

PARUL UNIVERSITY
FACULTY OF PHARMACY
B. Pharm. Winter 2018 - 19 Examination

Semester: 3
Subject Code: BP303T
Subject Name: Pharmaceutical Microbiology

Date: 01/12/2018
Time: 2:00 pm to 5:00 pm
Total Marks: 75

Instructions:

1. Figures to the right indicate maximum marks.
2. Make suitable assumptions wherever necessary.

Q.1 Multiple Choice Questions (MCQs) (1 Mark Each)**(20)**

1. A chemical, used for removal of microorganisms from mucous membrane and skin, called as
 - a) Alcohol
 - b) Antiseptics
 - c) Detergents
 - d) Pesticides
2. What is the correct order of staining reagents in Gram-Staining?
 - a) Crystal violet, alcohol, iodine solution, safranin
 - b) Crystal violet, safranin, alcohol, iodine solution
 - c) Crystal violet, iodine solution, alcohol, safranin
 - d) Iodine solution, crystal violet, alcohol, safranin
3. What is the correct name for the main microscope lens that focuses the image?
 - a) Ocular
 - b) Condenser
 - c) Objective
 - d) Binocular
4. Gap between cell wall and plasma membrane in bacteria known as
 - a) Mesoderm
 - b) Metaderm
 - c) Plasma
 - d) Periplasma
5. Sterilization is done by autoclave, consisting exposure to steam, about
 - a) 120°C
 - b) 121°C
 - c) 170°C
 - d) 116°C
6. A 'polysaccharide' that helps bacteria in adherence to surface is named as
 - a) Glycocalyx
 - b) Nucleoid
 - c) Granule
 - d) Mesosome
7. What is the condenser on a light microscope used for?
 - a) To focus the light source
 - b) To provide the light source
 - c) To diffuse the light source
 - d) To control the light source
8. Which bacteria appears purple-violet colour after staining?
 - a) Gram-positive
 - b) Gram-negative
 - c) Neither Gram-positive nor Gram-negative
 - d) Both Gram-positive and Gram-negative
9. When maintaining the microscope what is used to clean the lenses?
 - a) Water
 - b) Alcohol
 - c) Oil
 - d) Detergent
10. 'flagellum' is made up of
 - a) Sugars
 - b) Lipids
 - c) Polysaccharides
 - d) Proteins
11. Method used for sterilization of solutions is called
 - a) Autoclaving
 - b) Sterilization
 - c) Filtration
 - d) Radiations
12. If the eyepiece magnification on light microscope is x10 and the objective is x40, what is the overall magnification?
 - a) x40
 - b) x400
 - c) x10
 - d) x4

13. 'Bacilli' is term used for
 - a) Round bacteri
 - b) Rod shaped bacteria
 - c) Spiral bacteria
 - d) Cluster shaped bacteria
14. HEPA filters are widely used in ...
 - a) Gas sterilizers
 - b) Oxygen masks
 - c) Autoclaves
 - d) Laminar air flow hoods
15. 'filters' that are commonly used in sterilization, made up of
 - a) Sieves
 - b) Nitrocellulose
 - c) Filtration tubes
 - d) Filter paper
16. Which of the following is the most accurate method for microbial assay of antibiotics?
 - a) Physical assay
 - b) Chemical and biological assay
 - c) Biological assay
 - d) Chemical assay
17. Viruses are
 - a) free living
 - b) both free living and parasitic
 - c) obligate parasites
 - d) none of these
18. Which of the following is the example of Gram-negative bacteria?
 - a) Lactobacillus
 - b) Eschericia coli
 - c) Staphylococcus aureus
 - d) Bacillus subtilis
19. Removal and killing of all microorganisms is known as
 - a) Sterilization
 - b) Pasteurization
 - c) Destruction
 - d) Removal
20. In Gram-staining, iodine is used as a _____
 - a) stain
 - b) solublizer
 - c) mordant
 - d) fixative

Q.2 Long Answers (any 2 out of 3) (10 Mark Each)

(20)

1. Define sterilization. Explain the principle and applications of different methods of sterilization.
2. Explain in detail the microbiological assay of antibiotics.
3. Define sterility testing. Explain the methods and procedure of sterility testing

Q.3 Short Answers (any 7 out of 9) (5 Mark Each)

(35)

1. Explain the designing of aseptic area and give the classification of clean area.
2. Differentiate between
 - a) antiseptics and disinfectants
 - b) Bactericidal and bacteriostatic action
3. Differentiate between
 - a) pasteurization and tyndallization
 - b) dry heat sterilization and moist heat sterilization
4. List the different methods used for evaluation of disinfectants. Write in detail about the phenol coefficient test.
5. Explain the identification of bacteria using different staining techniques
6. Give the nutritional requirements of bacteria and raw material used for culture media
7. Give a detailed note on isolation and preservation methods for pure cultures
8. Draw one step growth curve of bacteriophage and explain
9. Write the principle and application of scanning electron microscopy.