



BRAINWARE UNIVERSITY

Term End Examination 2021 - 22

Programme – Bachelor of Science in Medical Lab Technology

Course Name – General Pathology And Microbiology

Course Code - BMLT203

(Semester II)

Time allotted : 1 Hrs.15 Min.

Full Marks : 60

[The figure in the margin indicates full marks.]

Group-A

(Multiple Choice Type Question)

1 x 60=60

Choose the correct alternative from the following :

- (1) Which of the following statement is true regarding Gram (+) bacteria

a) Cell wall has a thick peptidoglycan layer	b) Lipid is absent or less
c) Polysaccharide is present	d) All of these
- (2) In Gram staining, Iodine is used as

a) Fixative	b) Mordant
c) Stain	d) Solubilizer
- (3) Bacillus is a genus of bacteria that also refers to what cell shape?

a) Spherical	b) Sarcina
c) Comma	d) Rod
- (4) The ability of bacteria to change their morphological form frequently is referred to as

a) Lysogeny	b) Pleomorphism
c) Alteromorphism	d) None of these
- (5) Bacterial flagella is made up of

a) Chitin	b) Tubulin
c) Microtubule	d) Flagellin
- (6) Generation time of Escherichia coli is

a) 20 h	b) 20 min
c) 60 min	d) 1 day
- (7) The organism which grows best above 45°C are called

a) Psychrophilic	b) Mesophilic
c) Thermophilic	d) All of these
- (8) Phase of bacterial growth in which bacterial parent cell does not divide but metabolic activity is vigorous, named as

a) Log phase	b) Lag phase
c) Stationary phase	d) Death phase
- (9) In the growth equation: $n = 3.3 (\log_{10}N - \log_{10}N_0)$, n stands for _____

- a) Total population
c) Number of generations
- b) Initial population
d) Growth constant
- (10) Lag phase is also known as _____
a) Period of initial adjustment
c) generation time
- b) transitional period
d) period of rapid growth
- (11) The organism which grows best at 37°C are called
a) Psychrophilic
c) Thermophilic
- b) Mesophilic
d) None of these
- (12) If I start with one bacterium (generation 0), how many bacteria would I have by generation 4 produced by binary fission?
a) 4
c) 16
- b) 8
d) 32
- (13) Which of the staining technique helps in demonstrating spore structure in bacteria as well as free spores?
a) Acid-fast stain
c) Capsule stain
- b) Flagella stain
d) Endospore stain
- (14) Which of the following method can be used to determine the number of bacteria quantitatively?
a) Streak-plate
c) All of these
- b) Spread-plate
d) None of these
- (15) Nichrome loop is used in which of the following techniques?
a) Streak-plate
c) Roll-tube technique
- b) Spread-plate
d) Pour-plate
- (16) A visible cluster of cells that have arisen from one parent cell growing on the surface of a growth medium is called a:
a) Inoculum
c) Coccus
- b) Colony
d) Bacterium
- (17) Sterilization is done by autoclave, consisting exposure to steam, about
a) 100°
c) 220°
- b) 170°
d) 121°
- (18) Tyndallization is a type of
a) Intermittent sterilization
c) Pasteurization
- b) Boiling
d) Autoclaving
- (19) Example of dry heat sterilization
a) Flaming
c) Incineration
- b) Hot air oven
d) All of these
- (20) Device that uses steam to sterilize equipment and other objects
a) Autoclave
c) All of these
- b) Hot air oven
d) None of these
- (21) Example of surface active agent
a) Detergent
c) All of these
- b) Wetting agent
d) None of these
- (22) ___ used for fumigation in OT. Sterilizing instrument
a) Formaldehyde
c) Halogen
- b) Phenol
d) None of these
- (23) Sterilization is making a substance free from all microorganisms
a) Both in vegetative and sporing state
c) Only in sporing state
- b) Only in vegetative state
d) None of these

- (24) Fastidious bacteria grows on
- Enriched media
 - Enrichment media
 - Selective media
 - Defined media
- (25) Outcome of acute inflammation
- Severity of tissue damage
 - Type of agent that caused tissue damage
 - Regeneration
 - All of these
- (26) The process by which living tissues react to injury is called
- Inflammation
 - Repair
 - Regeneration
 - None of these
- (27) When the inflammation process is prolonged then it is called
- Subacute
 - Chronic
 - All of these
 - None of these
- (28) Resolving power of a microscope is a function of _____
- Numerical aperture of lens system
 - Wavelength of light used
 - Refractive index
 - Both wavelength of light used and numerical aperture of lens system
- (29) In fluorescence microscopy, which of the following performs the function of removing all light except the blue light?
- Exciter filter
 - Barrier filter
 - Dichroic mirror
 - Mercury arc lamp
- (30) In light microscopy, which of the following is used as fixatives prior to staining technique?
- Osmic acid
 - Glutaraldehyde
 - Heat
 - Osmic acid, glutaraldehyde, heat
- (31) Oil immersion objective lens has an NA value of _____
- 1.33
 - 0.85
 - 1
 - 0.65
- (32) Which part of the compound microscope helps in gathering & focusing light rays on the specimen to be viewed?
- Eyepiece lens
 - Objective lens
 - Condenser lens
 - Magnifying lens
- (33) In Phase contrast microscopy, the rate at which light enters through objects is _____
- Constant
 - Inversely proportional to their refractive indices
 - Directly proportional to their refractive indices
 - Exponentially related to their refractive indices
- (34) The transmission electron microscope has the greatest resolving power because it uses an electron beam to view the sample instead of a light beam. The electron beam is used because
- Electrons have longer wavelengths than light waves
 - Electrons do not penetrate the sample
 - Electrons have shorter wavelengths than light waves
 - Electrons are less invasive.
- (35) The total magnification of a microscope is calculated by:
- Multiplication of the objective lens and ocular lens magnification powers
 - Addition of the objective lens and ocular lens magnification powers
 - Multiplication of the objective lens and condenser lens magnification powers
 - The objective lens power squared
- (36) Programmed cell death is termed as _____
- Apoptosis
 - Cell cycle
 - Oxidative stress
 - Cell division
- (37) Colliquative necrosis means

- a) Coagulative necrosis
c) Fat Necrosis
- b) Liquefactive necrosis
d) Fibroid necrosis
- (38) Pathology is
- a) The study of human brain
c) The study of blood
- b) The study of bones
d) The study of disease
- (39) Which of the following require chocolate agar to grow?
- a) Salmonella
c) Proteus
- b) E.coli
d) Neisseria
- (40) Simple media is known as:
- a) Enriched media
c) Differential media
- b) Basal media
d) Defined media
- (41) Bacteria can be visible under
- a) Dark-field microscope
c) Fluorescence microscope
- b) Electron microscope
d) All of these
- (42) Bacteria are:
- a) Prokaryotic
c) Eukaryotic
- b) Eukaryotic
d) None of these
- (43) Capsule staining is an example of
- a) Gram stain
c) Acid-fast stain
- b) Differential stain
d) Negative stain
- (44) Father of Microbiology:
- a) Robert Koch
c) Antony van Leeuwenhoek
- b) Joseph Lister
d) Paul Ehrlich
- (45) Chocolate agar contains:
- a) bovine haemoglobin
c) colistin
- b) vancomycin
d) nystatin
- (46) Identify the obligate anaerobes
- a) Salmonella
c) Cl. Tetani
- b) Vibrio cholera
d) Sarcinae
- (47) Non-lactose fermenting colonies seen on MacConkey's medium are
- a) Salmonella typhi
c) Klebsiella pneumoniae
- b) Escherichia coli
d) Shigella shigae
- (48) Father of microbiology
- a) Alexander Fleming
c) Louis Pasteur
- b) Leeuwenhoek
d) Robert Koch
- (49) Example of eukaryotic microorganism is
- a) E.coli
c) Thermophilus aquaticus
- b) Saccharomyces cerevisiae
d) Both option 2 and 3
- (50) Gram positive bacteria contain
- a) Peptidoglycan
c) Polysaccharide O Antigen
- b) Teichoic acids
d) Both option 1 and 2
- (51) Name of the acid fast bacteria is
- a) E.coli
c) Mycobacterium tuberculosis
- b) Staphylococcus aureus
d) Candida albicans
- (52) Ethylene Oxide is
- a) physical sterilant
c) gas vapor sterilant
- b) chemical sterilant
d) liquid sterilant

- (53) Halophilic bacteria can grow if
- a) salt concentration is low
 - b) pH is neutral
 - c) salt concentration is high
 - d) oxygen is not present
- (54) pyrimidine dimer is formed by
- a) UV ray exposure
 - b) cathode radiation
 - c) X ray radiation
 - d) steam under pressure
- (55) Basic dye is used for bacterial cell staining purpose because
- a) cell wall components is negative in charge
 - b) cell wall component is neutral in charge
 - c) cell wall component is positive in charge
 - d) basic dye contain iodine as mordent
- (56) Escherichia coli is
- a) vibrioid
 - b) monobacilli
 - c) streptococcus
 - d) helical
- (57) A student wish to study the effect of of an antimicrobial agent that inhibit peptidoglycan synthesi s of bacterial cell wall. In which phase of the growth curve should he/she observe the maximum effect of the antimicrobial agent
- a) Lag phase
 - b) Death phase
 - c) Both log and lag phase
 - d) None of these
- (58) Phenol is antimicrobial because
- a) it can disrupt cell membrane structure
 - b) it can prevent replication process
 - c) it can damage DNA strand
 - d) it can absorb water from cell
- (59) Microaerophilic bacteria requires
- a) 50% of oxygen
 - b) 21% oxygen
 - c) does not require oxygen for growth
 - d) 5% oxygen
- (60) Bacteriostatic agents
- a) kill the bacteria
 - b) kill only pathogenic bacteria
 - c) kill bacterial spore only
 - d) prevent the growth of bacteria