

PARUL UNIVERSITY
FACULTY OF PHARMACY
B. Pharm. Winter 2019 Examination

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

Date: 23-11-2019
Time: 2:00pm to 05:00pm
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. Who is the father of Modern Microbiology?

a) Patrick Matthew	b) Robert Koch
c) Alexander Fleming	d) Louis Pasteur
2. Which microscope has highest resolution?

a) Scanning electron microscope	b) Phase contrast microscope
c) NDIC	d) Transmission electron microscope
3. Zeihl Neilsen staining is _____.

a) Counter stain	b) Simple stain
c) Differential staining	d) None of above
4. For 100% effectiveness of ultra violet the wavelength is

a) 253.7 nm	b) 265 nm
c) 256 nm	d) 220 nm
5. Which test organism is utilized to carry out Rideal-Walker test?

a) <i>Salmonella typhi</i>	b) <i>Staphylococcus aureus</i>
c) <i>Escherichia coli</i>	d) None of above
6. Which microorganism is used for assay of Vitamin B12?

a) <i>Lactobacillus leichmannii</i>	b) <i>Lactobacillus casei</i>
c) <i>Staphylococcus aureus</i>	d) <i>Bacillus subtilis</i>
7. Which of the following is the most accurate method for sterilization of fixed oil?

a) Moist Heat Sterilization	b) Dry Heat Sterilization
c) Filtration method	d) None of above
8. The MIC value is

a) The highest concentration that inhibits growth	b) The highest concentration that allows growth
c) The lowest concentration that allows growth	d) The lowest concentration that inhibits growth
9. The organism which grows best above 80°C are called

a) Psychrophile	b) Mesophile
c) Thermophile	d) None of above
10. In gram staining iodine is used as a

a) Fixative	b) Mordent
c) Solubilizer	d) Stain
11. After ethanol treatment Gram negative bacteria can be visualized

a) only by counter staining with safranine	b) in violet colour of crystal violet
c) only by addition of iodine solution	d) in violet colour of methylene blue
12. The prokaryotic cell membrane

a) Contains metabolic enzymes	b) Is selectively permeable
c) Regulates the entry and exit of materials	d) Contains proteins and phospholipids
13. Alum is used for which of the following purification process?

a) Sedimentation	b) Filtration
c) Disinfection	d) Ozonation
14. Temperature range for 'pasteurization' is

a) 60°C-70°C	b) 62°C-72°C
c) 65°C-75°C	d) 121°C-130°C

15. For purification of swimming pools and water supplies of chemical used is
 a) Alcohol
 b) Chlorine
 c) Iodine
 d) Heavy metals
16. Contact lenses and wounds are cleaned by an antiseptic, named as
 a) Iodine
 b) Tincture
 c) Hydrogen peroxide
 d) Chlorine
17. Exotoxins are metabolic product of
 a) Gram positive bacteria
 b) Gram negative bacteria
 c) Fungi
 d) Virus
18. In sterility testing of oil containing pharmaceutical product, ____ will be used for dilution process.
 a) Distilled water
 b) Water for injection
 c) Polysorbate 80
 d) Alcohol
19. Which microscope is used to observe live specimen?
 a) Dark field microscope
 b) Scanning electron microscope
 c) Transmission electron microscope
 d) Phase contrast microscope
20. Crystal violet falls under _____ category.
 a) Basic dye
 b) Acidic dye
 c) Neutral dye
 d) None of above

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

(20)

1. Write a detail note on – Designing of Aseptic area.
2. Define: Microbiology. Write scope and pharmaceutical applications of microbiology in detail.
3. Define: Sterilization. Classify it and describe in detail sterilization carried out at temperature above 100° C.

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

(35)

1. Explain in detail: Growth curve of bacteria.
2. Explain in detail: Factors affecting sterilization.
3. List out methods for evaluation of disinfection. Explain in detail: Rideal-walker test.
4. Write a note on – Dynamics of disinfection.
5. Differentiate between
 - 1) Gram Positive micro-organisms and Gram Negative micro-organisms
 - 2) Bacteria and Virus
6. Explain in detail: Electron Microscopy.
7. Describe in detail – Methods for conducting sterility testing. Explain in detail – Sterility testing of aqueous solutions.
8. Explain in detail – One level assay with standard curve for cup-plate method.
9. Write applications of cell cultures in pharmaceutical industry and research.