

**SECTION 1 - SECTION 1**

**Question No.1**

Which Immunoglobulin can cross the placenta?

- IgG
- IgA
- IgD
- IgE

**Question No.2**

Which part of the compound microscope helps in gathering and focusing light rays on the specimen to be viewed?

- Condenser lens
- Eyepiece lens
- Objective lens
- Magnifying lens

**Question No.3**

Which of the following is used as a solidifying agent for media?

- Agar
- Beef extract
- Peptone
- Yeast extract

**Question No.4**

Elek's gel diffusion test is used for the detection of:

- Tetani toxin
- Cholera toxin
- Diphtheria toxin
- Toxoid

**Question No.5**

Rhizopus stolonifer belongs to which class?

- Ascomycetes
- Acrasiomycetes
- Zygomycetes
- Deuteromycetes

**Question No.6**

The mature zygospore lies dormant for how many days?

- 1 year
- 20 days
- 4-5 days
- 1-3 months

**Question No.7**

Who invented Penicillin?

- George Orwell
- Thomas Edison
- Marie Curie
- Alexandra Fleming

**Question No.8**

Which animals may suffer from foot and mouth disease?

- Cattle
- Cattle, Sheep and pigs
- Cattle and Sheep
- Cattle and Pigs

**Question No.9**

The outer membrane of the Gram-negative cell wall is anchored to the underlying peptidoglycan by means of which of the following?

- Braun's Lipoprotein
- Proteins
- Phospholipids
- Lipopolysaccharide

**Question No.10**

Spectroscopy deals with interaction of electromagnetic radiation with matter. What is the speed of this radiation in vacuum in m/s?

- $3 \times 10^8$
- $5 \times 10^8$
- $7 \times 10^8$
- $6 \times 10^8$

**Question No.11**

"The microorganism must be capable of being isolated and grown in pure culture" one of \_\_\_\_\_

- Flemming's postulates
- Koch's postulates
- Alexander's postulates
- Pasteur's postulates

**Question No.12**

The phase which the cells will need time to synthesise the necessary enzymes for its metabolism

- Log phase
- Death phase
- Lag phase
- Stationary phase

**Question No.13**

The isolation of gonorrhoea-causing organism, *Neisseria gonorrhoeae* by the use of certain antibiotics in media is an example of which of the following?

- Enriched media
- Assay media
- Differential media
- Selective media

**Question No.14**

Which of the following is a macronutrient?

- Zinc
- Copper
- Oxygen
- Iron

**Question No.15**

Bayer's junctions are sites which help in joining which of the following?

- peptidoglycan layer and cytoplasmic membrane
- outer membrane and capsule
- cytoplasmic membrane and outer membrane
- cytoplasmic membrane and periplasmic space

**Question No.16**

The type of filter used in the Laminar air flow biological cabinet is:-

- High Efficiency Particulate Air filter
- High Efficiency Physiological Air filter
- High Efficiency Physical Air filter
- High Efficiency Primary Air filter

**Question No.17**

What are ribosomes composed of?

- Proteins
- Proteins and RNA
- RNA
- DNA

**Question No.18**

Which of the following intermediates of TCA cycle act as amino acid precursors?

- citric acid
- oxaloacetic acid
- acetyl CoA
- succinic acid

**Question No.19**

The correct order of taxonomic groups from higher to lower rank is?

- Kingdom—Order—Class—Family
- Kingdom—Division—Class—Order—Family—Genus—Species
- Kingdom—Order—Division—Family—Class—Genus—Species
- Order—Class—Division—Family—Genus—Species

**Question No.20**

What cannot be a reason for using electrophoresis?

- Organizing DNA by shape of backbone
- Organizing DNA fragments from largest to smallest
- Comparing two sets of DNA
- Organizing DNA in order we can see

**Question No.21**

Which stain is used during Transmission Electron Microscopy?

- Uranyl acetate
- Giemsa stain
- Magnifying lens
- Cotton blue

**Question No.22**

Anoxygenic photosynthesis found in :

- Green bacteria
- Cyanobacteria
- Green plant
- Algae

**Question No.23**

DNA gyrase is a \_\_\_\_\_ protein.

- helix-unwinding
- helix-winding
- helix-destabilizing
- helix-relaxing

**Question No.24**

Which of the following is not covered under Intellectual Property Rights?

- Trade Marks
- Thesaurus
- Copyrights
- Patents

**Question No.25**

SDS PAGE separates proteins by:

- size and native charge
- native charge only
- Zwitter ions
- size only

**Question No.26**

Which of the following is the relationship between optical density and cell mass?

- linearly proportional
- not related

- exponentially proportional
- inversely proportional

**Question No.27**

Which of the following method is used for enumeration of bacteria in vaccines and cultures?

- Dry weight determination
- Plate count
- Microscopic Count
- Membrane filter

**Question No.28**

Microorganisms need molecular oxygen in low concentrate called

- Aerotolerant anaerobes
- Obligate anaerobes
- Microaerophiles
- Facultative anaerobes

**Question No.29**

Select the odd one out.

- Bacterial artificial Chromosome
- Glycogen
- Plasmid
- Cosmid

**Question No.30**

In the growth curve of plaque-forming units, the time from infection until lysis is known as

- \_\_\_\_\_
- eclipse period
  - latent period
  - rise period
  - burst period

**Question No.31**

Which of the following is an example of a monosaccharide?

- Cellulose
- Chitin
- Starch
- Glucose

**Question No.32**

The term used to describe reactions that break down large molecules, usually coupled to a release of energy.

- Parabolism
- Metabolism
- Catabolism
- Anabolism

**Question No.33**

What does a viral DNA become after being associated with the bacterial chromosome?

- plaque
- plasmid
- prophage
- gene

**Question No.34**

The branch of science concerned with classification, especially of organisms

- Mycology
- Taxonomy
- Ecology
- Biology

**Question No.35**

Rancidity in spoiled foods is due to

- Lipolytic organisms
- Saccharolytic microbes
- Toxigenic microbes
- Proteolytic organisms

**Question No.36**

Which among these is not found in bacteria?

- Flagella
- Cilia
- Muscles
- Fimbriae

**Question No.37**

A term that describes an organism that feeds on dead and decay inorganic materials.

- Saprobe
- Phyton
- Phyla
- Saprophyte

**Question No.38**

Malaria is caused by the infection of:-

- Fungus
- Virus
- Bacterium
- Protozoan

**Question No.39**

A term is used to describe procedures performed outside of the living organism

- In viva
- In vitro

- In vivo
- In vitro

**Question No.40**

For the purpose of storage of bacteria which among the following cannot be used?

- Soil
- Water
- 70% Glycerol
- Solidified medium

**Question No.41**

Which of the following is the most immunogenic in typhoid?

- Vi antigen
- O antigen
- Somatic antigen
- H antigen

**Question No.42**

% Similarity (%S) of each strain to every other strain is calculated by which method?

- Numerical Taxonomy
- Intuitive Method
- Genetic Relatedness
- DNA homology experiments

**Question No.43**

Bacterial growth curve does not contain

- M phase
- Log phase
- Exponential phase
- Death phase

**Question No.44**

Agar is obtained from:-

- Red algae
- Green algae
- Blue-green algae
- Brown algae

**Question No.45**

Mycology is the study of:

- Viruses
- Fungus
- Protozoa
- Bacteria

**Question No.46**

Causative agent of Tobacco mosaic disease is:

- Water mould
- Bacterium
- Virus
- Fungus

**Question No.47**

Which of the following is effective in the control of tuberculosis in humans?

- Nalidixic Acid
- Sibromycin
- Nitrofurans
- Isoniazid

**Question No.48**

\_\_\_\_\_ discovered the Polio vaccine.

- Louis Pasteur
- Jonas Salk
- Konrad Zuse
- Eli Whitney

**Question No.49**

The first stage of vinegar manufacturing carried out by

- Acetobacter xylinum*
- Acetobacter acite*
- Acetobacter pasteuroianus*
- Saccharomyces cerevisiae*

**Question No.50**

Yoghurt is milk derivative, thickened milk is exposed to the action of two bacteria

- Streptococcus thermophilus* and *Lactobacillus bulgaricus*
- Streptococcus thermophilus* and *Streptococcus acidophilus*
- Lactobacillus lactis* and *Streptococcus cremoris*
- Lactobacillus bulgaricus* and *Streptococcus payogens*

**Question No.51**

Which is the reservoir of *Neisseria meningitides*?

- Salt water
- Domesticated animals
- Soil
- Human carriers

**Question No.52**

How many cells present per millilitre in a bacterial culture can make the culture turbid?

- 1000 cells
- 1 cell
- 1 lakh cells
- $10^7$ - $10^8$  cells



**Question No.53**

Type strain is used for referring to?

- species
- family
- division
- genus

**Question No.54**

Multicellular forms such as moulds have long, branched, thread like filaments called

- Coenocytic
- Septum
- Mycellium
- Hypha

**Question No.55**

The secondary electrons radiated back in scanning microscope is collected by?

- anode
- cathode
- specimen
- vacuum chamber

**Question No.56**

Which pathway will result in the production of four carbon dioxide molecules, two ATP molecules, NADH<sub>2</sub> and FADH<sub>2</sub>?

- glycolysis
- Krebs cycle
- Calvin cycle
- electron transport system

**Question No.57**

Which of the following is the correct sequence of events in replication by bacterial phage?

- adsorption,absorption,sheath contraction,pinning
- adsorption,pinning,DNA injection,sheath contraction
- adsorption,pinning,sheath contraction,DNA injection
- absorption,adsorption,DNA injection

**Question No.58**

Which disease is not caused by virus?

- Measles
- Tuberculosis
- Chicken pox
- Mumps

**Question No.59**

Which among the following helps us in getting a three-dimensional picture of the specimen?

-

Simple Microscope

- Transmission Electron Microscope
- Scanning Electron Microscope
- Compound Microscope

**Question No.60**

The TCA cycle is regulated by which of the following enzymes?

- isocitrate dehydrogenase
- succinate dehydrogenase
- malate dehydrogenase
- citrate synthase

**Question No.61**

The majority of microorganisms are:

- Eosinophiles
- Thermophiles
- Psychrophiles
- Mesophiles

**Question No.62**

Which of the following is a characteristic of beef extract?

- product resulting from the digestion of proteinaceous materials
- complex carbohydrate obtained from certain marine algae
- aqueous extract of yeast cells
- aqueous extract of lean beef tissue

**Question No.63**

Citrus canker is caused by:-

- Hay bacillus
- Lactobacillus
- Salmonella
- Phytomonas

**Question No.64**

Two species of yeast are commonly used in the brewing process, both belonging to the genus \_\_\_\_\_

- S. cerevisiae*
- T. cerevisiae*
- K. cerevisiae*
- C. cerevisiae*

**Question No.65**

Which is not used for sterilization during microbiological work?

- HEPA filter
- Autoclave
- Sonication
- Flame

**Question No.66**

Which among the following acts as receptors for bacteriophage attachment in Gram-negative bacteria?

- Teichoic acid
- Cilia
- O antigens
- Lipid A

**Question No.67**

E-test is employed for testing of \_\_\_\_\_.

- Antibiotics
- Probiotics
- Antigen
- Antibody

**Question No.68**

In chromatography, which of the following can the mobile phase be made of?

- Liquid only
- Solid or liquid
- Gas only
- Liquid or gas

**Question No.69**

Which microorganism(s) among the following perform photosynthesis by utilizing light?

- Bacillus subtilis
- Nostoc
- Myxomycetes
- Adenovirus

**Question No.70**

What is the colour of the plaque formed?

- blue
- opaque
- clear
- yellow

**Question No.71**

Which of the following has its antiviral action attributed to interference of protein synthesis?

- 5'-iododeoxyuridine
- Amantadine
- Acycloguanosine
- Interferons

**Question No.72**

Which of the following is a Complex media for fungal growth?

- Mac Conkey Agar media
- Nutrient broth

- Luria-Bertani media
- Potato Dextrose Agar(PDA) media

**Question No.73**

Which of the following enzymes transcribe late genes?

- restriction enzymes
- RNA polymerase
- ligases
- nucleases

**Question No.74**

Which of the following pathway is common for oxidation of carbohydrates, lipids and amino acids?

- Pentose phosphate pathway
- Electron transport chain
- Calvin cycle
- TCA cycle

**Question No.75**

DPT vaccine will not be able to protect the person from the infection of

- Diphtheriae
- Poliomyelitis
- Pertussis
- Tetanus

**Question No.76**

Colony-forming units per ml is the unit of \_\_\_\_\_

- Microscopic count
- Turbidimetric measurement
- Electronic enumeration
- Plate count

**Question No.77**

Which of the following enzyme removes the RNA primer with its 5'-nuclease activity?

- DNA polymerase II
- DNA polymerase III
- RNA polymerase
- DNA polymerase I

**Question No.78**

Cogulase test is used to differentiate between

- Staphylococcus epidermidis* from *Neisseria meningitidis*
- Staphylococcus aureus* from *Staphylococcus epidermidis*
- Streptococcus pyogens* from *Enterococcus faecalis*
- Streptococcus pyogens* from *Staphylococcus aureus*

**Question No.79**

Which of the following best describes an Open Reading Frame (ORF)?

- A reading frame that contains a start codon, a number of codons for amino acids, and then a stop codon.
- A sequence of nucleotides that contain a start and stop codon in any order
- A reading frame with multiple start codons.
- A sequence of nucleotides without any stop codons

**Question No.80**

The common yeast *Schizosaccharomyces* follows which of the following asexual reproduction methods?

- spore formation
- fragmentation
- budding
- binary fission

**Question No.81**

Solid medium supports microbial growth by the formation of?

- colonies
- sediment at the bottom
- pellicle at the top of media
- turbidity

**Question No.82**

Which part of microscope controls the amount of light to be available?

- Revolving nosepiece
- Objective lens
- Coarse adjustment knob
- Diaphragm

**Question No.83**

RFLP (Restriction Fragment Length Polymorphism) is a technique for

- Isolating single gene products
- Transferring genes from unrelated species
- Isolating single genes
- Identifying genetic (DNA) homologies

**Question No.84**

Which division of fungi lack flagella?

- Mastigomycota
- Amastigomycota
- Gymnomycota
- Basidiomycetes

**Question No.85**

The main product of *Embden-Meyerhof pathway* is

- Pyruvate
- Citrate
- Nitrate

- Phosphate

**Question No.86**

Microorganisms need molecular oxygen in low concentrate called

- Aerotolerant anaerobes
- Microaerophiles
- Obligate anaerobes
- Facultative anaerobes

**Question No.87**

\_\_\_\_\_ media encourage the growth of an organism present in low numbers.

- Selective
- Enrichment
- Differential
- Transport

**Question No.88**

Select the odd one out.

- LCD projector
- Microscope
- Laminar flow hood
- Autoclave

**Question No.89**

How many chromosomes does *E. coli* have?

- Three
- Two
- Zero
- One

**Question No.90**

\_\_\_\_\_ is a pathway for the fixation of carbon dioxide used by photosynthetic organisms and some chemolithotrophs

- Glycolysis cycle
- Citric acid cycle
- TSA cycle
- Calvin cycle

**Question No.91**

Moist heat sterilizes by

- causing the formation of thymine dimers
- causing production of singlet oxygen
- use of chemicals
- denaturation of proteins

**Question No.92**

The delayed early genes codes for which of the following enzymes?

- phage enzymes
- nucleases
- oxidases
- RNA polymerase

**Question No.93**

Which of the following is not a "Graphic representation"?

- Table
- Histogram
- Bar Chart
- Pie Chart

**Question No.94**

*Shigella* can be differentiated from *E. Coli* by all of the following features except

- Shigella* does not ferment lactose
- Shigella* does not produce gas from glucose
- Shigella* is non motile
- Shigella* does not ferment mannitol

**Question No.95**

Which of the following types of chromatography involves the separation of substances in a mixture over a 0.2mm thick layer of an adsorbent?

- Paper
- Thin layer
- Gas liquid
- Column

**Question No.96**

Which of the following replication methods leads to the production of two circular daughter chromosomes?

- Theta mode
- Sigma mode
- Linear mode
- Rolling circle method

**Question No.97**

Teichoic acid present in Gram-positive bacteria can bind to which ion?

- Fe ions
- Sulphur ions
- Phosphorus ions
- Mg ions

**Question No.98**

Which among these is not used to enhance contrast during scanning electron microscopy?

- Silver
- Gold

- Iron
- Platinum

**Question No.99**



Which of the following bacterial components is least likely to contain useful antigens?

- Capsule
- Flagella
- Ribosomes
- Cell wall

**Question No.100**



Which among the following is not a mode of bacterial gene transfer?

- Transduction
- Conjugation
- Transformation
- Transcription