I Semester Examinations November/December- 2018****PHARMACEUTICAL MICROBIOLOGY****Time: 3hours****Max.Marks:75****Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART- A**(25 Marks)**

- 1.a) Describe the branches of microbiology. [2]
- b) Write about raw materials used for culture media. [3]
- c) Write about gram staining. [2]
- d) Describe sterility indicators. [3]
- e) Give morphological details of virus. [2]
- f) Compare bacteriostatic and bactericidal action. [3]
- g) Give clean area classification. [2]
- h) Write a note on environmental cleanliness. [3]
- i) Describe various types of spoilage. [2]
- j) Define transformed cell cultures. [3]

PART-B**(50 Marks)**

- 2.a) Write about nutritional requirements of bacteria.
 - b) Describe quantitative measurement of bacterial growth. [10]
- OR**
- 3.a) Describe pure culture and discuss the process of isolation and preservation of pure cultures.
 - b) Write about dark field microscopy. [10]
- 4.a) Describe various biochemical tests for identification of bacteria.
 - b) Elucidate chemical and physical methods of sterilization. [10]
- OR**
- 5.a) Elucidate various staining techniques for identification of bacteria.
 - b) Write in detail about equipments used for sterilization. [10]
6. Describe the techniques for the cultivation of fungi and virus. [10]
- OR**
7. Describe the procedure for sterility testing of solid, liquid and ophthalmic pharmaceutical preparations according to IP, BP and USP. [10]
- 8.a) Describe the detailed structure of laminar air flow and its principle.
 - b) Discuss the methods of standardization of antibiotics and amino acids. [10]
- OR**
9. Elucidate the technique of antimicrobial testing of new substance. [10]

- 10.a) Discuss various types of microbial spoilage of pharmaceutical products.
b) Describe the technique of evaluation of microbial stability formulations. [10]

OR

- 11.a) Write general procedures for growth and identification of cell culture.
b) Give an account of applications of cell cultures in pharmaceutical industry and research. [10]

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