



RAN - 2103001103030005



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**B. Sc. (Microbiology) (A.T.K.T.) (Sem. - III) Examination**

**March - 2023**

**Microbiology : MB302**

**Control of Microorganisms in the Environment**

**[ Total Marks: 50**

**સૂચના : / Instructions**

(1)

નીચે દર્શાવેલ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.  
**Fill up strictly the details of signs on your answer book**

Name of the Examination:

**B. Sc. (Microbiology) (A.T.K.T.) (Sem. - III)**

Name of the Subject :

**Microbiology : MB302 Control of Microorganisms in the Environment**

Subject Code No.: **2103001103030005**

Seat No.:

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Student's Signature

- (2) This exam contains 50 multiple choice questions, each worth 1 mark.  
(3) All questions are compulsory.

***O.M.R. Sheet ભરવા અંગેની અગત્યની સૂચનાઓ આપેલ  
O.M.R. Sheetની પાછળ છાપેલ છે.***

***Important instructions to fillup O.M.R. Sheet  
are given on back side of the provided O.M.R. Sheet.***

SET - I

- Q. 1. Aldehydes exert their antimicrobial activity by  
A. Oxidation of lipids                      B. Oxidation of proteins  
C. Oxidation of carbohydrates            D. Alkylation of DNA
- Q. 2. Phenol exerts its antimicrobial effect by  
A. Denaturing proteins and disrupting cell membrane  
B. Disrupting cell wall  
C. Oxidizing lipids  
D. Denaturing DNA
- Q. 3. \_\_\_\_\_ is frequently used to evaluate the effectiveness of antimicrobial agents.  
A. Phenol concentration test              B. Phenol coefficient test  
C. Alcohol coefficient test                D. Alcohol concentration test
- Q. 4. Which of the following is not effective on spores?  
A. Steam under pressure                  B. Glutaraldehyde  
C. Alcohol                                      D. Ethylene oxide
- Q. 5. Crystal violet dye is included in MacConkey's agar medium to inhibit the growth of \_\_\_\_\_.  
A. Gram negative bacteria                B. Gram positive bacteria  
C. Capsulated bacteria                    D. Acid-fast bacteria
- Q. 6. Detergents are considered as  
A. Low level germicides                  B. High level germicides  
C. Antiseptics                                D. Sterilants
- Q. 7. Which of the following is often referred as household bleach?  
A. Sodium chloride                        B. Sodium carbonate  
C. Sodium hypochlorite                 D. Sodium bicarbonate
- Q. 8. SDS is a  
A. Cationic detergent                      B. Anionic detergent  
C. Neutral detergent                        D. SDS is not a detergent
- Q. 9. Hydrogen peroxide inhibits the growth of bacteria by  
A. Generating ROS  
B. Denaturing cell wall  
C. Solubilizing cell membrane lipids  
D. Creating pores in cell membrane

- Q. 10.** Among the following which is the most effective method of killing microorganisms?
- A. High temperature
  - B. Low temperature
  - C. High temperature, high moisture
  - D. Low temperature, low moisture
- Q. 11.** Which of the following instrument uses steam under pressure to sterilize the material?
- A. Hot Air Oven
  - B. Autoclave
  - C. Water bath
  - D. UV cabinet
- Q. 12.** \_\_\_\_\_ is the killing, inhibition, or removal of microorganisms that may cause disease; and it causes substantial reduction of the total microbial population and the destruction of potential pathogens.
- A. Sterilization
  - B. Disinfection
  - C. Sanitization
  - D. Antisepsis
- Q. 13.** Use of chemical agents to kill or inhibit the growth of microorganisms within host tissue is referred as \_\_\_\_\_.
- A. Chemotherapy
  - B. Radiotherapy
  - C. Immunotherapy
  - D. Surgery
- Q. 14.** Gaseous chemical agents can be used for
- A. Sterilization only
  - B. Disinfection only
  - C. Chemotherapy
  - D. Sterilization & disinfection
- Q. 15.** Which of the following method involves the complete removal or destruction of all viable microorganisms including spores?
- A. Antisepsis
  - B. Disinfection
  - C. Sterilization
  - D. Sanitization
- Q. 16.** Which of the following are the physical agents used for sterilization?
- A. Dry heat
  - B. Ionizing radiations
  - C. Moist heat
  - D. All of these
- Q. 17.** Which of the following is based on mechanical method for microbial control?
- A. Ethylene Oxide
  - B. Membrane Filters
  - C. Phenolics
  - D. Glutaraldehyde



- Q. 26.** Which of the following is most resistant to destruction by chemicals and heat?  
A. Fungal spores  
B. Bacterial endospores  
C. *E. coli*  
D. *M. tuberculosis*
- Q. 27.** Unlike a disinfectant, an antiseptic  
A. Sanitizes objects rather than sterilizes them.  
B. Requires heat to be effective  
C. Is non-toxic enough to be used on human skin.  
D. Destroys all microorganisms.
- Q. 28.** HEPA stands for  
A. High Efficiency Particulate Air  
B. High Efficiency Provisional Air  
C. Highly Efficient Particulate Agent  
D. Highly Effective Particle Agent
- Q. 29.** What is the pore size of HEPA filter?  
A. 0.50  $\mu\text{m}$   
B. 0.45  $\mu\text{m}$   
C. 0.33  $\mu\text{m}$   
D. 1  $\mu\text{m}$
- Q. 30.** Depth filters are generally used for filtration of  
A. Blood  
B. Water  
C. Media  
D. Air
- Q. 31.** Cold sterilization refers to the use of \_\_\_\_\_ for sterilization.  
A. Hot air  
B. Steam under pressure  
C. Radiations  
D. Phenolics
- Q. 32.** Which of the following is not used to preserve food?  
A. High concentrations of sugar.  
B. High concentrations of salt.  
C. Benzoic acid.  
D. Ethylene oxide.
- Q. 33.** Which of the following includes intermittent heat sterilization?  
A. Pasteurization  
B. Tyndallization  
C. Autoclaving  
D. Hot Air sterilization
- Q. 34.** Gamma rays for sterilization is obtained from a \_\_\_\_\_ based light source.  
A. Cobalt 60  
B. Mercury  
C. Tungsten  
D. Deuterium



- Q. 44.** Least concentration of an antimicrobial agent that inhibits the visible growth of test bacterium is called as \_\_\_\_\_.
- A. Minimum Inhibitory Concentration
  - B. Minimum Lethal Concentration
  - C. Growth Inhibitory Concentration
  - D. Maximum Inhibitory Concentration
- Q. 45.** Plasmolysis is
- A. Shrinkage of cells when placed in hypotonic solution
  - B. Shrinkage of cells when placed in hypertonic solution
  - C. Swelling of cells when placed in hypotonic solution
  - D. Swelling of cells when placed in hypertonic solution
- Q. 46.** The presence of \_\_\_\_\_ can dramatically affect the effectiveness of antimicrobial agent.
- A. Single cell
  - B. Biofilm
  - C. Capsid
  - D. Cell wall
- Q. 47.** In \_\_\_\_\_, iodine is linked to a carrier molecule that releases free iodine slowly.
- A. Chromophore
  - B. Chlorophore
  - C. Iodophore
  - D. Fluorophore
- Q. 48.** \_\_\_\_\_ is used to decontaminate enclosed spaces such as safety cabinets and small rooms.
- A. Hydrogen peroxide
  - B. Vaporized hydrogen peroxide
  - C. Glutaraldehyde
  - D. Ethylene oxide
- Q. 49.** Which of the following can be used for disinfection of drinking water?
- A. Oxygen
  - B. Ozone
  - C. Hydrogen peroxide
  - D. Formaldehyde
- Q. 50.** Heavy metals mostly react with \_\_\_\_\_ groups of proteins to denature them.
- A. Amino groups
  - B. Sulfhydryl groups
  - C. Alkyl group
  - D. Carboxyl group
- \_\_\_\_\_

**SPACE FOR ROUGH WORK**