



MDD-4267 Seat No. _____

B. Sc. (Sem. I) Examination

November / December - 2018

Microbiology : MB - 01

(Fundamentals of Microbiology)

(Core Compulsory)

Time : 3 Hours]

[Total Marks : 70

- 1 (a) Choose the correct option :
- (1) Organisms cannot be seen by naked eye and are of microscopic size are known as
(A) Microbiology
(B) Microorganisms
(C) Zoology
(D) Animals
 - (2) Father of microbiology is _____
(A) Louis Pasteur
(B) Aristotle
(C) Dmitri Iwanosky
(D) Antony van Leeuwenhoek
 - (3) Who is the pioneer of cultivation techniques ?
(A) Robert Koch
(B) Louis Pasteur
(C) Antony van Leeuwenhoek
(D) Aristotle
 - (4) Phycology is stated as
(A) Study of fungi
(B) Study of protozoa
(C) Study of Virus
(D) Study of algae

- (5) Small pox vaccine was first discovered by
(A) Robert Koch
(B) Louis Pasteur
(C) Lister
(D) Edward Jenner
- (6) Infectious RNA particles without protein coat
(A) Viroid
(B) Virion
(C) Virusoid
(D) Prion
- (7) Infrared radiation is a method of sterilization by
(A) Dry heat
(B) Moist heat
(C) Chemical method
(D) Mechanical method
- (8) From the following which one is the sterilizing agent ?
(A) Ethelene oxide
(B) Oxygen
(C) Nitrogen
(D) Carbon tetrachloride
- (9) To kill all forms of life is known as _____
(A) Sterilization
(B) Incubation
(C) Inoculation
(D) Preservation
- (10) Which of the following is ionizing radiation ?
(A) U.V. rays
(B) IR
(C) γ -rays
(D) None of these

- (11) Which instrument is used for sterilization ?
 (A) Incubator
 (B) Autoclave
 (C) Shaker
 (D) pH meter
- (12) The condition required for autoclave
 (A) 121°C temp and 15 lbs pressure for 20 min.
 (B) 120°C and 20 lbs pressure for 30 min.
 (C) 150°C temp. for 1 hour
 (D) 130°C temp for 2 hours.
- (13) Oil-immersion lens was developed by _____
 (A) Ernst Karl Abbe
 (B) Ronald Ross
 (C) Charles Nicolle
 (D) Masaki Ogata
- (14) Bacterial cell wall is made up of
 (A) Chitin
 (B) Cellulose
 (C) Dextran
 (D) Peptidoglycan
- (15) Gram staining was developed by
 (A) French Microbiologist Louis Pasteur
 (B) Dutch lens maker Leeuwenhoek
 (C) Danish Physician Christian Gram
 (D) Dutch Physician Christian Gram
- (16) Counter stain used in Gram staining is
 (A) Safranin
 (B) Crystal violet
 (C) Carbol-fuschin
 (D) Acetocarmine

- (17) Periodic transfer is technique of
 (A) Isolation
 (B) Cultivation
 (C) Preservation
 (D) None of above
- (18) From the following which one is not used as a solidify agent ?
 (A) Agar-agar
 (B) Gelatin
 (C) Silicagel
 (D) Starch powder
- (19) Which device is used to grow bacteria ?
 (A) Incubator
 (B) Autoclave
 (C) Fridge
 (D) Micromanipulator
- (20) Lichens are the symbiotic association between
 (A) Algae and Yeast
 (B) Algae and fungi
 (C) Fungi and fish
 (D) Fungi and root
- (21) Formalin is _____ disinfectant.
 (A) Solid
 (B) Liquid
 (C) Gaseous
 (D) Semisolid
- (22) _____ can sterilize only surface.
 (A) UV light
 (B) X-rays
 (C) Gamma rays
 (D) Cathode rays

- (23) _____ is known as cold sterilization.
- (A) Pasteurization
 - (B) Radiation
 - (C) Filtration
 - (D) Tyndallization
- (24) A gelatinous covering polysaccharide material surrounding to microorganism is called
- (A) Cell wall
 - (B) Capsule
 - (C) Spore
 - (D) Sheath
- (25) _____ is used in fluorescence microscope.
- (A) Tungsten lamps
 - (B) Mercury vapor lamp
 - (C) Halogen lamp
 - (D) Sodium vapor lamp
- (26) Best method for getting pure culture is
- (A) Streak-plate
 - (B) Agar slant
 - (C) Both (A) and (B)
 - (D) None of these
- (27) From the following which one is the liquid medium ?
- (A) Nutrient Agar
 - (B) Nutrient Broth
 - (C) Both (A) and (B)
 - (D) None of these

- (28) A thin film of suspension or specimen on the slide is called
- (A) Smear
 - (B) Stain
 - (C) Mordent
 - (D) fixing
- (29) Which of the following is not a preservation technique ?
- (A) Lyophilization
 - (B) Deep freezing
 - (C) Liquid nitrogen
 - (D) Enrichment
- (30) _____ dye is added to media to kill gram positive bacteria.
- (A) Crystal violet
 - (B) Phenol red
 - (C) Methyl red
 - (D) Safranin
- (31) Which of the following toxic or inhibitory chemical is used to make the medium selective ?
- (A) Bile salts
 - (B) Antibiotics
 - (C) Dyes
 - (D) All of the above
- (32) In Gram staining iodine is used as a
- (A) Fixative
 - (B) Mordant
 - (C) Solubilizer
 - (D) Stain

- (33) ATCC means _____
- (A) American Type Culture Collection
 - (B) American Typical Culture Collection
 - (C) American Type Colony Collection
 - (D) American Type Consortium Collection

- (34) MTCC means _____
- (A) Microbial Type Culture Collection
 - (B) Microbial Typical Culture Collection
 - (C) Microbial Type Colony Collection
 - (D) Microbial Type Consortium Collection

- (35) An entry of unwanted microorganism in medium is called
- (A) Invasion
 - (B) Contamination
 - (C) Pollution
 - (D) Mixing

- 3 Answer any three questions from following :
- (1) Contribution of scientist : Edward Jenner, Robert Koch, Paul Ehrlich
 - (2) Give the mode of action : Alcohol, Gamma rays
 - (3) TEM
 - (4) Lyophilization
 - (5) Hot air oven
- 4 Write a detailed note on the following : (any three)
- (1) Golden era of microbiology.
 - (2) Autoclave
 - (3) Compound Microscope
 - (4) Enlist methods for pure culture techniques and explain any one of them
 - (5) Enlist staining techniques and explain any one of them.

- 2 (a) Answer any four questions from following : 8
- (1) Enlist reagents used in Gram staining.
 - (2) Define Stain and sterilization.
 - (3) Enlist scientist involved in Abiogenesis
 - (4) Write any one application of the Laminar Air Flow and Incubator
 - (5) Define preservation and enlist methods used for preservation.
 - (6) Write importance of Agricultural microbiology.