

# National Testing Agency

**Question Paper Name:** Immunology 10th November 2019 Shift 2  
**Subject Name:** Immunology  
**Creation Date:** 2019-11-10 18:07:00  
**Duration:** 180  
**Total Marks:** 100  
**Display Marks:** Yes

## Immunology

**Group Number :** 1  
**Group Id :** 709597316  
**Group Maximum Duration :** 0  
**Group Minimum Duration :** 120  
**Revisit allowed for view? :** No  
**Revisit allowed for edit? :** No  
**Break time:** 0  
**Group Marks:** 100

## Immunology

**Section Id :** 709597405  
**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:** 709597509  
**Question Shuffling Allowed :** Yes

**Question Number : 1 Question Id : 70959728797 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 cells recognized MHC presented antigens are

- a. Proteins
- b. Carbohydrates
- c. Lipids
- d. All the above

**Question Number : 2 Question Id : 70959728798 Question Type : MCQ Option Shuffling : No Display Question Number : Yes**  
**Single Line Question Option : No Option Orientation : Vertical**

**Correct Marks : 1 Wrong Marks : 0**

Innate immunity is

- a. Non- specific
- b. Non- adaptive
- c. With immunogenic memory
- d. Both a and b

Question Number : 3 Question Id : 70959728799 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 earliest marker of the T cell lineage expressed during maturation in the thymus

- a. Thy- 1
- b. CD28
- c. CD45
- d. CD4

Question Number : 4 Question Id : 70959728800 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 macrophages present in the brain are called

- a. Osteoclasts
- b. Microglial cells
- c. Kupffer cells
- d. None of the above

Question Number : 5 Question Id : 70959728801 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 efferent lymphatic vessel carries the lymph from the

- a. Tissue to the lymph node
- b. Lymph node to blood vessels
- c. Blood vessels to tissues
- d. None of the above

Question Number : 6 Question Id : 70959728802 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Periarteriolar lymphoid sheath (PALS) in the spleen is populated mainly with

- a. T- cells
- b. B- cells
- c. Macrophages
- d. RBC

Question Number : 7 Question Id : 70959728803 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

All immunogens are

- a. Antigenic and immunogenic
- b. Not antigenic but immunogenic
- c. Not antigenic and immunogenic
- d. Both a and b

Question Number : 8 Question Id : 70959728804 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Most active immunogens have size of about

- a. 50,000 daltons
- b. 1,00,000 daltons
- c. 1,50,000 daltons
- d. All of the above

Question Number : 9 Question Id : 70959728805 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 in the variable regions of antibodies that directly interact with the antigens are called

- a. CDR
- b. F<sub>ab</sub>
- c. F<sub>c</sub>
- d. None of the above

Question Number : 10 Question Id : 70959728806 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 number of immunoglobulin heavy chain isotypes are

- a. 3
- b. 5
- c. 7
- d. 9

Question Number : 11 Question Id : 70959728807 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 an immunoglobulin molecule, the light chains can be

- a. Both kappa light chain or both lambda light chains
- b. One lambda and one kappa light chain
- c. None of the above
- d. Both a and b

Question Number : 12 Question Id : 70959728808 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 immunoglobulin heavy chain that has four constant region domain is

- a. IgA
- b. IgG
- c. IgM
- d. All the above

Question Number : 13 Question Id : 70959728809 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Somatic hypermutation occurs throughout the

- a. VJ segments
- b. VDJ segments
- c. Both a and b
- d. C segments

Question Number : 14 Question Id : 70959728810 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 Two-gene model was proposed by

- a. Dreyer and J. Bennett
- b. Tonegawa and N. Hozumi
- c. None of the above
- d. Both a and b

Question Number : 15 Question Id : 70959728811 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 humans, combinatorial V-(D)-J joining can generate about

- a. 4000 different heavy chains
- b. 6000 different heavy chains
- c. 8000 different heavy chains
- d. 10,000 different heavy chains

Question Number : 16 Question Id : 70959728812 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 transmembrane sequences in TCRs are rich in

- a. Positively charged amino acids
- b. Negatively charged amino acids
- c. Non-polar amino acids
- d. Aromatic amino acids

Question Number : 17 Question Id : 70959728813 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 mechanism which is not involved in generation of TCR diversity is

- a. Junctional flexibility
- b. Somatic hypermutation
- c. N-nucleotide addition
- d. P-nucleotide addition

Question Number : 18 Question Id : 70959728814 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

TCR can recognised antigens which are

- a. Freely present in solution
- b. Presented by self MHC molecules
- c. Presented by CD4 molecules
- d. All the above

Question Number : 19 Question Id : 70959728815 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 single T- cell can express

- a. Only alpha beta or gamma delta TCR
- b. Only alpha gamma or beta delta TCR
- c. Both alpha beta and gamma delta TCR
- d. Both a and b

Question Number : 20 Question Id : 70959728816 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Class I MHC proteins are expressed by

- a. Antigen presenting cells
- b. All nucleated cells
- c. Red blood cells
- d. All the above

Question Number : 21 Question Id : 70959728817 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Tumor necrosis factor alpha is encoded by the

- a. MHC class I genes
- b. MHC class II genes
- c. MHC class III genes
- d. All the above

Question Number : 22 Question Id : 70959728818 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 MHC class II protein, the peptide binding cleft is formed by the

- a. Alpha 1 and alpha 2 domains
- b. Alpha 1 and beta 1 domains
- c. Beta 1 and beta 2 domains
- d. Alpha 2 and beta 2



Question Number : 23 Question Id : 70959728819 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 major cytokine secreting cells is

- a. T<sub>H</sub>- cells
- b. B-cells
- c. Mast cells
- d. RBC

Question Number : 24 Question Id : 70959728820 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 soluble cytokine antagonists arises from

- a. enzymatic cleavage of the extracellular domain of cytokine receptors
- b. proteolytic cleavage of pro- enzymes
- c. None of the above
- d. Both a and b

Question Number : 25 Question Id : 70959728821 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 class II cytokine receptors possess the conserved

- a. WSXWS motif
- b. CCCC motif
- c. SWXSW motif

Question Number : 26 Question Id : 70959728822 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 cytokine drives the differentiation of pre-B cells to immature B- cells expressing membrane bound immunoglobulin?

- a. IL2
- b. IL4
- c. IL7
- d. IL12

Question Number : 27 Question Id : 70959728823 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 T-cell development, the double positive cells expressed are

- a. CD4
- b. CD8
- c. CD4 and CD8
- d. None of the above

Question Number : 28 Question Id : 70959728824 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Thymic stromal cells include

- a. Epithelial cells
- b. Mast cells
- c. Basophils
- d. Fibroblast

Question Number : 29 Question Id : 70959728825 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 physiological barrier in the innate immune system includes

- a. skin
- b. complement proteins
- c. phagocytes
- d. All the above

Question Number : 30 Question Id : 70959728826 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

One of the characteristics of inflammation that leads to increase in tissue temperature is

- a. Increased permeability
- b. Influx of phagocytes
- c. Vasodilation
- d. None of the above

Question Number : 31 Question Id : 70959728827 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 predominant antibody in the secondary humoral response is

- a. IgA
- b. IgG
- c. IgM
- d. IgD

Question Number : 32 Question Id : 70959728828 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 protease released by cytotoxic T- cells that can mediate DNA fragmentation in target cells

- a. Perforin
- b. Granzyme
- c. Histamine
- d. All the above

Question Number : 33 Question Id : 70959728829 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Antibody-dependent cell-mediated cytotoxicity (ADCC) is mediated by

- a. B- cells
- b. T-cells
- c. NK cells
- d. Mast cells

Question Number : 34 Question Id : 70959728830 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Expression of the enzyme, 2'-5'-oligo-adenylate synthetase is induced by

- a. Interferon alpha
- b. Interleukin 2
- c. Tumor necrosis factor beta
- d. Interleukin 6

Question Number : 35 Question Id : 70959728831 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Herpes simplex viruses can evade the immune response by

- a. Changing surface antigens
- b. Inhibiting TAP protein
- c. Down-regulating expression of MHC class I
- d. All the above

Question Number : 36 Question Id : 70959728832 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

*Streptococcus pyogenes* can prevent phagocytosis by the presence of

- a. Pilli
- b. Polysaccharide capsule
- c. M protein
- d. None of the above

Question Number : 37 Question Id : 70959728833 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 major host defence against invasion of host tissue by bacteria is by

- a. Antibody-mediated agglutination
- b. Phagocytosis
- c. Antibody-dependent cell-mediated cytotoxicity
- d. All the above

Question Number : 38 Question Id : 70959728834 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 free form stage of malarial parasite is

- a. Sporozoites
- b. Merozoites
- c. Gametocytes
- d. None of the above

Question Number : 39 Question Id : 70959728835 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 primary site of infection of *Schistosoma haematobium* is

- a. The intestinal veins
- b. The veins of the urinary bladder
- c. The veins in kidney
- d. Pancreatic veins

Question Number : 40 Question Id : 70959728836 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Bradykinin is a potent mediator of inflammation that

- a. Increases vascular permeability
- b. Causes vasodilation
- c. Induces pain
- d. All the above

Question Number : 41 Question Id : 70959728837 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 cytokine that plays significant role in chronic inflammation by attracting and activating macrophages is

- a. Interferon gamma
- b. Interleukin 2
- c. Tumor necrosis factor alpha
- d. Interferon alpha

Question Number : 42 Question Id : 70959728838 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 cell adhesion, the selectin family of proteins interacts with

- a. Integrin family
- b. Immunoglobulin superfamily
- c. Mucin like family
- d. None of the above

Question Number : 43 Question Id : 70959728839 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 specialized plump endothelial cells that facilitate leukocyte extravasation is called

- a. Giant cells
- b. Epithelioid cells
- c. High endothelial venules
- d. None of the above

Question Number : 44 Question Id : 70959728840 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Systemic acute phase response includes

- a. Induction of fever
- b. Increased production of acute phase proteins in liver
- c. Increase production of WBC
- d. All the above

Question Number : 45 Question Id : 70959728841 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 the early stages of an inflammatory response, the predominant cell type infiltrating the tissue is

- a. Mast cells
- b. Macrophages
- c. Lymphocytes
- d. Neutrophils

Question Number : 46 Question Id : 70959728842 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Transfer of tissues or organs between genetically identical individuals is called

- a. Autograft
- b. Allograft
- c. Isograft
- d. Xenograft

Question Number : 47 Question Id : 70959728843 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

One of the common method for HLA typing of potential donors and recipient is

- a. Microcytotoxicity test
- b. MTT assay
- c. Agglutination assay
- d. None of the above

Question Number : 48 Question Id : 70959728844 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 transplantation, hyperacute graft rejection occurs within

- a. 24 hours
- b. 36 hours
- c. 48 hours
- d. 72 hours

**Question Number : 49 Question Id : 70959728845 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 number of antibodies used in direct ELISA is

- a. One
- b. Two
- c. Three
- d. Four

**Question Number : 50 Question Id : 70959728846 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 biotin-avidin system is used in

- a. Direct ELISA
- b. Indirect ELISA
- c. Sandwich ELISA
- d. Enhanced ELISA

**Question Number : 51 Question Id : 70959728847 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 commonly used technique for detecting food allergens is

- a. Agglutination assay
- b. ELISA
- c. Western blotting
- d. None of the above

**Question Number : 52 Question Id : 70959728848 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 used in ABO blood typing is

- a. ELISA
- b. Precipitin reaction
- c. Agglutination reaction
- d. None of the above

**Question Number : 53 Question Id : 70959728849 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 passive agglutination reaction, the antigens are

- a. Naturally present on particulates
- b. Coated onto particulates like latex
- c. Bacteria
- d. None of the above

Question Number : 54 Question Id : 70959728850 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 that can be used in detection of illicit drugs like heroin

- a. Western blotting
- b. Agglutination assay
- c. ELISA
- d. Both b and c

Question Number : 55 Question Id : 70959728851 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Protein L is a bacterial protein derived from

- a. *Staphylococcus aureus*
- b. group G. *Streptococcus*
- c. *Peptostreptococcus magnus*
- d. None of the above

Question Number : 56 Question Id : 70959728852 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 thiophilic affinity chromatography for purification of immunoglobulin, the ligand used in the column matrix is

- a. Antibody
- b. Antigen
- c. Mercaptoethanol
- d. Metal ions

Question Number : 57 Question Id : 70959728853 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Recombinant proteins with polyhistidine fusion tag are purified using

- a. Thiophilic Affinity Chromatography
- b. Immobilized Metal Affinity Chromatography
- c. Affinity purification using anti-antibodies
- d. None of the above

Question Number : 58 Question Id : 70959728854 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0



Sodium diatrizoate in Ficoll paque media facilitates formation of

- a. solution of low viscosity with high density
- b. solution of high viscosity with high density
- c. solution of low viscosity with low density
- d. solution of high viscosity with low density

Question Number : 59 Question Id : 70959728855 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Ficoll 400 is a synthetic high molecular weight polymer of

- a. Fructose and epichlorohydrin
- b. Lactose and epichlorohydrin
- c. Sucrose and epichlorohydrin
- d. Galactose and epichlorohydrin

Question Number : 60 Question Id : 70959728856 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 percentage solution of Brewer's thioglycollate medium used for elicitation of macrophages is

- a. 1%
- b. 2%
- c. 3%
- d. 4%

Question Number : 61 Question Id : 70959728857 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 main aim of immunoelectrophoresis is

- a. To identify a number of antigens present in serum.
- b. To identify a number of antibodies present in serum.
- c. To identify number of antigen-antibodies present in serum.
- d. All the above

Question Number : 62 Question Id : 70959728858 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 method leads to Ag-Ab arc formation?

- a. Electrophoresis
- b. Immunodiffusion
- c. Radial diffusion
- d. None of the above

Question Number : 63 Question Id : 70959728859 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 type of immunodiffusion in which only antigen move is called

- a. Double immunodiffusion
- b. Rocket immunodiffusion
- c. Single immunodiffusion
- d. Triple immunodiffusion

Question Number : 64 Question Id : 70959728860 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Rheumatoid Arthritis is characterised by

- a. Numbness in limbs
- b. Kidney Dysfunction
- c. Chronic Inflammation of joints
- d. Inflammation of Liver

Question Number : 65 Question Id : 70959728861 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

All of the following are autoimmune diseases except

- a. Grave's Disease
- b. Hashimoto's Thyroiditis
- c. SCID
- d. Rheumatoid Arthritis

Question Number : 66 Question Id : 70959728862 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Insulin -Dependent Diabetes Mellitus is caused by

- a. Auto-immune attack on pancreas
- b. Destruction of insulin producing cells ( $\beta$  cells)
- c. Ketoacidosis
- d. Damage to glomerular basement membrane

Question Number : 67 Question Id : 70959728863 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 IV Hypersensitivity is also known as

- a. Immediate or Anaphylaxis
- b. Delayed type Hypersensitivity
- c. Cytotoxic Hypersensitivity
- d. Immune complex Hypersensitivity

Question Number : 68 Question Id : 70959728864 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 IgG is involved in mediating allergic reactions

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

Question Number : 69 Question Id : 70959728865 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the incorrect statement out of the following for HIV

- a. HIV is a Retrovirus
- b. HIV genome codes for protease and several regulatory proteins
- c. gag codes for structural proteins
- d. env codes for Reverse transcriptase

Question Number : 70 Question Id : 70959728866 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Genes coding for regulatory proteins of HIV includes

- a. tat
- b. rev
- c. nef
- d. All of the above

Question Number : 71 Question Id : 70959728867 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

ABO gene locus is located on

- a. Chromosome 9
- b. Chromosome 1
- c. Chromosome 19
- d. Chromosome 16

Question Number : 72 Question Id : 70959728868 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Compatibility testing before blood transfusion Includes

- a. ABO and Rh typing
- b. Antibody screen for unexpected antibodies
- c. Cross match between donor red blood cells and recipient serum
- d. All of these

Question Number : 73 Question Id : 70959728869 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Haemolytic disease of new born baby is caused by

- a. Rh incompatibility
- b. ABO incompatibility
- c. Both (a) and (b)
- d. None of these

Question Number : 74 Question Id : 70959728870 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 is central tolerance and peripheral tolerance?

- Central tolerance is the tolerance that induced during the early stages of lymphocytes development and tolerance that induced in mature lymphocytes is peripheral tolerance.
- Central tolerance is the tolerance that induced in mature lymphocytes and tolerance that induced in early stages of lymphocytes is peripheral tolerance.
- Both a and b
- None of the above.

Question Number : 75 Question Id : 70959728871 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 is the consequence if the self antigens failed to induce self tolerance?

- HIV
- Cancer
- Autoimmune disease
- Hepatitis

Question Number : 76 Question Id : 70959728872 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 is the principal mechanism of central tolerance in T cells?

- Death of immature T cells and the generations of CD4+ regulatory T cells.
- Death of mature T cells and the generations of CD4+ regulatory T cells.
- Death of mature T cells and the generations of CD8+ regulatory T cells.
- Death of immature T cells and the generations of CD8+ regulatory T cells.

Question Number : 77 Question Id : 70959728873 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 toxoid vaccine, what chemically modified toxin is used from a pathogenic microorganism?

- Exotoxin
- Endotoxin
- Epitope
- A protein that is bound to the bacterial membrane which is toxic to the host

Question Number : 78 Question Id : 70959728874 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 recombinant vector vaccines, where attenuated viruses or bacteria is used as vector, if the foreign gene product expressed by the vector is viral envelope protein. Then, where should it be inserted in the host cell, so as to induce development of cell mediated immunity as well as antibody-mediated immunity

- Cytoplasm of the host cell
- Mitochondria of the host cell
- Into the membrane of the infected host cell
- ER of the infected host cell

Question Number : 79 Question Id : 70959728875 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0



Why muscle cells do not development antigenic responses to DNA vaccines?

- It expresses low level of Class II MHC molecules and do not express costimulatory molecules
- It expresses high level of Class II MHC molecules and express costimulatory molecules
- It expresses high level of Class I MHC molecules and do not express costimulatory molecules
- It expresses low level of Class I MHC molecules and do not express costimulatory molecules

Question Number : 80 Question Id : 70959728876 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 are the types of vaccines that are currently used in humans?

- Attenuated (avirulent) microorganisms
- Inactivated (killed) microorganisms
- Purified macromolecules
- All the above

Question Number : 81 Question Id : 70959728877 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 is the limitation of polyclonal antibody?

- Lesser potential for cross reactivity due to recognizing multiple epitopes
- Higher potential for cross reactivity due to recognizing multiple epitopes
- Purification of serum is required to minimize cross reactivity
- Both b and c

Question Number : 82 Question Id : 70959728878 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 followings cannot be detected by monoclonal antibody?

- Protein in native state
- Protein in denatured state
- Changes in epitope structure
- Both b and c

Question Number : 83 Question Id : 70959728879 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 precipitin test, what will happen under the condition of antibody excess or antigen excess,

- Extensive lattices do not form
- Precipitation is inhibited
- Precipitation is formed
- Both a and b

Question Number : 84 Question Id : 70959728880 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

At a crime scene, which technique will help to identify whether or not the blood found is for human or another species

- a. ELISA
- b. RIA
- c. Western blotting
- d. Precipitin

Question Number : 85 Question Id : 70959728881 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 are the modifications of complement fixation test?

- a. Indirect complement fixation test
- b. Conglutinating complement absorption test
- c. Immune adherence, immobilisation test and cytolytic test
- d. All of the above

Question Number : 86 Question Id : 70959728882 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 technique is used in confirmatory testing for HIV?

- a. ELISA
- b. Southern blotting
- c. Northern blotting
- d. Western blotting

Question Number : 87 Question Id : 70959728883 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Why nitrocellulose is used as matrix in western blotting?

- a. High binding affinity, compatibility with a variety of detection method
- b. The ability to immobilize proteins, glycoproteins or nucleic acid
- c. Less binding affinity, compatibility with a variety of detection method
- d. Both a and b.

Question Number : 88 Question Id : 70959728884 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

C5 convertase in classical pathway of complement system is

- a. C4b2a3b
- b. C3bBb
- c. C4b2a
- d. C3bBb3b

Question Number : 89 Question Id : 70959728885 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

MAC of complement system helps in

- a. Opsonization of antigen
- b. Viral neutralization
- c. Immune clearance
- d. Cell lysis

Question Number : 90 Question Id : 70959728886 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Gram-positive bacteria are resistant to complement mediated cell lysis due to the presence of

- a. Lipopolysaccharides
- b. Carbohydrates
- c. Glycoproteins
- d. Peptidoglycan

Question Number : 91 Question Id : 70959728887 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

“Innocent-bystander” lysis is caused by

- a. Membrane bound C5b67 complex
- b. Released C5b67 complex
- c. C5b678 complex
- d. C5b6 complex

Question Number : 92 Question Id : 70959728888 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 is not true for completed MAC?

- a. Has a small pore of 10 Å in diameter
- b. Has a pore size of 70-100 Å in diameter
- c. Is a perforin made of poly-C9 complex
- d. Can cause lysis of red blood cells

Question Number : 93 Question Id : 70959728889 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 convergent point of all the three pathways in complement activation is

- a. Generation of C3 convertase
- b. Generation of C5 convertase
- c. Formation of C1 like complex
- d. Cleavage of C4

Question Number : 94 Question Id : 70959728890 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 related to Class I MHC molecules?

- a. Endogenous antigens
- b. Peptides of 8-10 amino acid residues
- c. Peptides of 13-18 amino acid residues
- d. Hydrophobic carboxyl-terminal amino acids

Question Number : 95 Question Id : 70959728891 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

CD4<sup>+</sup> TH cells recognize peptide associated with

- a. Class I MHC molecules
- b. Class II MHC molecules
- c. CD1 molecules
- d.  $\gamma\delta$  TCR

Question Number : 96 Question Id : 70959728892 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 professional antigen-presenting cell (APCs)?

- a. B-cells
- b. Dendritic cells
- c. Natural killer cells
- d. Macrophages

Question Number : 97 Question Id : 70959728893 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 molecular chaperone?

- a. LMP7
- b. MECL-1
- c. ERp57
- d. TAP2

Question Number : 98 Question Id : 70959728894 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 correct statement for Transporter Protein (TAP)?

- a. Membrane-spanning heterodimer
- b. High affinity for peptides of 8-10 amino acids
- c. ATP-dependent transporter
- d. Transport peptides from RER to cytosol

Question Number : 99 Question Id : 70959728895 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0



Invariant chain is cleaved within which compartment?

- a. Lysosomes
- b. Endosomes
- c. Golgi
- d. Cytosol

Question Number : 100 Question Id : 70959728896 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

"Booster response" is a

- a. Primary immune response
- b. Secondary immune response
- c. Innate immune response
- d. Cell-mediated immune response