

National Testing Agency

Question Paper Name: Microbiology Immunology and Animal Cell Culture
Subject Name: Microbiology Immunology and Animal Cell Culture
Creation Date: 2018-12-01 17:21:21
Duration: 180
Total Marks: 100
Display Marks: Yes
Share Answer Key With Delivery Engine: Yes
Actual Answer Key: Yes

Microbiology Immunology and Animal Cell Culture

Group Number : 1
Group Id : 41652975
Group Maximum Duration : 0
Group Minimum Duration : 120
Revisit allowed for view? : No
Revisit allowed for edit? : No
Break time: 0
Group Marks: 100

Microbiology Immunology and Animal Cell Culture

Section Id : 41652975
Section Number : 1
Section type : Online
Mandatory or Optional: Mandatory
Number of Questions: 100
Number of Questions to be attempted: 100
Section Marks: 100
Display Number Panel: Yes
Group All Questions: No

Sub-Section Number: 1
Sub-Section Id: 41652976
Question Shuffling Allowed : Yes

Question Number : 1 Question Id : 4165296166 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

_____ is responsible for endotoxin activity of lipopolysaccharide.

- a) Lipid A
- b) Core polysaccharide
- c) O antigen
- d) Peptidoglycan

Question Number : 2 Question Id : 4165296167 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

_____ is an internal component of bacterial cell.

- a) Golgi bodies
- b) Ribosomes
- c) Chloroplast
- d) Flagella

Question Number : 3 Question Id : 4165296168 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

_____ is magnetotactic bacteria.

- a) Aquaspirillum magnetotacticum
- b) Edellovibrio
- c) E. coli
- d) Proteus vulgaris

Question Number : 4 Question Id : 4165296169 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

_____ is the heat resistant dormant structure of bacteria.

- a) Endospore
- b) Capsule
- c) Slime layer
- d) Ribosomes

Question Number : 5 Question Id : 4165296170 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following characteristics include cell shape, size and cell arrangement?

- a) Morphological characteristics
- b) Chemical characteristics
- c) Cultural characteristics
- d) Physiological characteristics

Question Number : 6 Question Id : 4165296171 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

_____ is a gram-positive cocci.

- a) Clostridium
- b) Enterococcus
- c) Corynebacterium
- d) Saccharomyces

Question Number : 7 Question Id : 4165296172 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Bacteria on which a single flagellum is present on both sides are known as:

- a) Amphitrichous
- b) Lophotrichous
- c) Peritrichous
- d) Monotrichous

Question Number : 8 Question Id : 4165296173 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Example of thermophilic bacteria is:

- a) Campylobacter jejuni
- b) Escherichia coli
- c) Geobacillus stearothermophilus
- d) Klebsiella pneumonia

Question Number : 9 Question Id : 4165296174 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Following elements form 96% of a bacterial cell:

- a) C, H, O, N, Na, Cl
- b) C, H, O, N, P, S
- c) C, H, Na, Cl, O, N
- d) C, N, O, Mg, Ca, K

Question Number : 10 Question Id : 4165296175 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Special growth factors required by fastidious organisms are:

- a) Calcium, Potassium and Lipids
- b) Amino acids, Vitamins and Nucleotides
- c) Nucleic acids, Sodium and Magnesium
- d) Iron, Carbohydrates and Zinc

Question Number : 11 Question Id : 4165296176 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

_____ is an acidic dye.

- a) Methylene blue
- b) Crystal violet
- c) Eosin
- d) Malachite green

Question Number : 12 Question Id : 4165296177 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

_____ stain dark purple in gram staining.

- a) Staphylococcus aureus
- b) Escherichia coli
- c) Pseudomonas aeruginosa
- d) Mycobacterium

Question Number : 13 Question Id : 4165296178 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

"p" in pBG1805 denotes:

- a) Producers
- b) Plasmid
- c) Plasma
- d) Patent

Question Number : 14 Question Id : 4165296179 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

_____ is the method which involves direct cell-to-cell contact.

- a) Conjugation
- b) Transduction
- c) Transformation
- d) Transfection

Question Number : 15 Question Id : 4165296180 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In conjugation of an HFr cell with an F- cell

- (a) The recipient stays F-
- (b) The recipient becomes F+
- (c) The recipient becomes HFr
- (d) The recipient becomes H+

Question Number : 16 Question Id : 4165296181 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following is NOT a critical function of competence factors?

- a) Binding of free DNA to the bacterial cell
- b) Translocation of DNA through bacterial cell wall
- c) Recombination of DNA
- d) Replication of DNA

Question Number : 17 Question Id : 4165296182 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following statements can describe horizontal transfer?

- a) The synthesis of protein in RNA
- b) The transmission of genetic information from one independent, mature organism to another
- c) The transmission of genetic information from parent to offspring
- d) The synthesis of RNA from a DNA template

Question Number : 18 Question Id : 4165296183 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What information can be generated by interrupted mating experiments?

- a) Levels of DNA homology
- b) Bacterial genome maps
- c) DNA nucleotide sequences
- d) Proteomics of the bacteria

Question Number : 19 Question Id : 4165296184 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The term _____ describes the relationship between a virus and host where no new viral particles are produced and the viral genome is replicated along with host chromosome.

- a) Lysis
- b) Lysogeny
- c) Transformation
- d) Conjugation

Question Number : 20 Question Id : 4165296185 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Lag phase is also known as:

- a) Transitional period
- b) Phase of initial adjustment
- c) Generation time
- d) Exponential phase

Question Number : 21 Question Id : 4165296186 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

An organism has an optimal growth rate when the hydrogen ion concentration is very high. This organism should be:

- a) Osmotolerant
- b) Acidophile
- c) Alkalophile
- d) Neutrophile

Question Number : 22 Question Id : 4165296187 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The average size of cells during the exponential phase of growth is:

- a) Equal to the lag phase
- b) Lesser than the lag phase
- c) Double than the lag phase
- d) Greater than the lag phase

Question Number : 23 Question Id : 4165296188 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Viruses are:

- a) Obligate parasites
- b) Free living
- c) Both free living and parasitic
- d) Symbiotic

Question Number : 24 Question Id : 4165296189 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Tobacco mosaic virus is:

- a) Spherical shaped
- b) Rod shaped
- c) Cuboidal shaped
- d) Spiral shaped

Question Number : 25 Question Id : 4165296190 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Virus that attacks bacteria are called:

- a) Lysophage
- b) Bacteriophage
- c) Virophage
- d) Prophage

Question Number : 26 Question Id : 4165296191 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Infectious RNA particles without protein coat are:

- a) Viriod
- b) Virion
- c) Prion
- d) Virus

Question Number : 27 Question Id : 4165296192 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Viruses are considered to be:

- a) Primitive organisms
- b) Non-living
- c) Very small bacteria
- d) Premature bacteria

Question Number : 28 Question Id : 4165296193 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

For every molecule of glucose fermented:

- a) Four molecules of ethyl alcohol and two molecules of pyruvic acid are produced
- b) Two molecules of pyruvic acid and two molecules of carbon-di-oxide are produced
- c) Two molecules of ethyl alcohol and two molecules of pyruvic acid are produced
- d) Two molecules of ethyl alcohol and two molecules of carbon-di-oxide are produced

Question Number : 29 Question Id : 4165296194 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The organism used for alcohol production is:

- a) Yeast
- b) Bacteria
- c) Fungi
- d) Protozoa

Question Number : 30 Question Id : 4165296195 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Shear forces are created by:

- a) Aeration
- b) Agitation
- c) Foam formation
- d) Inoculation

Question Number : 31 Question Id : 4165296196 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

During this, the components of upstream process are withdrawn intermittently and replaced with fresh media or nutrients:

- a) Batch fermentation
- b) Fed-batch fermentation
- c) Continuous fermentation
- d) Solid State fermentation

Question Number : 32 Question Id : 4165296197 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The American Iron & Steel Institute (AISI) grade 316 steel contain:

- a) 25 % chromium, 5 %nickel and 4 % molybdenum
- b) 18 % chromium, 10 %nickel and 2-2.5 % molybdenum
- c) 20 % chromium, 1 %nickel and 4 % molybdenum
- d) 50 % chromium, 8 %nickel and 5 % molybdenum

Question Number : 33 Question Id : 4165296198 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The following component of the fermenter is required for aeration:

- a) Stirrer glands and bearings
- b) Baffles
- c) Sparger
- d) Shaft

Question Number : 34 Question Id : 4165296199 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Foam is also controlled by:

- a) Addition of starch
- b) Addition of protein
- c) Addition of oils
- d) Addition of acid

Question Number : 35 Question Id : 4165296200 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Stage involving separation of cells from the fermentation broth is known as:

- a) Biomass Accumulation
- b) Downstream Processing
- c) Fermentation
- d) Upstream Processing

Question Number : 36 Question Id : 4165296201 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The "batch culture" fermentation is also known as:

- a) Complete culture system
- b) Closed culture system
- c) Open culture system
- d) Partially open culture system

Question Number : 37 Question Id : 4165296202 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Metabolites formed during the stationary phase are known as:

- a) Primary metabolites
- b) Secondary metabolites
- c) Tertiary metabolites
- d) Toxic metabolites

Question Number : 38 Question Id : 4165296203 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Microbial population is maintained in _____ phase for long time using continuous culture system.

- a) Lag phase
- b) Log phase
- c) Transition phase
- d) Death phase

Question Number : 39 Question Id : 4165296204 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In turbidostat:

- a) Cell growth is controlled by adjusting the concentration of one substrate
- b) Any required substrate like carbohydrate can be used as a limiting factor
- c) pH can be adjusted in the fermentor
- d) Cell growth is kept constant by using turbidity to monitor the biomass concentration

Question Number : 40 Question Id : 4165296205 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

_____ described ethanol as a compound of carbon, hydrogen and oxygen.

- a) Louis Pasteur
- b) Antoine Lavoisier
- c) Selman Waksman
- d) Michael Faraday

Question Number : 41 Question Id : 4165296206 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following is a bottom fermenter?

- a) *Saccharomyces cerevisiae*
- b) *Saccharomyces carlsbergensis*
- c) *Saccharomyces boullardii*
- d) *Saccharomyces bayanus*

Question Number : 42 Question Id : 4165296207 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

_____ is used as the main raw material in the preparation of a fermentation medium for ethanol production.

- a) Glucose
- b) Lactose
- c) Molasses
- d) Whey

Question Number : 43 Question Id : 4165296208 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The enzyme _____ catalyses the decarboxylation of pyruvic acid to acetaldehyde.

- a) Translocase
- b) Hydrolase
- c) Decarboxylase
- d) Isomerase

Question Number : 44 Question Id : 4165296209 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

_____ is a Gram-negative bacterium, found in some tropical alcoholic beverages.

- a) *Xanthomona mobilis*
- b) *Zymomonas mobilis*
- c) *E. coli*
- d) *Salmonella typhi*

Question Number : 45 Question Id : 4165296210 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Penicillins are highly effective against:

- a) Gram negative bacteria
- b) Gram positive bacteria
- c) Acid fast bacteria
- d) Non-acid fast bacteria

Question Number : 46 Question Id : 4165296211 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

During extraction of penicillin the pH of the filtered medium is reduced to ____ by addition of sulphuric or phosphoric acid.

- a) 2.0-2.5
- b) 4.0- 4.5
- c) 3.0- 3.5
- d) 5.0- 6.0

Question Number : 47 Question Id : 4165296212 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Non specific host defence mechanism:

- a) Does not differentiate between invading agents
- b) Differentiates between invading agents
- c) Does not identify non self structures
- d) Mounts antibody response

Question Number : 48 Question Id : 4165296213 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Signaling molecules produced by virus infected cells in order to activate immune response against invading microbes are;

- (a) Vaccine
- (b) Interferons
- (c) Complements
- (d) Receptors

Question Number : 49 Question Id : 4165296214 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Skin, mucous membranes and tears are components of:

- (a) Humoral immunity
- (b) Second line of host defense
- (c) First line of host defense
- (d) Third line of host defense

Question Number : 50 Question Id : 4165296215 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A person is injected with antibodies against Hepatitis. He/she:

- (a) Artificially acquires passive immunity
- (b) Artificially acquires active immunity
- (c) Naturally acquires active immunity
- (d) Naturally acquires passive immunity

Question Number : 51 Question Id : 4165296216 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

T and B cells are:

- a) Phagocytes
- b) Antibodies
- c) Lymphocytes
- d) Monocytes

Question Number : 52 Question Id : 4165296217 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In specific immunity, competent T cells are activated by:

- a) Plasma cells
- b) Complement factors
- c) IL-1
- d) Antibodies

Question Number : 53 Question Id : 4165296218 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

MHC Class II molecules:

- a) Are found on all cells
- b) Are found on APC's
- c) Usually display self antigens
- d) Are Specialised lipopolysaccharides

Question Number : 54 Question Id : 4165296219 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The first antibody produced during primary immune response is:

- a) IgG
- b) IgE
- c) IgM
- d) IgA

Question Number : 55 Question Id : 4165296220 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A "foreign "molecule which can invoke the immune response is called a (n)

- a) Antigen
- b) Hapten
- c) Immunoglobulin
- d) Parasite

Question Number : 56 Question Id : 4165296221 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

----- cells phagocytize antigen-bearing cells and bind them to their MHCs.

- a) NK cells
- b) Plasma cells
- c) Antigen presenting cells
- d) Eosinophils

Question Number : 57 Question Id : 4165296222 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which statement below is characteristic of a secondary humoral response?

- a) It only occurs in the spleen
- b) It results in less memory cell circulation
- c) It occurs much more rapidly than a primary response
- d) It results in more IgM production

Question Number : 58 Question Id : 4165296223 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The process of fermentation was discovered by:

- a) Robert Koch
- b) Louis Pasteur
- c) Alexander Fleming
- d) Selman Waksman

Question Number : 59 Question Id : 4165296224 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Cell-mediated immunity is a defense system used to fight _____ pathogens and abnormal body cells, such as _____ cells.

- a) Intracellular; cancer
- b) Extracellular; NK
- c) Intracellular; blood
- d) Extracellular; B

Question Number : 60 Question Id : 4165296225 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The ____ T cell-APC interaction is MHC____-restricted, and the ____ T cell-target cell interaction is MHC____-restricted.

- a) CD4+; Class I; CD8+; Class II
- b) CD4+; Class II; CD8+; Class I
- c) CD8+; Class I; CD4+; Class II
- d) CD8+; Class II; CD4+; Class I

Question Number : 61 Question Id : 4165296226 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following statements accurately summarizes the humoral immune response?

- a) NK cells recognize deficiencies in MHC I and release cytokines to recruit complement
- b) Antibodies on B cells recognize antigens in the bodily fluids and B cells proliferate
- c) Dendritic cells are invaded by pathogens and become APCs
- d) Cytotoxic T cells get activated

Question Number : 62 Question Id : 4165296227 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The leucocyte _____ is an agranulocyte.

- a) Basophil
- b) Eosinophil
- c) Lymphocyte
- d) Neutrophil

Question Number : 63 Question Id : 4165296228 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The leucocyte _____ is involved in allergic reactions.

- a) Neutrophils
- b) Basophils
- c) Eosinophils
- d) Monocytes

Question Number : 64 Question Id : 4165296229 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Primary lymphoid organs:

- a) Are efficient in exposing T cells to foreign antigen.
- b) Are the primary site of antibody synthesis and release
- c) Provide the microenvironment for maturation of T and B cells
- d) Are sites for destroying lymphocytes

Question Number : 65 Question Id : 4165296230 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Lymphocytes continually recirculate through peripheral lymphoid tissue in order to:

- a) Be killed before they cause autoimmunity
- b) Efficiently encounter antigen
- c) Mature from stem cells into lymphocytes
- d) Avoid exposure to pathogens

Question Number : 66 Question Id : 4165296231 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A low molecular weight macromolecule which can bind to antibodies but cannot induce immune response is known as:

- a) Antigen
- b) Adjuvant
- c) Carrier
- d) Haptens

Question Number : 67 Question Id : 4165296232 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Autoantigens are:

- a) Self components recognized by immune system as foreign.
- b) Non self components recognized by immune system as foreign.
- c) Antigens which can automatically cross link any antibodies.
- d) Not related to immune response

Question Number : 68 Question Id : 4165296233 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Antigens which can stimulate non-specific proliferation of T cells are:

- a) Autoantigens
- b) Alloantigens
- c) Superantigens
- d) Isoantigens

Question Number : 69 Question Id : 4165296234 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following can not serve as an immunogen?

- a) A part of bacterial cell
- b) Pollen
- c) Virus
- d) Sodium Chloride

Question Number : 70 Question Id : 4165296235 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Complementarity determining regions are present on:

- a) APC
- b) Antigens
- c) Antibodies
- d) Complements

Question Number : 71 Question Id : 4165296236 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Antibodies are produced by:

- a) T lymphocytes
- b) B lymphocytes
- c) Killer Cells
- d) Phagocytic Cells

Question Number : 72 Question Id : 4165296237 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Treatment of antibody molecule with pepsin leads to:

- a) One F(ab)₂ fragment and two Fc fragments
- b) Two Fab fragments and one Fc fragment
- c) Two Fab fragments and two Fc fragment
- d) One F(ab)₂ fragment and one Fc fragment

Question Number : 73 Question Id : 4165296238 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The hypervariable region resides in the:

- a) N-terminal region of light chain
- b) N-terminal region of heavy chain
- c) N-terminal region of light and heavy chain
- d) C-terminal region of light and heavy chain

Question Number : 74 Question Id : 4165296239 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The strength of binding between antigens and antibodies which determines the formation of stable immune complex is known as:

- a) Electrostatic forces
- b) Covalent bonding
- c) Avidity
- d) Hydrogen bond

Question Number : 75 Question Id : 4165296240 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The highest dilution of serum which exhibits an observable ag ab reaction is known as:

- a) Z value
- b) C value
- c) Titre Value
- d) F value

Question Number : 76 Question Id : 4165296241 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Precipitation reaction can be converted into agglutination reaction by coating soluble antigens onto:

- a) Latex beads
- b) Markers
- c) Malachite green dyes
- d) Antibiotics

Question Number : 77 Question Id : 4165296242 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The formation of an antigen-antibody complex can lead to: I] Agglutination II] Neutralization III] Activation of complement

- a) I and II only
- b) II and III only
- c) I and III only
- d) I, II, and III

Question Number : 78 Question Id : 4165296243 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A major advantage of ELISA in comparison to other biological quantification techniques is:

- a) Detection of a molecule at a low concentration
- b) Inexpensive
- c) Low specificity
- d) Easily available

Question Number : 79 Question Id : 4165296244 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The technique in which macromolecules are subjected to strong electric field and are separated on the basis of their charge is:

- a) Electrophoresis
- b) Haemagglutination
- c) Immunofluorescence
- d) Western blotting

Question Number : 80 Question Id : 4165296245 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The test which applies coating of patient's RBCs with antihuman IgG for the diagnosis of hemolytic diseases is:

- a) ELISA
- b) Coomb's test
- c) RIA
- d) RID

Question Number : 81 Question Id : 4165296246 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Gamma-emitting isotope such as ^{125}I or beta-emitting isotopes such as tritium (^3H) are used to label antigens in an immunodiagnostic technique known as:

- a) RIA
- b) RHEA
- c) RID
- d) IFT

Question Number : 82 Question Id : 4165296247 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

VDRL test is deployed for the detection of:

- a) Typhoid
- b) Malaria
- c) Swine Flu
- d) Syphilis

Question Number : 83 Question Id : 4165296248 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Vaccine preparations containing toxoids provide:

- a) Active Immunity
- b) Passive Immunity
- c) Natural Immunity
- d) Native Immunity

Question Number : 84 Question Id : 4165296249 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following is correct for tetanus?

- a) DPT provides active and ATS provides passive immunity
- b) DPT provides passive and ATS provides active immunity
- c) DPT and ATS both provides passive immunity
- d) DPT and ATS both provides active immunity

Question Number : 85 Question Id : 4165296250 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A vaccine carrying hepatitis B surface antigen is a:

- a) DNA Vaccine
- b) Recombinant Vaccine
- c) Synthetic Peptide Vaccine
- d) Subunit Vaccine

Question Number : 86 Question Id : 4165296251 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A peptide immunogen:

- a) Can elicit potent antibody response in absence of T cell help
- b) Can mimic a part of a discontinuous epitope
- c) Can stimulate B cell but not T cell response
- d) Cannot stimulate immune response

Question Number : 87 Question Id : 4165296252 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Allergy to penicillin is an example of:

- a) Type I hypersensitivity
- b) Type II hypersensitivity
- c) Type III hypersensitivity
- d) Type IV hypersensitivity

Question Number : 88 Question Id : 4165296253 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Type III hypersensitivity is triggered by:

- a) Mast cells and IgE
- b) K cells and IgG
- c) Deposition of antigen antibody complexes
- d) T helper cells

Question Number : 89 Question Id : 4165296254 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Cancer is caused by:

- a) Uncontrolled mitosis
- b) Uncontrolled meiosis
- c) Rupturing of cells
- d) Loss of immunity of the cells

Question Number : 90 Question Id : 4165296255 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

_____ can enhance the immune response against tumor.

- a) Administration of antibodies inside to the patient
- b) Administration of antibiotics to the patient
- c) Transfection of oncogenes inside antigen presenting cells
- d) Transfection of growth factors inside antigen presenting cells

Question Number : 91 Question Id : 4165296256 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

First continuous cell line was established by:

- a) Ross Harrison
- b) William Earle
- c) Frederick Chapman Robbins
- d) Wilhelm Roux

Question Number : 92 Question Id : 4165296257 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Disaggregation of tissue using enzymes facilitates:

- a) Active biosynthesis with the help of enzymes
- b) Digestion of intercellular matrix and separation of cells
- c) Fast growth of the cells using enzymes
- d) Clumping of cells

Question Number : 93 Question Id : 4165296258 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Differentiated cells are:

- a) Specialized cells with specific functions and structure
- b) Cells with malignant properties
- c) Fast growing cells with infinite life span
- d) Cells with different type of properties

Question Number : 94 Question Id : 4165296259 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Cell adhesion molecules on cell surface:

- a) Help in taking the nutrients inside the cells
- b) Help in attachment of cells to neighbouring cells
- c) Help in cell protection
- d) Help in cell growth

Question Number : 95 Question Id : 4165296260 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following viral vectors has the largest capacity for foreign DNA?

- a) Baculovirus
- b) Adenovirus
- c) Retrovirus
- d) Rhinovirus

Question Number : 96 Question Id : 4165296261 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A method widely used for transferring genes by associating the nucleic acid with lipids is known as:

- a) Lipoidal transformation
- b) Liposome transformation
- c) Lipofection
- d) Lipidofection

**Question Number : 97 Question Id : 4165296262 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Correct Marks : 1 Wrong Marks : 0

The first antibiotic was discovered by:

- a) Louis Pasteur
- b) Alexander Fleming
- c) Robert Koch
- d) Edward Jenner

**Question Number : 98 Question Id : 4165296263 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Correct Marks : 1 Wrong Marks : 0

The resistance in which a naturally susceptible microorganism acquires ways of not being affected by the drug is:

- a) Immune resistance
- b) Acquired resistance
- c) Intrinsic resistance
- d) Immunity

**Question Number : 99 Question Id : 4165296264 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Correct Marks : 1 Wrong Marks : 0

'MRSA' stands for:

- a) Methanol-resistant Staphylococcus aureus
- b) Methicillin-resistant Staphylococcus aureus
- c) Merceptol-resistant Staphylococcus aureus
- d) Methyl-resistant Staphylococcus aureus

**Question Number : 100 Question Id : 4165296265 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Correct Marks : 1 Wrong Marks : 0

The unique thing about stem cells that makes them so desirable for therapeutic use is that:

- a) They can develop into many different tissue types
- b) They are found in reproductive tissue
- c) They develop into organs needed for transplant
- d) They can form stem of any plant