

Total No. of printed pages = 4

BP 303T

Roll No. of candidate

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2023

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B.Pharm. 3rd Semester End-Term (Regular) Examination

PHARMACEUTICAL MICROBIOLOGY

Full Marks – 75

Time – Three hours

The figures in the margin indicate full marks
for the questions.

1. Answer the following questions : (20 × 1 = 20)

- (i) Where does energy production occurs in prokaryotes?
- (a) Mitochondria (b) Endoplamic reticulum
(c) Cytoplasmic reticulum (d) Golgi apparatus
- (ii) General size of bacteria is _____
- (a) 1 μ m (b) 1nm
(c) 1mm (d) 1cm
- (iii) The test applied to the formulated medicine in its final container to determine whether it is adequately protected against microbial spoilage is
- (a) Sham test (b) Preservative efficacy test
(c) LAL Test (d) Antibiotic assay
- (iv) One flagellum at one end of bacterial is called.
- (a) Monotrichous (b) Lopotrichous
(c) Peritrichous (d) Amphitricous
- (v) Spherical shaped bacteria are called
- (a) Sarcinae (b) bacilli
(c) cocci (d) spirillum

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- (vi) Log phase in bacterial growth curve is also known as
- (a) Lag phase (b) Exponential phase
(c) Stationary phase (d) Decline phase
- (vii) Solid media contains _____ % of nutrient agar
- (a) 1.5% to 2.5% (b) 0.2 to 0.5%
(c) 2.5% to 3% (d) none of the above
- (viii) IMViC do not include.
- (a) Methylene blue (b) Methyl red
(c) vogues prosakeur (d) citrate utilization test
- (ix) Mesophiles are able to grow around _____
- (a) 45-75 °C (b) 20-40°C
(c) 0°C (d) 10-15°C
- (x) Which of the following is a differential staining technique
- (a) Simple staining (b) Gram staining
(c) Spore staining (d) Flagella
- (xi) This stain is mainly used for negative staining
- (a) Nigrosin (b) Crystal violet
(c) Methylene Blue (d) ZNCF
- (xii) identify the factors affecting microbial spoilage:
- (a) Redox potential (b) Moisture content
(c) Size of inoculum (d) All of the above
- (xiii) Efficiency of HEPA filter is _____
- (a) 99.97% (b) 88.87%
(c) 90.97% (d) 98.79%
- (xiv) The most suitable pore size for bacterial filtration in membrane filter is _____
- (a) 0.22mm (b) 0.45nm
(c) 0.22µm (d) 8.8µm
- (xv) The value that shows time to kill 90% of micro organisms present in a food sample is called _____
- (a) F value (b) T value
(c) D value (d) Z value

(xvi) Red heat is used for sterilization of _____

- (a) Glass slide
- (b) Glass syringe
- (c) Surgical dressing
- (d) Nichrome wireloop

(xvii) Browne's tubes are most commonly used indicator for _____

- (a) Heat process sterilization
- (b) Filtration sterilization
- (c) Ethylene oxide sterilization
- (d) Radiation sterilization

(xviii) In LAL test, the LAL reagent is prepared by lysing amoebocyte blood cells obtained from American horseshoe crab

- (a) *Limulus Polyphemus*
- (b) *Zalophus californianus*
- (c) *Balaenoptera musculus*
- (d) *Balaena mysticeus*

(xix) Which method is used for preservation of bacterial culture

- (a) Sterile soil
- (b) Lyophilization
- (c) Mineral oil
- (d) All of above

(xx) Phenol coefficient test indicates

- (a) Quantity
- (b) Purity
- (c) Activity
- (d) Efficiency

2. Answer any *Seven* questions:

(7 × 5 = 35)

- (a) Explain the different methods used for isolation of pure cultures.
- (b) Discuss bacterial growth curve
- (c) Briefly explain IMViC techniques.
- (d) Enlist the sources of contamination in a aseptic area
- (e) Explain the different tests used for the detection of microbial contamination in aseptic area.
- (f) Briefly explain the techniques used for evaluation of disinfectants.
- (g) Explain the different sterility indicators.
- (h) Explain in brief the assay methods used for microbial assay of antibiotics.
- (i) Write a note on application of cell culture.

3. Answer any two of the following questions: (2 × 10 = 20)
- (a) Enlist the nutritional requirement for the growth of bacteria. Briefly explain the different types of culture media. (3+7)
 - (b) Classify Disinfectants. Briefly explain the factors affecting disinfectant action. (5+5)
 - (c) Define Sterilization. List the different methods used for sterilization with suitable examples. (2+8)
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