Seat No: _____ Enrollment No: _____

PARUL UNIVERSITY
FACULTY OF PHARMACY
B. Pharm. Summer 2021 - 22 Examination

Semester: 3 **Date: 06-04-2022**
Subject Code: BP303T **Time: 10:00 am to 01:00 pm**
Subject Name: Pharmaceutical Microbiology **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 one of the following causes Rocky mountain spotted fever?
   a) Rickettsia rickettsii
   b) Rickettsia prowazekii
   c) Rickettsia akari
   d) Rickettsia typhi
3. Exotoxins are metabolic product of_____.
   a) Gram-positive bacteria
   b) Gram-negative bacteria
   c) Fungi
   d) Virus
4. Which microscope has highest resolution?
   a) Scanning electron microscope
   b) Phase contrast microscope
   c) NDIC
   d) Transmission electron microscope
5. Zeihl Neilsen staining is _____.
   a) Counter staining
   b) Simple staining
   c) Differential staining
   d) None of above
6. Saccharomyces cerevesiae requires one of the following vitamins.
   a) Vitamin B_2
   b) Folic acid
   c) Biotin
   d) None of above
7. Which of the test organism is used as biological indicator for filtration sterilization?
   a) Bacillus subtilis
   b) Vibrio percolans
   c) Bacillus pumilus
   d) Closridium sporogenes
8. The main feature of prokaryotic organism is
   a) Absence of locomotion
   b) Absence of nuclear envelope
   c) Absence of nuclear material
   d) Absence of protein synthesis
9. Staining material of gram positive bacterium is
   a) Fast green
   b) Haematoxylon
   c) Crystal violet
   d) Safranin
10. Which of the following is ionizing radiation?
    a) U.V. rays
    b) IR
    c) γ-rays
    d) None of these
11. The order of stains in Gram-staining procedure is
    a) Crystal violet, Iodine solution, Alcohol, Saffranine
    b) Iodine solution, Crystal Violet, Saffranine, Alcohol
    c) Alcohol, Crystal Violet, Iodine solution, Saffranine
    d) All of these
12. Phenol co-efficient indicates
    a) Efficiency of a disinfectant
    b) Dilution of a disinfectant
    c) Purity of a disinfectant
    d) Quantity of a disinfectant
13. Growth period of the culture is
    a) Inoculation
    b) Incubation
    c) Incineration
    d) Isolation

14. The condition required for autoclave
    a) 121° C temp. and 15 lbs. pressure for 10 min.
    b) 120° C temp. and 20 lbs. pressure for 30 min
    c) 150° C temp. for 1 hr
    d) 130° C temp for 2 hr
15. Glassware are usually sterilized by
    a) Autoclaving
    b) Hot air over
    c) Incineration
    d) None of these
16. Gradacol filter consists of
    a) Cellulose nitrate
    b) Nylon
    c) Rayon
    d) Cellulose acetate
17. Shape of bacteriophage is
    a) Brick shape
    b) Bullet shape
    c) Helical shape
    d) Tadpole shape
18. In gaseous disinfection following can be utilized
    a) Calcium hypochlorite
    b) Ethylene oxide
    c) Formaldehyde
    d) b & C
19. In cell wall of gram negative bacteria
    a) Thickness is more
    b Teichoic acids is present
    c) Teichoic acids is absent
    d) None of these
20. In sterilization, the sign 'Z' indicates
    a) Bioburden
    b) Probability of non-sterility
    c) Sterilization process time
    d) Resistance value

Q.2 Long Answer Questions (any 2 out of 3) (10 Mark Each) (20)

1. Write method for microbiological assay of antibiotics.
2. Define Disinfection. Describe dynamics of disinfection. Classify disinfectant and explain in detail disinfection with ethylene oxide.
3. Define Sterilization. Discuss various techniques of sterilization and explain in detail Pasteurization technique.

Q.3 Short Answer Questions (any 7 out of 9) (5 Mark Each) (35)

1. Define Microbiology. Write its scope and applications in pharmacy.
2. Differentiate between Transmission electron microscopy and Scanning electron microscopy
3. Describe in detail bacterial growth curve.
4. Explain in detail Differential staining
5. Describe factors affecting the microbial spoilage of pharmaceutical products.
6. Write a note on virus with its classification.
7. Explain the evaluation of microbial stability of formulations.
8. Draw neat and clean layout of designing of aseptic area with specifications.
9. Describe in detail sterility tests for oil and oily solutions.