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2021

**B.Pharm. 3<sup>rd</sup> Semester End-Term Examination**

**Pharmacy**

**PHARMACEUTICAL MICROBIOLOGY**

**(New Regulation)**

Full Marks – 75

Time – Three hours

1. Answer the following: (MCQ) (20 × 1 = 20)
- (i) The most important characteristic of Hanging drop preparation is to reveal-
    - (a) Size of Microorganisms.
    - (b) Size of Microorganisms.
    - (c) Arrangement of Microorganisms
    - (d) Motility of Microorganism
  - (ii) The spherical shaped bacteria are called as-
    - (a) Bacilli
    - (b) Cocci
    - (c) Sarcinae
    - (d) Spirillum
  - (iii) Peritrichous means-
    - (a) One flagella at one end
    - (b) Bunch of flagella at one end
    - (c) Flagella all over the body
    - (d) Absent of flagella
  - (iv) The monosaccharides of peptidoglycan layer are-
    - (a) N-acetylmuramic acid
    - (b) N-acetylglucosamine
    - (c) Lipopolysaccharide
    - (d) Both (a) and (b)
  - (v) The exponential growth of bacterial cells are observed in-
    - (a) Lag Phase
    - (b) Log Phase
    - (c) Stationary Phase
    - (d) Decline Phase
  - (vi) Mention the generation time for Mycobacterium Tuberculosis.
    - (a) 18 hours
    - (b) 33 hours
    - (c) 20 mins
    - (d) 30 mins

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- (vii) The lowest temperature at which a microbial suspension is killed in 10 minutes is called as-
- (a) Thermal death time                      (b) Thermal death point  
(c) D value                                      (d) Z Value
- (viii) Dairy products are sterilized by-
- (a) Pasteurization                              (b) Tyndalization  
(c) Radiation                                      (d) Moist heat Sterilization
- (ix) Acid fast staining method is used to identify-
- (a) Staphylococcus bacteria                  (b) Mycobacterium Sp.  
(c) Niessleria sp.                                (d) Fungi
- (x) Staining technique that separate bacteria into different groups is called as-
- (a) Simple Staining                              (b) Differential Staining  
(c) Flagella Staining                              (d) Capsule staining
- (xi) Which of the following is used as biological indicator of autoclave?
- (a) *Bacillus Stereothermophilus*  
(b) *Bacillus subtilis*  
(c) *Bacillus Pumilis*  
(d) None of the above
- (xii) Reagent used in Indole production test is-
- (a) Hydrogen peroxide                              (b) Kovac's reagent  
(c) Methyl red                                      (d) Methylene Blue
- (xiii) IMViC do not include-
- (a) Methyl red test                                (b) Methylene blue test  
(c) Vogues proskaur test                              (d) Citrate utilization test.
- (xiv) The word Mykes or Myces means-
- (a) Algae    (b) Fungi  
(c) Virus    (d) Bacteria
- (xv) Virion is-
- (a) Complete virus particle                              (b) Class of Virus  
(c) Chromosomes of virus                              (d) None of the above.
- (xvi) MIC stands for-
- (a) Minimum Inhibitory concentration  
(b) Maximum Inhibitory concentration  
(c) Minimum Inhibitory centre  
(d) Maximum Inhibitory centre

- (xvii) The mode of action of preservative is/are-
- Denaturation of cellular protein and enzymes
  - Oxidation of cellular constituents
  - Hydrolysis
  - All of the above
- (xviii) During Preservative efficacy test, the Viable count is determined after \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_ day.
- 1, 2 and 3 days
  - 5, 10 and 15 days
  - 7, 14 and 28 days
  - 1, 10 and 30 days
- (xxi) The function of Gram's Iodine in Gram staining technique is -
- Acts as a primary stain
  - Acts as secondary stain
  - Acts a Mordant
  - Acts as a decolorizing agent
- (xx) The father of antiseptic surgery is-
- Paul Elrich
  - Joseph Lister
  - Louis Pasteur
  - Spallanzani

2. Answer any *seven* questions (7 × 5 = 35)

- Classify bacteria on the basis of morphology and explain each group with diagram.
- Explain briefly about Rideal walker test.
- Write note on Gram staining and acid fast staining technique.
- How viruses are cultivated? Elaborate it.
- Discuss the methods used for evaluation of bacteriostatic activity of disinfectants.
- Write the differences between bacteria and fungi. Discuss about the asexual reproduction of Fungi. (2 + 3 = 5)
- Discuss about Microbiological assay of antibiotics.
- What is an antimicrobial preservatives? What are the properties of an ideal preservatives? Explain. (2 + 3 = 5)
- What is cell culture? Explain the important application of cell culture. (1 + 4 = 5)

3. Answer any *two* questions (2 × 10 = 20)
- (a) What do you mean by sterilization? Explain different methods of sterilization. (2 + 8 = 10)
- (b) What is aseptic condition? Write a note on different types of Laminar airflow equipments. Discuss the designing of aseptic area. (2 + 4 + 4 = 10)
- (c) Explain the morphology and multiplication of virus with labelled diagram
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