



## BRAINWARE UNIVERSITY

Term End Examination 2022  
 Programme – B.Pharm-2020/B.Pharm-2021  
 Course Name – Pharmaceutical Microbiology  
 Course Code - BP303T  
 ( Semester III )

Full Marks : 75

Time : 3:0 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

### Group-A

(Multiple Choice Type Question)

1 x 20=20

1. Choose the correct alternative from the following :

- (i) Phenol co-efficient is used to indicate
- |                                 |                               |
|---------------------------------|-------------------------------|
| a) Efficiency of a disinfectant | b) Dilution of a disinfectant |
| c) Purity of a disinfectant     | d) Quantity of a disinfectant |
- (ii) The cocci which mostly occur in pairs are
- |                 |                  |
|-----------------|------------------|
| a) Streptococci | b) Diplococci    |
| c) Tetracocci   | d) None of these |
- (iii) choose the standard used in sterility testing by filtration?
- |               |                  |
|---------------|------------------|
| a) T pallidum | b) E histolytica |
| c) P diminuta | d) None of these |
- (iv) Identify the non spherical shaped bacteria
- |                          |                          |
|--------------------------|--------------------------|
| a) Diplococcus pneumonia | b) Streptococcus lactis  |
| c) Klebbisella pneumonia | d) Staphylococcus aureus |
- (v) Choose the time in minutes that is needed to kill a population of microbes at a specific temperature
- |                              |                           |
|------------------------------|---------------------------|
| a) D value                   | b) F value                |
| c) thermal death temperature | d) decimal reduction time |
- (vi) Determine the media recommended for sterility testing?
- |                   |                                |
|-------------------|--------------------------------|
| a) Nutrient broth | b) Soybean casein digest broth |
| c) MacConkey agar | d) Sabourin's dextrose agar    |
- (vii) Identify the raw materials which is not used in the preparation of culture media
- |            |                      |
|------------|----------------------|
| a) Agar    | b) Hydrochloric acid |
| c) Peptone | d) Yeast extract     |
- (viii) Indicate the temperature required for sterilization done by autoclave
- |          |          |
|----------|----------|
| a) 120°C | b) 170°C |
|----------|----------|

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- c) 121°C  
d) 116°C
- (ix) Select the antibiotic assayed by turbidimetric method?  
a) Amphotericin B  
b) Bacitracin Zinc  
c) Bleomycin  
d) Chloramphenicol
- (x) Cite the Bacterial chromosomes  
a) Single standard and circular  
b) Double standard and circular  
c) Single standard and linear  
d) Double standard and linear
- (xi) Escherichia coli is used for the assay of  
a) Carbenicillin  
b) Streptomycin  
c) Chloramphenicol  
d) both Streptomycin and Chloramphenicol
- (xii) Recognize the bacteria, which acquire energy from both light and reduced inorganic compound  
a) Photolithotrophs  
b) Photochemotrophs  
c) Photoorganotrophs  
d) Phototrophs
- (xiii) Identify the microbe employed as standard in sterility testing by filtration  
a) T pallidum  
b) E histolytica  
c) P diminuta  
d) None of these
- (xiv) Select the most suitable technique for isolating stringent anaerobes?  
a) Streak-plate technique  
b) Spread-plate technique  
c) Micromanipulation  
d) Roll-tube technique
- (xv) Describe the basic composition of bacterial cell wall  
a) Only protein  
b) Glycoprotein  
c) Only lipid  
d) Peptidoglycan
- (xvi) Identify the culture media required for the cultivation of fastidious micro-organisms?  
a) Non Enrichment media  
b) Selective media  
c) Enriched media  
d) Indicator media
- (xvii) List out the ingredients for Chocolate agar  
a) Mineral salt solution, glycerol, whole egg  
b) Nutrient broth and agar (2-3%)  
c) Nutrient agar and 5-10% sheep blood, horse blood  
d) Peptone water+ agar bile salt 0.5% lactose +1% neutral red
- (xviii) Choose the factors on which activity of a disinfectant depends  
a) Concentration of the substance  
b) Time of action  
c) pH of the medium and temperature suitable for the chemical  
d) All of these
- (xix) Identify the surface appendage of bacteria meant for cell-cell attachment during conjugation is  
a) Pili  
b) Flagella  
c) Spinae  
d) Cilia
- (xx) The ribosome of eukaryotes cell is:  
a) 70S  
b) 80S  
c) 40S  
d) 20S

### Group-B

(Short Answer Type Questions)

5 x 7=35

2. Describe the preservation techniques of isolated pure culture. (5)

OR

Tabulate the advantages and disadvantages of animal cell culture. (5)

3. Differentiate between gram staining and acid fast staining technique. (5)

OR

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- Classify disinfectant according to Drug and Cosmetics Act, 1940. (5)
4. Compare between phase contrast microscopy, dark field microscopy and electron microscopy. (5)
- OR**
- Differentiate between antiseptic and disinfectant. (5)
5. With the help of sketch explain gram staining technique. (5)
- OR**
- Report the different sources of contamination in an aseptic area (5)
6. Write the names of culture medium used for the sterility testing of products and instruments along with their composition. (5)
- OR**
- Express RW co-efficient test of disinfectant mentioning the inference (5)
7. Explain the designing of aseptic area with the help of a sketch. (5)
- OR**
- Write a short note on Bacterial Growth Curve (5)
8. Distinguish between bacteria and fungi. (5)
- OR**
- Explain the microbial assay of antibiotic by cup plate method. (5)

**Group-C**  
(Long Answer Type Questions) 10 x 2=20

9. Explain the typical bacterial growth curve with a proper diagram. (10)
- OR**
- Explain the maintenance and preservation techniques of pure cultures (10)
10. Summarize the different methods of isolation technique for pure culture with the help of diagram (10)
- OR**
- Summarize the procedure of a staining technique with the help of a diagram through which a sample of bacteria can be predicted as gram positive or gram negative. (10)

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