

Time: 3 Hours

Marks: 80

- Q. 1. Answer the following MCQ 20
- 1 An example of Indicator medium
 - a. Nutrient Agar
 - b. Nutrient Broth
 - c. Mac Conkey Agar medium
 - d. Czapeckdow medium
 - 2is an example of electron microscopy
 - a. Scanning
 - b. Phase contrast
 - c. Dark Field
 - d. Reflection
 - 3 Lyophilization means
 - a. Sterilization
 - b. Freeze drying
 - c. Burning of ashes
 - d. Fumigation
 - 4 Most often, the causative agent for the wound infection is found to be.....
 - a. Staphylococcus aureus
 - b. Streptococcus pneumonia
 - c. Pseudomonas aeruginosa
 - d. Brucella
 - 5 The period during which the bacterial cells are maturing and are still unable to divide
 - a. Lag Phase
 - b. Log Phase
 - c. Stationary Phase
 - d. Death Phase
 - 6 Thermophiles grow best at temperature
 - a. Above 30°Celsius
 - b. Above 45°Celsius
 - c. Below 45°Celsius
 - d. Below 32°Celsius
 - 7 Liquid Parenteral preparations can be sterilized through?
 - a. Chemical sterilization
 - b. Membrane filtration
 - c. Desiccation
 - d. Red heat
 - 8 Which of the following process does not kill bacterial endospores?
 - a. Hot air sterilization
 - b. Pasteurization
 - c. Autoclave
 - d. Incineration

- 9 Which of the following is bactericidal?
- Membrane filtration
 - Freezing
 - Ionizing radiation
 - Incubation
- 10 Identify the term that can describe a disinfectant inhibiting the growth of fungi:
- fungistatic
 - microbiostatic
 - microbicidal
 - fungicidal
- 11 _____ is a test for evaluation of disinfectant
- Antimicrobial assay
 - Test for sterility
 - Phenol coefficient method
 - IMViC
- 12 Process of assembly of phages from its component is called _____
- Penetration
 - Maturation
 - Release
 - Attachment
- 13 Test for sterility is important for _____
- Parenteral preparation
 - Elixirs
 - Liniments
 - Lotions
- 14 The lowest concentration of antimicrobial found to inhibit growth of particular test microorganism is known as _____
- Minimum Inhibitory Concentration
 - Maximum Inhibitory Concentration
 - Median Inhibitory Concentration
 - Mean Inhibitory concentration
- 15 In the detection test of salmonella, it is subcultured on _____ media.
- Soyabean casein digest agar
 - MacConkey agar
 - Xylose lysine deoxycholate agar
 - Sabouraud dextrose agar
- 16 Magnification of oil immersion objective is-----
- 10x
 - 40x
 - 1000x
 - 100x

- 17 Which of the following is non motile bacteria?
 - a) Proteus vulgaris
 - b) Pseudomonas aeruginosa
 - c) Klebsiella pneumoniae
 - d) Vibrio cholera
- 18 Which of the following method is used for sterilization of spatula?
 - a) Red heat
 - b) Membrane filtration
 - c) Chemical method
 - d) Radiation sterilization
- 19 Who first used antiseptic during surgery?
 - a. L. Pasteur
 - b. A.V. Leeuwenhoek
 - c. Joseph Lister
 - d. Robert Hooke
- 20 Select the yeast from the following
 - a) Aspergillus
 - b) Saccharomyces
 - c) Streptomyces
 - d) Penicillium

Q.2 Answer the following (any 1)

12 Marks

- A) Explain scanning electron microscopy and write a note on structure of gram positive bacterial cell wall using a neat labelled diagram
- B) Discuss radiation sterilisation with respect to various types, mechanism, advantages, disadvantages and applications in pharmaceutical industry

Q.3 Answer the following (any 4)

48 Marks

1. a) write a note on structure of fungal cellwall and significance of industrially important fungi
b) Write a note on diffusion bioassay
2. a) Explain the lytic cycle stages in detail.
b) Discuss growth phase cycle in bacteria
3. a) write a note on importance of algae
b) Write a note on total count methods used in measurement of growth
4. a) write a note on bacterial preservation techniques
b) Describe in detail life cycle of P. Vivax parasite
5. a) Enlist and explain various isolation techniques for bacterial cells
b) Explain halogens in detail with respect to mechanism of action, antimicrobial properties, applications and limitations
