

# Human Health and Diseases

## Question1

Given below are two statements:

**Statement I: Antibiotics are chemicals produced by microbes that kill other microbes.**

**Statement II: Antibodies are chemicals formed in body that eliminate microbes.**

**In the light of the above statements, choose the most appropriate answer from the options given below.**

**[NEET 2024 Re]**

**Options:**

A.  
Statement I is correct but Statement II is incorrect

B.  
Statement I is incorrect but Statement II is correct

C.  
Both Statement I and Statement II are correct

D.  
Both Statement I and Statement II are incorrect

**Answer: C**

**Solution:**

The correct answer is option (3) as both statement I and statement II are correct.

Antibiotics are chemicals produced by microorganisms.

Antibiotics have the capacity to inhibit the growth and eventually destroy bacterial and other microorganisms in low concentration. Thus, statement I is correct.

Antibodies are immunoglobulins produced in the body in response to any attack from pathogens. Antibodies facilitate killing of microbes by various mechanisms and provide immunity to the body. Thus, statement II is also correct.

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## Question2

**Math List-I with List-II:**

	List-I		List-II
A.	Malignant tumors	I	Destroy tumors
B.	MALT	II	AIDS
C.	NACO	III	Metastasis
D.	$\alpha$ -Interferons	IV	Lymphoid tissue

**Choose the correct answer from the options given below:**

**[NEET 2024 Re]**

**Options:**

A.

A-III, B-IV, C-II, D-I

B.

A-IV, B-III, C-II, D-I

C.

A-III, B-IV, C-I, D-II

D.

A-III, B-I, C-IV, D-II

**Answer: A**

**Solution:**

The correct answer is option (1) as:

A.	Malignant tumors	-	Exhibit the property of metastasis
B.	MALT	-	Mucosa Associated Lymphoid Tissue
C.	NACO	-	National AIDS Control Organisation
D.	$\alpha$ -Interferons	-	Biological response modifiers given to cancer patients that activate their immune system and help in destroying the tumor.

Thus, correct match is, A-III, B-IV, C-II, D-I and therefore the correct answer is option (1).

The other options i.e., (2), (3) and (4) are incorrect as they represent mismatches.

## Question3

**Match List I with List II :**

	List-I		List-II
A.	B-Lymphocytes	I	Passive immunity
B.	Interferons	II	Cell mediated immunity
C.	T-Lymphocytes	III	Produce an army of proteins in response to pathogens
D.	Colostrum	IV	Innate immunity

**Choose the correct answer from the options given below :**

## [NEET 2024 Re]

### Options:

A.

A-I, B-IV, C-II, D-III

B.

A-IV, B-II, C-III, D-I

C.

A-III, B-IV, C-II, D-I

D.

A-II, B-IV, C-I, D-III

**Answer: C**

### Solution:

The correct answer is option (3) as

- The B-lymphocytes produce an army of proteins in response to pathogens into our blood to fight with them. These proteins are called antibodies.
- Interferons belong to the cytokine barrier of innate immunity, which protect non-infected cells from further viral infection.
- T-lymphocytes mediate cell mediated immunity.
- Colostrum provides natural passive immunity to the infant.

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## Question4

**Which of the following are Autoimmune disorders?**

- A. Myasthenia gravis**
- B. Rheumatoid arthritis**
- C. Gout**
- D. Muscular dystrophy**
- E. Systemic Lupus Erythematosus (SLE)**

**Choose the most appropriate answer from the options given below:**

**[NEET 2024]**

### Options:

A.

A, B & D only

B.

A, B & E only



C.

B, C & E only

D.

C, D & E only

**Answer: B**

### Solution:

The correct answer is option (2) as Myasthenia gravis, Rheumatoid arthritis and Systemic Lupus Erythematosus (SLE) are autoimmune disorders.

Muscular dystrophy is a genetic disorder which progressively affects the skeletal muscles.

Gout is the inflammation of joints due to deposition of uric acid crystals.

Option (1), (3) and (4) are not the correct answer because all of them are not autoimmune disorders.

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## Question5

### Match List I with List II :

	List-I		List-II
A.	Typhoid	I.	Fungus
B.	Leishmaniasis	II.	Nematode
C.	Ringworm	III.	Protozoa
D.	Filariasis	IV.	Bacteria

**Choose the correct answer from the options given below:**

**[NEET 2024]**

### Options:

A.

A-I, B-III, C-II, D-IV

B.

A-IV, B-III, C-I, D-II

C.

A-III, B-I, C-IV, D-II

D.

A-II, B-IV, C-III, D-I

**Answer: B**

### Solution:



The correct answer is option (2) as

Typhoid - Caused by Salmonella typhimurium (Bacteria)

Leishmaniasis - Caused by protozoan i.e., Leishmania donovani

Ringworm - Caused by fungi belonging to the genera Microsporum, Trichophyton and Epidermophyton

Filariasis - Caused by Wuchereria bancrofti and Wuchereria malayi (Nematode)

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## Question6

**Match List I with List II :**

	List-I		List-II
A.	Common cold	I.	Plasmodium
B.	Haemozoin	II.	Rhinoviruses
C.	Widal test	III.	Rhinoviruses
D.	Allergy	IV.	Dust mites

**Choose the correct answer from the options given below :**

**[NEET 2024]**

**Options:**

A.

A-II, B-IV, C-III, D-I

B.

A-I, B-III, C-II, D-IV

C.

A-III, B-I, C-II, D-IV

D.

A-IV, B-II, C-III, D-I

**Answer: C**

**Solution:**

Correct answer is option (3) because

- Common cold is caused by Rhinoviruses
- Haemozoin is released in blood due to ruptured RBCs after Plasmodium infection.
- Widal test is used to confirm the typhoid fever.
- Allergy is caused due to dust mites.

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## Question7

**Given below are two statements :**

**Statement I : Bone marrow is the main lymphoid organ where all blood cells including lymphocytes are produced.**

**Statement II : Both bone marrow and thymus provide micro environments for the development and maturation of T-lymphocytes.**

**In the light of above statements, choose the most appropriate answer from the options given below :**

**[NEET 2024]**

**Options:**

- A.  
Both Statement I and Statement II are correct.
- B.  
Both Statement I and Statement II are incorrect.
- C.  
Statement I is correct but Statement II is incorrect.
- D.  
Statement I is incorrect but Statement II is correct.

**Answer: A**

**Solution:**

The correct answer is option no. (1) as both statements I and II are correct.

In humans, the bone marrow is the main lymphoid organ where all blood cells including lymphocytes are produced.

Both bone-marrow and thymus provide micro-environments for the development and maturation of T-lymphocytes.

Options (2), (3) and (4) are incorrect.

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## Question8

**Which of the following sexually transmitted infections are completely curable?**

**[NEET 2023 mpr]**

**Options:**

- A.  
HIV infection and Trichomoniasis
- B.  
Syphilis and trichomoniasis



C.

Hepatitis - B and Genital herpes

D.

Genital herpes and Genital warts

**Answer: B**

### Solution:

Among the options provided, sexually transmitted infections (STIs) caused by bacteria are typically curable with antibiotics, while those caused by viruses are not curable but can be managed.

Option A : HIV infection and Trichomoniasis - HIV is a viral infection and currently has no cure, but it can be managed with antiretroviral therapy. Trichomoniasis is a parasitic infection and is curable with antibiotics.

Option B : Syphilis and Trichomoniasis - Both syphilis and trichomoniasis are curable. Syphilis is a bacterial infection and can be cured with antibiotics, typically penicillin. Trichomoniasis, as mentioned above, is a parasitic infection that can also be cured with antibiotics.

Option C : Hepatitis - B and Genital herpes - Both are viral infections and, while their symptoms can be managed, they are not curable.

Option D : Genital herpes and Genital warts - Both are caused by viruses (Herpes simplex and Human papillomavirus respectively) and, while their symptoms can be managed, they are not curable.

So, the correct answer is :

Option B : Syphilis and trichomoniasis.

## Question9

	List - I		List - II
(A)	Typhoid	(I)	Protozoan
(B)	Elephantiasis	(II)	Salmonella
(C)	Ringworm	(III)	Aschelminthes
(D)	Malaria	(IV)	Microsporium

**Choose the correct answer from the options given below :  
[NEET 2023 mpr]**

**Options:**

A.

(A)-(I), (B)-(IV), (C)-(III), (D)-(II)

B.

(A)-(I), (B)-(III), (C)-(IV), (D)-(II)

C.

(A)-(II), (B)-(III), (C)-(IV), (D)-(I)

D.

(A)-(II), (B)-(IV), (C)-(III), (D)-(I)

**Answer: C**



## Solution:

- Typhoid is caused by bacteria of the genus Salmonella.
  - Elephantiasis is caused by a parasitic worm from the group Aschelminthes (specifically, filarial worms).
  - Ringworm is a fungal infection caused by fungi of the genus Microsporium.
  - Malaria is caused by a protozoan parasite from the genus Plasmodium.
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## Question 10

List - I		List - II	
(A)	Cytokine barriers	(I)	Mucus coating of respiratory tract
(B)	Cellular barriers	(II)	Interferons
(C)	Physiological barriers	(III)	Neutrophils and Macrophages
(D)	Physical barriers	(IV)	Tears and Saliva

**Choose the correct answer from the options given below :  
[NEET 2023 mpr]**

### Options:

A.

(A)-(II), (B)-(III), (C)-(IV), (D)-(I)

B.

(A)-(III), (B)-(I), (C)-(IV), (D)-(II)

C.

(A)-(III), (B)-(I), (C)-(II), (D)-(IV)

D.

(A)-(II), (B)-(III), (C)-(I), (D)-(IV)

**Answer: A**

## Solution:

Cytokines are a broad and loose category of small proteins that are important in cell signaling. Their release has an effect on the behavior of cells around them. It can be due to immune response or inflammation. Interferons are a type of cytokine. They are released by host cells in response to the presence of pathogens such as viruses, bacteria, parasites, or tumor cells. They allow for communication between cells to trigger the protective defenses of the immune system that eradicate pathogens or tumors.

(B) Cellular barriers - (III) Neutrophils and Macrophages

Cellular barriers are formed by immune cells that prevent the spread and movement of foreign substances in the body. Neutrophils and macrophages are types of white blood cells and are part of the immune system. Neutrophils are the most abundant type of granulocytes and the most abundant type of white blood cells in most mammals. They form an essential part of the innate immune system. Their functions vary from the destruction of bacteria and fungi to the stimulation of other immune cells. Macrophages, on the other hand, are a type of white blood cell that engulfs and digests cellular debris, foreign substances, microbes, cancer cells, and anything else that does not have the type of proteins specific to healthy body cells on its surface in a process called phagocytosis.

(C) Physiological barriers - (IV) Tears and Saliva

Physiological barriers are those which use the body's own natural processes to prevent infection. For instance, both tears and saliva contain enzymes such as lysozyme which help to break down the cell walls of many kinds of bacteria.

(D) Physical barriers - (I) Mucus coating of the respiratory tract

Physical barriers are the body's first line of defense against pathogens. These barriers are structural in nature. The





mucus coating of the respiratory tract is a great example. It traps pathogens, dust, and other particles that enter the nasal passage with each breath, and because the mucus is constantly moved by cilia, it is eventually coughed or sneezed out, or swallowed and destroyed by stomach acids. Thus, it acts as a physical barrier, preventing pathogens from reaching the lungs.

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## Question 11

Match List I with List II.

List I	List II
A. Ringworm	I. Haemophilus influenzae
B. Filariasis	II. Trichophyton
C. Malaria	III. Wuchereria bancrofti
D. Pneumonia	IV. Plasmodium vivax

Choose the correct answer from the options given below:  
[NEET 2023]

Options:

- A. A-II, B-III, C-I, D-IV
- B. A-III, B-II, C-I, D-IV
- C. A-III, B-II, C-IV, D-I
- D. A-II, B-III, C-IV, D-I

Answer: D

Solution:

Solution:

Option (4) is the correct answer because:

- (i) Ringworm is caused by Trichophyton.
  - (ii) Filariasis is caused by Wuchereria bancrofti.
  - (iii) Malaria is caused by Plasmodium species.
  - (iv) Pneumonia is caused by Haemophilus influenzae.
- 

## Question 12

In which blood corpuscles, the HIV undergoes replication and produces progeny viruses?  
[NEET 2023]

Options:

- A. B-lymphocytes
- B. Basophils
- C. Eosinophils
- D. T<sub>H</sub> cells

**Answer: D**

**Solution:**

**Solution:**

The correct answer is option (4) because HIV enters into helper T-lymphocytes (T<sub>H</sub>), replicates and produces progeny viruses. The progeny viruses released into blood attack other helper lymphocytes.

## Question 13

**Match List I with List II.**

List I	List II
A. Heroin	I. Effect on cardiovascular system
B. Marijuana	II. Slow down body function
C. Cocaine	III. Painkiller
D. Morphine	IV. Interfere with transport of dopamine

**Choose the correct answer from the options given below:  
[NEET 2023]**

**Options:**

- A. A-I, B-II, C-III, D-IV
- B. A-IV, B-III, C-II, D-I
- C. A-III, B-IV, C-I, D-II
- D. A-II, B-I, C-IV, D-III

**Answer: D**

**Solution:**

**Solution:**

The correct answer is option (4) as

- Heroin belongs to the category of opioids and it is a depressant that slows down body functions.
- Marijuana is known for its effect on the cardiovascular system of the body.
- Cocaine interferes with the transport of the neurotransmitter dopamine.



## Question 14

**Which of the following reasons is mainly responsible for graft rejection in transplantation of organs?**

**[NEET Re-2022]**

**Options:**

- A. Cell-mediated response
- B. Inability of recipient to differentiate between 'self' and 'non-self' tissues/cells
- C. Humoral immune response only
- D. Auto-immune response

**Answer: A**

**Solution:**

**Solution:**

Any tissue or organ used for transplantation is commonly called graft. Tissue matching, blood group matching are essential before undertaking any graft/transplant. Cell mediated immune response is responsible for graft rejection.

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## Question 15

**Match List - I with List - II :**

List - I	List - II
(a) Cellular barrier	(i) Interferons
(b) Cytokine barrier	(ii) Mucus
(c) Physical barrier	(iii) Neutrophils
(d) Physiological barrier	(iv) HCl in gastric juice

**Choose the correct answer from the options given [NEET Re-2022]**

**Options:**

- A. (a) - (iii), (b) - (i), (c) - (ii), (d) - (iv)
- B. (a) - (ii), (b) - (iii), (c) - (iv), (d) - (i)
- C. (a) - (ii), (b) - (iii), (c) - (i), (d) - (iv)
- D. (a) - (iii), (b) - (iv), (c) - (ii), (d) - (i)

**Answer: A**

## **Solution:**

### **Solution:**

Innate immunity consists of four barriers:

1. Physical barriers - e.g. Mucus coating of the epithelium lining the respiratory, gastrointestinal and urogenital tracts.
  2. Physiological barrier - e.g. Acid (HCl) in stomach
  3. Cellular barriers - e.g. Polymorpho-nuclear leukocytes (PMNL-Neutrophils)
  4. Cytokine barrier - e.g. Interferons (secreted by virus infected cells to protect non infected cells from further viral infection)
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## **Question16**

**Given below are two statements:**

**Statement I:**

**Autoimmune disorder is a condition where body defense mechanism recognizes its own cells as foreign bodies.**

**Statement II:**

**Rheumatoid arthritis is a condition where body does not attack self cells.**

**In the light of the above statements, choose the most appropriate answer from the options given below  
[NEET-2022]**

**Options:**

- A. are correct Statement II and Statement I Both
- B. Both Statement I and Statement II are incorrect
- C. is incorrect Statement II is correct but Statement I
- D. Statement I is incorrect but Statement II is correct

**Answer: C**

## **Solution:**

### **Solution:**

Option (3) is the correct answer as autoimmune disorder is a condition where body defense mechanism recognises its own cells as foreign bodies. Sometimes, due to genetic and other unknown reasons, the body attacks self- cells.

Rheumatoid arthritis is an example where body attacks self cells (synovial membrane).

So Statement I is correct but Statement II is incorrect.

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## **Question17**

**Given below are two statements :**

**Statement I : The coagulum is formed of network of threads called**



**thrombins.**

**Statement II : Spleen is the graveyard of erythrocytes.**

**In the light of the above statements, choose the most appropriate answer from the options given below :  
[NEET-2022]**

**Options:**

- A. Both Statement I and Statement II are correct
- B. Both Statement I and Statement II are incorrect
- C. Statement I is correct but Statement II is incorrect
- D. Statement I is incorrect but Statement II is correct

**Answer: D**

**Solution:**

**Solution:**

Option (4) is the correct answer because coagulum or clot is formed mainly of a network of threads called fibrins. Hence, Statement I is incorrect.

RBCs are destroyed in the spleen so spleen is known as the graveyard of erythrocytes. Hence, Statement II is correct.

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## Question18

**Select the incorrect statement with respect to acquired immunity.  
[NEET-2022]**

**Options:**

- A. Primary response is produced when our body encounters a pathogen for the first time.
- B. Anamnestic response is elicited on subsequent encounters with the same pathogen.
- C. Anamnestic response is due to memory of first encounter.
- D. Acquired immunity is non-specific type of defense present at the time of birth.

**Answer: D**

**Solution:**

**Solution:**

Option (4) is the correct answer as acquired immunity is a specific type of defence which is not present at the time of birth.

Option (3), (1) and (2) are true statements and hence cannot be the answer.

Anamnestic response or secondary immune response is a highly intensified response due to memory of first encounter.

When our body encounters a pathogen for the first time then the body elicits the primary immune response.

When there is a subsequent encounter with the same pathogen, secondary or anamnestic immune response is elicited.



## Question19

**Identify the incorrect pair  
[NEET 2021]**

**Options:**

- A. Lectins → Concanavalin A
- B. Alkaloids → Codeine
- C. Toxin → Abrin
- D. Drugs → Ricin

**Answer: D**

**Solution:**

**Solution:**

- Option (4) is incorrect because ricin is a toxin obtained from Ricinus plant. Vinblastin and curcumin are drugs.
  - Morphine and codeine are alkaloids.
  - Abrin is also a toxin obtained by plant Abrus.
  - Concanavalin A is a lectin.
- 

## Question20

**For effective treatment of the disease, early diagnosis and understanding its pathophysiology is very important. Which of the following molecular diagnostic techniques is very useful for early detection?  
[NEET 2021]**

**Options:**

- A. Western Blotting Technique
- B. Southern Blotting Technique
- C. ELISA Technique
- D. Hybridization Technique

**Answer: C**

**Solution:**

**Solution:**

Recombinant DNA technology, Polymerase Chain Reaction (PCR) and Enzyme Linked Immunosorbent Assay (ELISA) are some of the techniques that serve the purpose of early diagnosis.

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## Question21

**The Adenosine deaminase deficiency results into [NEET 2021]**

**Options:**

- A. Dysfunction of Immune system
- B. Parkinson's disease
- C. Digestive disorder
- D. Addison's disease

**Answer: A**

**Solution:**

**Solution:**

Adenosine deaminase (ADA) enzyme is crucial for the immune system to function. Hence, its deficiency results in the dysfunction of immune system.

→ Hyposecretion of hormones of the adrenal cortex causes Addison's disease.

- Parkinson's disease is a long-term degenerative disorder of the central nervous system.
- Disorders which affect GIT & associated glands are called digestive disorders.

## Question22

**Match List-I with List-II**

	List-I		List-II
(a)	Filariasis	(i)	Haemophilus influenzae
(b)	Amoebiasis	(ii)	Trichophyton
(c)	Pneumonia	(iii)	Wuchereria bancrofti
(d)	Ringworm	(iv)	Entamoeba histolytica

**Choose the correct answer from the options given below [NEET 2021]**

**Options:**



- A. (a)-(iii) (b)-(i) (c)-(iv) (d)-(ii)  
 B. (a)-(iii) (b)-(iv) (c)-(i) (d)-(ii)  
 C. (a)-(ii) (b)-(iii) (c)-(i) (d)-(iv)  
 D. (a)-(iv) (b)-(ii) (c)-(i) (d)-(iii)

**Answer: B**

**Solution:**

**Solution:**

The correct option is (2).

- Filariasis is the disease caused by *Wuchereria bancrofti*, filarial worm.
- Amoebiasis/Amoebic dysentery is caused by a protozoan parasite *Entamoeba histolytica* in the large intestine of human.
- Pneumonia is caused by bacteria like *Streptococcus pneumoniae* and *Haemophilus influenzae*.
- Ringworm is caused by fungi belonging to genera *Microsporium*, *Trichophyton* and *Epidermophyton*.

## Question23

**Match the following diseases with the causative organism and select the correct option.**

Column-I		Column-II	
(a)	Typhoid	(i)	<i>Wuchereria</i>
(b)	Pneumonia	(ii)	<i>Plasmodium</i>
(c)	Filariasis	(iii)	<i>Salmonella</i>
(d)	Malaria	(iv)	<i>Haemophilus</i>

	(a)	(b)	(c)	(d)
(1)	(iii)	(iv)	(i)	(ii)
(2)	(ii)	(i)	(iii)	(iv)
(3)	(iv)	(i)	(ii)	(iii)
(4)	(i)	(iii)	(ii)	(iv)





## [NEET-2020]

### Options:

- A. a
- B. b
- C. c
- D. d

**Answer: A**

### Solution:

Typhoid fever in humans is caused by pathogenic bacterium *Salmonella typhi*.

Pneumonia is caused by *Streptococcus Pneumoniae* and *Haemophilus influenzae*.

Filariasis or elephantiasis is caused by the filarial worm, *Wuchereria bancrofti* and *Wuchereria malayi*.

Malaria is caused by different species of *Plasmodium*.

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## Question24

**The infectious stage of Plasmodium that enters the human body is [NEET-2020]**

### Options:

- A. Sporozoites
- B. Female gametocytes
- C. Male gametocytes
- D. Trophozoites

**Answer: A**

### Solution:

*Plasmodium* enters the human body as sporozoites (Infectious stage) through the bite of Infected Female *Anopheles* mosquito.

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## Question25

**Identify the wrong statement with reference to immunity. [NEET-2020]**

### Options:

- A. When ready-made antibodies are directly given, it is called "Passive immunity".
- B. Active immunity is quick and gives full response.
- C. Foetus receives some antibodies from mother, it is an example for passive immunity.

D. When exposed to antigen (living or dead) antibodies are produced in the host's body. It is called "Active immunity".

**Answer: B**

**Solution:**

**Solution:**

The correct option is (2) because active immunity is slow and takes time to give its full effective response in comparison to passive immunity where pre-formed antibodies are administered.

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## Question26

**Identify the correct pair representing the causative agent of typhoid fever and the confirmatory test for typhoid.**  
**[NEET 2019]**

**Options:**

- A. Streptococcus pneumoniae / Widal test
- B. Salmonella typhi / Anthrone test
- C. Salmonella typhi / Widal test
- D. Plasmodium vivax / UTI test

**Answer: C**

**Solution:**

**Solution:**

Salmonella typhi is the causative agent.

Confirmatory test = Widal test, it's based on antigen antibody reaction.

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## Question27

**Humans have acquired immune system that produces antibodies to neutralize pathogens. Still innate immune system is present at the time of birth because it**  
**[NEET OD 2019]**

**Options:**

- A. is very specific and uses different macrophages.
- B. produces memory cells for mounting fast secondary response.
- C. has natural killer cells which can phagocytose and destroy microbes.

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D. provides passive immunity.

**Answer: C**

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## Question28

**Colostrum the yellowish fluid, secreted by mother during the initial days of lactation is very essential to impart immunity to the new born infants because it contains**  
**[NEET 2019]**

**Options:**

- A. Monocytes
- B. Macrophages
- C. Immunoglobulin A
- D. Natural killer cells

**Answer: C**

**Solution:**

**Solution:**

Colostrum, the yellowish fluid secreted by the mother during initial days of lactation is very essential to impart immunity to the new born infant because it contains Immunoglobulin A. It will impart naturally acquired passive immunity to the newborn

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## Question29

**Which of the following immune responses is responsible for rejection of kidney graft?**  
**[NEET 2019]**

**Options:**

- A. Humoral immune response
- B. Inflammatory immune response
- C. Cell-mediated immune response
- D. Auto-immune response

**Answer: C**

**Solution:**

**Solution:**

The body is able to differentiate self and non self and the cell-mediated response is responsible for graft rejection.

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## Question30

**Coca alkaloid or cocaine is obtained from:  
[NEET OD 2019]**

**Options:**

- A. Papaver somniferum
- B. Atropa belladonna
- C. Erythroxylum coca
- D. Datura

**Answer: C**

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## Question31

**Drug called 'Heroin' is synthesized by  
[NEET 2019]**

**Options:**

- A. acetylation of morphine
- B. glycosylation of morphine
- C. nitration of morphine
- D. methylation of morphine

**Answer: A**

**Solution:**

**Solution:**

Heroin, commonly called smack and is chemically diacetylmorphine which is synthesized by acetylation of morphine.

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## Question32

**In which disease does mosquito transmitted pathogen cause chronic inflammation of lymphatic vessels?  
[NEET 2018]**

**Options:**

- A. Elephantiasis
- B. Ascariasis
- C. Amoebiasis

D. Ringworm disease

**Answer: A**

**Solution:**

**Solution:**

Elephantiasis is caused by roundworm, *Wuchereria bancrofti* and it is transmitted by *Culex* mosquito.

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## Question33

**Which part of poppy plant is used to obtain the drug “Smack”?  
[2018]**

**Options:**

- A. Flowers
- B. Latex
- C. Leaves
- D. Roots

**Answer: B**

**Solution:**

**Solution:**

(b) 'Smack' also called as brown sugar/Heroin is formed by acetylation of morphine. It is obtained from the latex of unripe capsule of Poppy plant (*Papaver somniferum*).

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## Question34

**Transplantation of tissues/organs fails often due to non-acceptance by the patient's body. Which type of immune-response is responsible for such rejections ?  
[NEET 2017]**

**Options:**

- A. Cell - mediated immune response
- B. Hormonal immune response
- C. Physiological immune response
- D. Autoimmune response



**Answer: A**

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## Question35

**MALT constitutes about \_\_\_\_\_ percent of the lymphoid tissue in human body.  
[NEET 2017]**

**Options:**

- A. 20%
- B. 70%
- C. 10%
- D. 50%

**Answer: D**

---

## Question36

**Which of the following sets of diseases is caused by bacteria?  
[NEET 2016 P2]**

**Options:**

- A. Herpes and influenza
- B. Cholera and tetanus
- C. Typhoid and smallpox
- D. Tetanus and mumps

**Answer: B**

---

## Question37

**Which of the following is correct regarding AIDS causative HIV?  
[NEET 2016 P2]**

**Options:**

- A. HIV does not escape but attacks the acquired immune response.
- B. HIV is enveloped virus containing one molecule of single-stranded RNA and one molecule of reverse transcriptase.
- C. HIV is enveloped virus that contains two identical molecules of single-stranded RNA and two



molecules of reverse transcriptase.

D. HIV is unenveloped retrovirus.

**Answer: C**

**Solution:**

**Solution:**

HIV attacks helper T cells and not try to hide from them.

---

## Question38

**Antivenom injection contains preformed antibodies while polio drops that are administered into the body contain :**  
**[NEET 2016 P1]**

**Options:**

- A. Attenuated pathogens
- B. Activated pathogens
- C. Harvested antibodies
- D. Gamma globulin

**Answer: A**

**Solution:**

**Solution:**

OPV is of 2 types:

- (i) OPV sabin-Live attenuated vaccine
  - (ii) OPV salk- Killed vaccine
- 

## Question39

**Which of the following statements is not true for cancer cells in relation to mutations?**  
**[NEET 2016 P1]**

**Options:**

- A. Mutations inhibit production of telomeres.
- B. Mutations in proto-oncogenes acceleration the cell cycle.
- C. Mutations destroy telomerase inhibitor.
- D. Mutations inactivate the cell control.



**Answer: A**

**Solution:**

**Solution:**

Cancer will be caused by increased telomerase activity making the cancerous cells immortal & not by inhibition of telomerase production.

---

## Question40

**In higher vertebrates, the immune system can distinguish self-cells and non-self, If this property is lost due to genetic abnormality and it attacks self-cells, then it leads to :  
[NEET 2016 P1]**

**Options:**

- A. Active immunity
- B. Allergic response
- C. Graft rejection
- D. Auto-immune disease

**Answer: D**

**Solution:**

**Solution:**

If self & non-self recognition power is lost then immune cells can attack our own body cells and cause auto immune disease

---

## Question41

**If you suspect major deficiency of antibodies in a person, to which of the following would you look for confirmatory evidence?  
[NEET 2015]**

**Options:**

- A. Fibrinogen in plasma
- B. Haemocytes
- C. Serum albumins
- D. Serum globulins

**Answer: D**

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## Solution:

### Solution:

If you suspect a major deficiency of antibodies in a person, you would look for confirmatory evidence in serum globulins. Serum globulins are a group of proteins that are found in blood plasma, and they include immunoglobulins (antibodies) as well as other proteins involved in immune function. Antibodies are a type of globulin that are produced by B cells in response to an infection or other foreign invader, and they play a critical role in the body's immune response.

A deficiency of antibodies, also known as immunodeficiency, can occur due to a variety of causes, including genetic disorders, certain medications, and infections such as HIV/AIDS. To confirm a suspected deficiency of antibodies, blood tests can be performed to measure the levels of different types of serum globulins, including immunoglobulins. If the levels of immunoglobulins are significantly lower than normal, it may indicate a deficiency of antibodies and further testing may be required to determine the cause.

So, option D, "Serum globulins," is the correct answer.

---

## Question42

**Which of the following immunoglobulins does constitute the largest percentage in human milk?  
[NEET 2015]**

### Options:

- A. Ig M
- B. Ig A
- C. Ig G
- D. Ig D

**Answer: B**

### Solution:

#### Solution:

IgA immunoglobulins are the second most abundant class of immunoglobulins, which are mainly found in sweat, tears, saliva, mucus, colostrum and gastrointestinal secretions.

---

## Question43

**Which of the following diseases is caused by a protozoan?  
[NEET 2015]**

### Options:

- A. Influenza
- B. Babesiosis
- C. Blastomycosis



D. Syphilis

**Answer: B**

**Solution:**

**Solution:**

Babesiosis is a malaria-like parasitic disease caused by infection with Babesia, a parasitic protozoan. Babesiosis has been recognised as a disease of cattle and other domestic animals, until human forms of babesiosis had been discovered. Babesia parasites reproduce in red blood cells of mammals and cause haemolytic anaemia, quite similar to malaria. The parasite is transmitted by ticks.

---

## Question44

**Grafted kidney may be rejected in a patient due to -  
[NEET 2015]**

**Options:**

- A. Humoral immune response
- B. Cell-mediated immune response
- C. Passive immune response
- D. Innate immune response

**Answer: B**

**Solution:**

**Solution:**

Cell-mediated immune response (CMIS) consists of T-lymphocytes. It reacts against transplants. Transplantation may result in the rejection of the transplanted organs. The immune system recognises the protein in the transplanted tissue or organ as foreign and initiates cellular immunity against it.

---

## Question45

**Match each disease with its correct type of vaccine**

(a) tuberculosis	(i) harmless virus
(b) whooping cough	(ii) Inactivated toxin
(c) diptheria	(iii) killed bacteria
(d) polio	(iv) harmless bacteria

**[NEET 2015 C]**

**Options:**



A. <sup>(a)</sup>(iii) <sup>(b)</sup>(ii) <sup>(c)</sup>(iv) <sup>(d)</sup>(i)

B. (iv) (iii) (ii) (i)

C. (i) (ii) (iv) (iii)

D. (ii) (i) (iii) (iv)

**Answer: B**

---

## Question46

**The active form of Entamoeba histolytica feeds upon:  
[NEET 2015 C]**

**Options:**

A. mucosa and submucosa of colon only

B. food in intestine

C. blood only

D. erythrocytes; mucosa and submucosa of colon

**Answer: D**

---

## Question47

**HIV that causes AIDS, first starts destroying:  
[NEET 2015 C]**

**Options:**

A. Leucocytes

B. Helper T- Lymphocytes

C. Thrombocytes

D. B- Lymphocytes



**Answer: B**

---

## Question48

Which is the particular type of drug that is obtained from the plants whose one flowering branch is shown below?



**[NEET 2014]**

**Options:**

- A. Hallucinogen
- B. Depressant
- C. Stimulant
- D. Pain- Killer

**Answer: A**

**Solution:**

**Solution:**

The plant illustrated in diagram is Datura which has hallucinogenic properties.

---

## Question49

At which stage of HIV infection does one usually show symptoms of AIDS?

**[NEET 2014]**

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**Options:**

- A. Within 15 days of sexual contact with an infected person.
- B. When the infected retrovirus enters host cells.
- C. When HIV damages large number of helper T- Lymphocytes.
- D. When the viral DNA is produced by reverse transcriptase.

**Answer: C**

**Solution:**

**Solution:**

Symptoms of AIDS would appear in the late stage of HIV infection, when the virus attacks 'Helper-T-cells' and causes their depletion

---

## Question50

**Infection of Ascaris usually occurs by (NEET 2013)**

**Options:**

- A. Tse-tse fly
- B. mosquito bite
- C. drinking water containing eggs of Ascaris
- D. eating imperfectly cooked pork.

**Answer: C**

**Solution:**

**Solution:**

Man acquires infection of Ascaris by directly ingesting Ascaris eggs, containing the infective second stage larva, with contaminated food or water. Life cycle of Ascaris is monogenetic. There is no vector or intermediate host.

---

## Question51

**Which one of the following statements is correct regarding sexually transmitted diseases (STDs)? (KN NEET 2013)**

**Options:**

- A. A person may contract syphilis by sharing milk with one already suffering from the disease.



- B. Haemophilia is one of the STDs.
- C. Genital herpes and sickle-cell anaemia are both STDs
- D. The chances of a 5 -years boy contracting a STD are very little

**Answer: D**

### **Solution:**

#### **Solution:**

Syphilis is caused by bacterium *Treponema pallidum*. It is a sexually transmitted disease (STD) which is transferred through sexual intercourse with infected person. Haemophilia is a X-linked genetic disorder of blood. It is not transmitted via any sexual practice. Genital herpes is an STD while sickle-cell anaemia is an autosomal hereditary disorder. The chances of a 5 year boy contracting an STD are very little since he is unlikely to have sex at this age.

---

## **Question52**

**Identify the site where *Wuchereria bancrofti* is normally found in human body.  
(KN NEET 2013)**

### **Options:**

- A. Muscles of the legs
- B. Blood vessels of the thigh region
- C. Skin between the fingers
- D. Lymphatic vessels of the lower limbs

**Answer: D**

### **Solution:**

#### **Solution:**

*Wuchereria bancrofti* is a dreaded human parasite. It is a digenetic parasite completing its life cycle in two hosts, the final host is man harbouring the adult worm. The disease passes through four stages in human beings: In the first stage, the patient has increased eosinophils, enlarged lymph nodes. Second or carrier stage is symptomless. Third stage is characterised by filarial fever, inflammation of lymph nodes (lymphadenitis) and lymph vessels (lymphangiectasis) and reversible lymphoedema (excess fluid in tissues due to obstruction of lymph vessels in various body parts. The fourth or final stage is manifested by lymphoedema accompanied by thickening of subcutaneous tissues and skin so that there is permanent swelling mostly of feet, legs, thighs, scrotal sacs, breast etc. It is called elephantiasis.

---

## **Question53**

**Which one of the following is a hallucinogenic drug?  
(KN NEET 2013)**

**Options:**

- A. Caffeine
- B. Morphine
- C. Lysergic acid diethylamide
- D. Opium

**Answer: C**

**Solution:****Solution:**

LSD is a psychedelic drug since it causes optical and auditory hallucinations and induces behavioural abnormalities. Opium and morphine are opiate narcotics that suppress brain activity and relieve pain. Caffeine is a stimulant that temporarily stimulates the nervous system.

---

## Question54

### Motile zygote of Plasmodium occurs in (2012)

**Options:**

- A. gut of female Anopheles
- B. salivary glands of Anopheles
- C. human RBCs
- D. human liver

**Answer: A**

**Solution:****Solution:**

Plasmodium, a tiny protozoan parasite causes malaria in humans, and is transmitted through the bite of infected female Anopheles mosquito. When female Anopheles sucks the blood of infected human it takes up gametocytes (sexual stages of parasite) with blood meal. The gametocytes come out of the RBCs into the lumen (cavity) of the stomach of the mosquito. In the stomach, the male gametocyte divides and forms 6 to 8 long, motile, whip-like microgametes (male gametes). The female gametocyte does not divide but undergoes a process of maturation to become the macrogamete (female gamete). A microgamete penetrates a macrogamete and fertilization (syngamy) takes place, resulting in the formation of a zygote. The zygote elongates and becomes worm like motile organism called ookinete. Ookinete further changes into sporozoites (mature infective stage of Plasmodium).

---

## Question55

### Widal test is carried out to test (2012)



**Options:**

- A. malaria
- B. diabetes mellitus
- C. HIV/AIDS
- D. typhoid fever

**Answer: D****Solution:****Solution:**

Widal test (developed by G.F.I Widal) is an agglutination test for the presence of antibodies against the Salmonella organism that cause typhoid fever. It is used to diagnose the presence of the disease in a patient.

## Question56

### Common cold differs from pneumonia in that (2012)

**Options:**

- A. pneumonia is a communicable disease whereas the common cold is a nutritional deficiency disease
- B. pneumonia can be prevented by a live attenuated bacterial vaccine whereas the common cold has no effective vaccine
- C. pneumonia is caused by a virus while the common cold is caused by the bacterium Haemophilus influenzae
- D. pneumonia pathogen infects alveoli whereas the common cold affects nose and respiratory passage but not the lungs

**Answer: D****Solution:****Solution:**

Common cold or rhinitis is one of the most infectious diseases caused by Rhino viruses. It affects nose and respiratory passage but not lungs. It spreads by droplet infection or contaminated objects. Pneumonia, caused by bacteria Streptococcus pneumoniae and Haemophilus influenzae is a serious disease of lungs, in which fluid collects in the alveoli and bronchioles. The disease spreads by sputum of the patient.

## Question57

### Which one of the following is not a property of cancerous cells whereas





## the remaining three are? (2012)

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### Options:

- A. They compete with normal cells for vital nutrients.
- B. They do not remain confined in the area of formation.
- C. They divide in an uncontrolled manner.
- D. They show contact inhibition

**Answer: D**

### Solution:

#### Solution:

(d) : Contact inhibition is a property of normal cells by virtue of which contact with other cells inhibits their uncontrolled growth. Cancerous cells lack this property.

---

## Question58

### Cirrhosis of liver is caused by the chronic intake of (2012)

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### Options:

- A. opium
- B. alcohol
- C. tobacco (chewing)
- D. cocaine.

**Answer: B**

### Solution:

#### Solution:

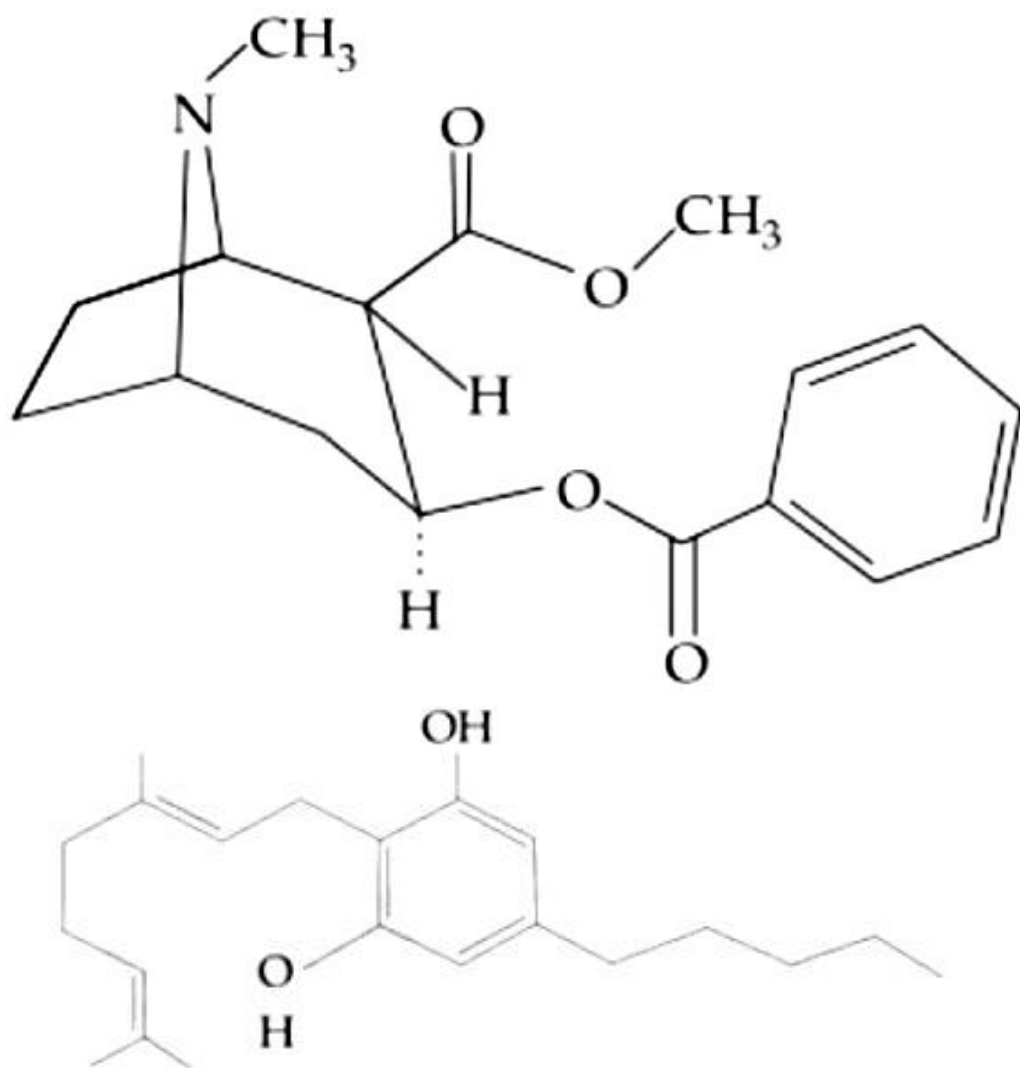
(b) : Cirrhosis is a condition in which the liver responds to injury or death of some of its cells by producing interlacing strands of fibrous tissue between which are nodules of regenerating cells. The liver becomes tawny and characteristically knobbly (due to the nodules). One of the causes include alcoholism (alcoholic cirrhosis).

---

## Question59

Identify the molecules (A) and (B) shown below and select the right option giving their source and use.





	Molecule	Source	Use
(a)	(A) Cocaine	Erythroxyllum coca	Accelerates the transport of dopamine
(b)	(B) Heroin	Cannabis sativa	Depressant and down body functions
(c)	(B) Cannabinoid	Atropa belladonna	Produces hallucinations
(d)	(A)Morphine	Papaver somniferum	Sedative and pain killer

**(Mains 2012)**

**Options:**

- A. (a)
- B. (b)
- C. (c)
- D. (d)

**Answer: D**

## Solution:

### Solution:

(d) : The given chemical structures (A) and (B) are of morphine and cannabinoid respectively. Morphine is the principal opium alkaloid. It is a strong analgesic. It also has sedative and calming effect. Morphine depresses respiratory centre, it contributes to the fall in blood pressure. Morphine is a very effective sedative and painkiller. It is very useful in patients who have undergone surgery. Natural cannabinoids are obtained from the inflorescence of hemp plant *Cannabis sativa*, family Cannabinaceae. They affect the cardiovascular system of the body.

---

## Question60

**Where will you look for the sporozoites of the malarial parasite? (2011)**

### Options:

- A. Saliva of infected female *Anopheles* mosquito
- B. Red blood corpuscles of human suffering from malaria
- C. Spleen of infected humans
- D. Salivary glands of freshly moulted female *Anopheles* mosquito

**Answer: A**

### Solution:

### Solution:

(a) : Sporozoites represent the infective forms of malarial parasite. A healthy person acquires infection, when a female *Anopheles* mosquito, containing sporozoites, bites the person for sucking his blood. The mosquito punctures the host's skin by its proboscis and first introduces some saliva into the blood stream. Along with saliva, thousands of sporozoites are inoculated in the host also.

---

## Question61

**Which one of the following options gives the correct match of a disease with its causative organism and mode of infection?**

Disease	Causative organism	Mode of infection
(a) Typhoid	<i>Salmonella typhi</i>	with inspired air
(b) Pneumonia	<i>Streptococcus pneumoniae</i>	droplet infection
(c) Elephantiasis	<i>Wuchereria bancrofti</i>	with infected water and food
(d) Malaria	<i>Plasmodium vivax</i>	bite of male <i>Anopheles</i> mosquito

**(Mains 2011)**



**Options:**

- A. (a)
- B. (b)
- C. (c)
- D. (d)

**Answer: B**

---

## Question62

**Common cold is not cured by antibiotics because it is (Mains 2011)**

**Options:**

- A. caused by a virus
- B. caused by a Gram-positive bacterium
- C. caused by a Gram-negative bacterium
- D. not an infectious disease

**Answer: A**

**Solution:**

**Solution:**

(a) : Common cold is caused by some 100 types of Rhino viruses. It is one of the most common infectious disease in human. Antibiotics are substances that destroy or inhibit the growth of microorganisms, particularly disease-producing bacteria and fungi. Antibiotics are obtained from microorganisms (especially moulds) or synthesized. Many antibiotics interfere with the pathogen protein synthesis. Some ( e . g. Penicillin) prevent cross-linking of the glycan chains of peptidoglycan molecules in bacterial cell walls. Since the viruses do not possess cell wall and their own protein synthesising apparatus, they are not attacked by antibiotics.

---

## Question63

**Ringworm in humans is caused by (2010)**

**Options:**

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- A. bacteria
- B. fungi
- C. nematodes
- D. viruses

**Answer: B**

**Solution:**

**Solution:**

(b) : Ringworm (tinea) is a fungal infection of the skin, the scalp, or the nails. Ringworm is caused by the dermatophyte fungi-species of microsporum, trichophyton, and epidermophyton and also affects animals, a source of infection for humans. It can be spread by direct contact or via infected materials. The lesions of ringworm may form partial or complete rings and may cause intense itching. The disease is treated with antifungal agents taken by mouth or applied locally.

---

## Question64

**Widal test is used for the diagnosis of (2010)**

**Options:**

- A. malaria
- B. pneumonia
- C. tuberculosis
- D. typhoid

**Answer: D**

**Solution:**

**Solution:**

Tuberculosis is an infectious disease usually caused by Mycobacterium tuberculosis bacteria. Tuberculosis generally affects the lungs, but can also affect other parts of the body. Widal test is a serological test that is done for the diagnosis of typhoid fever. This test detects the "O" and "H" antigen of Salmonella typhi. So, the correct answer is 'Widal test'.

---

## Question65

**Which one of the following statements is correct with respect to AIDS? (2010)**

**Options:**

- A. The HIV can be transmitted through eating food together with an infected person
- B. Drug addicts are least susceptible to HIV infection
- C. AIDS patients are being fully cured cent per cent with proper care and nutrition
- D. The causative HIV retrovirus enters helper T-lymphocytes thus reducing their numbers

**Answer: D**

**Solution:**

**Solution:**

(d) : AIDS (acquired immuno deficiency syndrome) a syndrome, is caused by the retrovirus HIV (human immunodeficiency virus). The virus destroys a subgroup of lymphocytes, the helper T-cells (or CD4 lymphocytes), resulting in suppression of the body's immune response. HIV is transmitted in blood, semen and vaginal fluid; the major routes of infection are unprotected vaginal and anal intercourse, intravenous drug abuse, and the administration of contaminated blood and blood products. A combination of antiviral drugs can delay the development of full-blown AIDS for many years but cannot fully cure the disease.

---

## Question66

**Infectious proteins are present in (2010)**

**Options:**

- A. gemini viruses
- B. prions
- C. viroids
- D. satellite viruses

**Answer: B**

**Solution:**

**Solution:**

Prions are named by Stanley Prusiner (got Nobel Prize in 1997 ). Prions are infectious agents which are made of proteins only (without nucleic acid). Prions are the causal agents of scrapie disease of sheep

---

## Question67

**Select the correct statement from the ones given below. (2010)**

**Options:**



- A. Barbiturates, when given to criminals, make them tell the truth.
- B. Morphine is often given to persons, who have undergone surgery, as a pain killer.
- C. Chewing tobacco lowers blood pressure and heart rate.
- D. Cocaine is given to patients after surgery as it stimulates recovery

**Answer: B**

**Solution:**

**Solution:**

(b) : Morphine is an potent opioid analgesic used mainly to relieve severe and persistent pain, particularly in terminally ill patients or who have undergone surgery. It also induces feelings of euphoria. It is administered by mouth, injection, or in suppositories. Common side effects are nausea and vomiting, constipation, and drowsiness. With regular use, tolerance develops and dependence may occur.

---

## Question68

**Which one of the following techniques is safest for the detection of cancers?  
(Mains 2010)**

**Options:**

- A. Magnetic resonance imaging (MRI)
- B. Radiography (X-ray)
- C. Computed tomography (CT)
- D. Histopathological studies

**Answer: A**

**Solution:**

**Solution:**

(a) : Histopathological study is the invasive technique. Radiography and CT involves X-rays which are harmful. In MRI strong magnetic fields and non-ionising radiations are used to detect any physiological changes in the concerned tissue. Hence it is safe for detection of cancers.

---

## Question69

**A person suffering from a disease caused by Plasmodium, experiences recurring chill and fever at the time when  
(Mains 2010)**

**Options:**

- A. the sporozoites released from RBCs are being rapidly killed and broken down inside spleen
- B. the trophozoites reach maximum growth and give out certain toxins
- C. the parasite after its rapid multiplication inside RBCs ruptures them, releasing the stage to enter fresh RBCs
- D. the microgametocytes and megagametocytes are being destroyed by the WBCs.

**Answer: C**

**Solution:**

**Solution:**

(c) : Plasmodium is a tiny protozoan which is responsible for malaria in the human. In malaria the patient experiences high fever which periodically rises and also experiences recurring chills with fever. Such symptoms are seen because when the RBCs carrying Plasmodium (one of the stage in the life cycle of the parasite) ruptures it releases a toxic substance called haemozoin which is chiefly responsible for the chill and high fever recurring every three to four days.

---

## Question70

**Which one of the following statements is correct?  
(2009)**

**Options:**

- A. Benign tumours show the property of metastasis
- B. Heroin accelerates body functions
- C. Malignant tumours may exhibit metastasis
- D. Patients who have undergone surgery are given cannabinoids to relieve pain

**Answer: C**

**Solution:**

**Solution:**

(c) : Tumour is of two types : benign and malign. Malign or malignant tumour exhibit metastasis. It is the phenomenon in which cancer cells spread to distant sites through body fluids to develop secondary tumour.

---

## Question71

**Which of the following is a pair of viral diseases?  
(2009)**

**Options:**

- A. Common cold, AIDS





B. Dysentery, common cold

C. Typhoid, tuberculosis

D. Ringworm, AIDS

**Answer: A**

**Solution:**

**Solution:**

(a) : Common cold is a viral disease. It is caused by Rhino viruses. It causes fever and pain all over the body and affects the nose, throat and air passages. AIDS (Acquired immuno deficiency syndrome) is a disorder of cell mediated immune system of the body. It is caused by HIV (Human immunodeficiency virus). HIV is a retrovirus that attacks helper T-cells.

## Question72

**Match the disease in column I with the appropriate items (pathogen/prevention/ treatment) in column**

Column I	Column II
(A) Amoebiasis	(i) Treponema pallidum
(B) Diphtheria	(ii) Use only sterilized food and water
(C) Cholera	(iii) DPT Vaccine
(D) Syphilis	(iv) Use oral rehydration therapy

**(2008)**

**Options:**

A. A – (i), B – (i), C – (iii), D – (iv)

B. A – (ii), B – (iii), C – (iv), D – (i)

C. A – (i), B – (ii), C – (iii), D – (iv)

D. A – (ii), B – (iv), C – (i), D – (iii)

**Answer: B**

**Solution:**

**Solution:**

Amoebiasis is caused by a parasite known as Entamoeba histolytica that infects the bowel. Amoebiasis can be spread by:

drinking contaminated water, eating contaminated raw vegetables and fruit. The vaccine for diphtheria is given in a single shot (along with vaccines for pertussis and tetanus) and is called DTP. The DTP vaccine is administered in a series at 2, 4, and 6 months of age, and then again at around 1 and 4 years of age. Cholera is an infectious disease that causes severe watery diarrhoea, which can lead to dehydration and even death if untreated. It is caused by eating food or drinking water contaminated with a bacterium called *Vibrio cholerae* and is treated by using oral rehydration therapy. Syphilis is a sexually transmitted infection caused by the spirochete bacterium *Treponema pallidum* subspecies *pallidum*.

---

## Question73

**Which one of the following is the correct statement regarding the particular psychotropic drug specified? (2008)**

**Options:**

- A. Morphine leads to delusions and disturbed emotions.
- B. Barbiturates cause relaxation and temporary euphoria.
- C. Hashish causes after thought perceptions and hallucinations.
- D. Opium stimulates nervous system and causes hallucinations

**Answer: C**

**Solution:**

**Solution:**

(c) : Hashish or charas is a pure resin obtained from female flowers and leaves of selected varieties of *Cannabis sativa*. It is the most potent hemp product (cannabinoids), and is usually smoked with tobacco. Its use may lead to euphoria, hallucination, drowsiness and continuous laughing. The hallucinogens act mainly on CNS and greatly alter one's thought, feelings and perceptions.

---

## Question74

**Increased asthmatic attacks in certain seasons are related to (2007)**

**Options:**

- A. eating fruits preserved in tin containers
- B. inhalation of seasonal pollen
- C. low temperature
- D. hot and humid environment

**Answer: B**

**Solution:**



Increased asthmatic attacks in certain seasons are related to inhalation of seasonal pollen. Pollens are microscopic grains produced by plants in order to reproduce. Pollen allergy is a hypersensitive reaction to pollen. Pollen induced reactions include extrinsic asthma, rhinitis and bronchitis.

---

## Question75

**If you suspect major deficiency of antibodies in a person, to which of the following would you look for confirmatory evidence? (2007)**

**Options:**

- A. Serum globulins
- B. Fibrinogen in the plasma
- C. Haemocytes
- D. Serum albumins

**Answer: A**

**Solution:**

**Solution:**

(a) : Serum globulin are globulins occurring in blood serum and containing most of the antibodies of the blood. Serum globulin electrophoresis is a laboratory test that examines specific proteins in the blood called globulins. Globulins are roughly divided into alpha, beta, and gamma globulins. These can be separated and quantitated in the laboratory by electrophoresis and densitometry.

---

## Question76

**Lysozyme that is present in perspiration, saliva and tears, destroys (2007)**

**Options:**

- A. certain types of bacteria
- B. all viruses
- C. most virus-infected cells
- D. certain fungi

**Answer: A**

**Solution:**



(a) : Lysozyme is an antibacterial enzyme with natural antibiotic properties. Normally excreted in the tears, nasal mucus, milk, and saliva in most animals, lysozyme is part of the body's first natural defence against bacteria and viruses. Lysozyme is an enzyme that degrades the polysaccharide protective coating on the surface of many bacteria and viruses (glycoprotein covering) to allow other enzymes and antibodies to find their appropriate attachment site. Most of the bacteria affected by lysozyme are not pathogenic. Lysozyme serves as a non-specific innate opsonin by binding to the bacterial surface, reducing the negative charge and facilitating phagocytosis of the bacterium before opsonins from the acquired immune system arrive at the scene. In other words, lysozyme makes it easier for phagocytic white blood cells to engulf bacteria.

---

## Question77

**The causative agent of mad-cow disease is a (2006)**

**Options:**

- A. virus
- B. bacterium
- C. prion
- D. worm

**Answer: C**

**Solution:**

**Solution:**

(c) : Mad cow disease is the common term for Bovine spongiform encephalopathy (BSE), a progressive neurological disorder of cattle. It is caused by prions. Symptoms include an excitable or nervous temperament to external stimuli such as touch to the skin. A prion (short for proteinaceous infectious particle) is a unique type of infectious agent, as it is made only of protein. Prions are abnormally structured forms of a host protein, which are able to convert normal molecules of the protein into the abnormal structure.

---

## Question78

**The bacterium (*Clostridium botulinum*) that causes botulism is (2006)**

**Options:**

- A. an obligate aerobe
- B. a facultative anaerobe
- C. an obligate anaerobe
- D. a facultative aerobe

**Answer: C**



## Solution:

(c) : Clostridium is a genus of gram-positive bacteria. They are obligate anaerobes capable of producing endospores. Individual cells are rod shaped.

Foodborne disease caused by *C. botulinum* is referred to as botulism (a muscle-paralyzing disease). It is caused by the ingestion of a neurotoxin (botulin) produced by the microorganism in the food. Botulin blocks nerve function leading to respiratory and musculoskeletal paralysis. Symptoms of botulism include weakness, fatigue and dizziness, followed by blurred vision and progressive difficulty in speaking and swallowing. Weakening of the respiratory muscles is also observed and death may occur due to respiratory failure.

---

## Question79

**HIV that causes AIDS, first starts destroying (2006)**

### Options:

- A. helper T-lymphocytes
- B. B-lymphocytes
- C. leucocytes
- D. thrombocytes

**Answer: A**

### Solution:

#### Solution:

AIDS is caused by Human Immunodeficiency Virus (HIV). It has a single stranded RNA with a protein coating. After entry into the host cell, the single stranded RNA is changed into doublestranded DNA by a virally encoded reverse transcriptase. With the help of integrase, the viral DNA gets incorporated into the cellular DNA and starts replicating. It is characterized by the reduction in the numbers of CD<sub>4</sub>-bearing helper T-cells to 20% or less of normal ones. T lymphocytes play an important role in immune response and cell signaling. So, the correct answer is option A.

---

## Question80

**A person showing unpredictable moods, outbursts of emotion, quarrelsome behaviour and conflicts with others is suffering from (2006)**

### Options:

- A. addictive disorders
- B. schizophrenia
- C. borderline personality disorder (BPD)



D. mood disorders

**Answer: C**

**Solution:**

**Solution:**

(c) : Borderline personality disorder (BPD) is a serious mental illness characterized by pervasive instability in moods, interpersonal relationships, self image, and behaviour. This instability often disrupts family and work life, long-term planning, and the individual's sense of self-identity. Originally thought to be at the "borderline" of psychosis, people with BPD suffer from a disorder of emotion regulation. Schizophrenia is a group of severe mental disorders characterized by disturbances of language and communication; thought disturbances that may involve distortion of reality, misperceptions, delusions and hallucinations; mood changes and withdrawn, regressive, or bizarre behaviour, lasting longer than six months. A mood disorder is a condition where the prevailing emotional mood is distorted or inappropriate to the circumstances. Addiction is a state of dependence produced by the habitual taking of drugs, alcohol etc.

---

## Question81

**Antibodies in our body are complex (2006)**

**Options:**

A. glycoproteins

B. lipoproteins

C. steroids

D. prostaglandins

**Answer: A**

**Solution:**

**Solution:**

(a) : Antibody are members of a class of proteins known as immunoglobulins. Immunoglobulins are glycoproteins in the immunoglobulin superfamily. The terms antibody and immunoglobulin are often used interchangeably. They are found in the blood and tissue fluids, as well as many secretions. In structure, they are globulins (in the square region of protein electrophoresis). They are synthesized and secreted by plasma cells that are derived from the B cells of the immune system.

---

## Question82

**Which one of the following depresses brain activity and produces feelings of calmness, relaxation and drowsiness? (2005)**

**Options:**

A. Morphine

- B. Valium
- C. Amphetamines
- D. Hashish

**Answer: B**

**Solution:**

(b) : Valium is a benzodiazepine (sedative) that gives a feeling of relaxation, calmness or drowsiness in the body. Morphine is the main opium alkaloid that depresses respiratory centre and contributes to the fall in blood pressure. Amphetamines are synthetic drugs and are stimulant in nature. Hashish is a hallucinogen.

---

## Question83

**Damage to thymus in a child may lead to (2005)**

**Options:**

- A. a reduction in haemoglobin content of blood
- B. a reduction in stem cell production
- C. loss of antibody mediated immunity
- D. loss of cell mediated immunity

**Answer: D**

**Solution:**

**Solution:**

(d) : The thymus is the major gland of our immune system. The thymus is responsible for many immune system functions including the production of T-lymphocytes, a type of white blood cell responsible for cell mediated immunity. Cell mediated immunity is a type of immunity in which specialized cells carry out defensive activities. They protect the body against pathogens including the protists and fungi which have entered the host's cells. T-cells and B-cells are the type of lymphocytes that develop from bone marrow cells. Those lymphocytes that migrate to the thymus and differentiate are called T-cells and those cells that continue to be in the bone marrow for differentiation are known as B-cells. T-cells are responsible for cell mediated immunity, however, B-cells produce antibodies and take part in antibody mediated immunity.

---

## Question84

**Which one of the following is not correctly matched? (2004)**

**Options:**

- A. Glossina palpalis- Sleeping sickness
- B. Culex pipiens Filariasis
- C. Aedes aegypti Dengue fever
- D. Anopheles culifacies - Leishmaniasis

**Answer: D**

**Solution:**

**Solution:**

(d) : All the options given are diseases with their associated vector which transmit the respective diseases. Leishmaniasis, also called kala azar is caused by Leishmania donovani. It is spread by sand fly (Phlebotomus) and characterised by enlarged spleen and liver with high fever. Sleeping sickness is caused by a protozoan Trypanosoma gambiense. Filariasis is caused by worm Wuchereria bancrofti. Dengue fever is caused by arbo virus.

---

## Question85

**Carcinoma refers to (2003)**

**Options:**

- A. malignant tumours of the connective tissue
- B. malignant tumours of the skin or mucous membrane
- C. malignant tumours of the colon
- D. benign tumours of the connective tissue

**Answer: B**

**Solution:**

**Solution:**

(b) : Carcinoma is a cancer that arises in epithelium, the tissue that lines the skin and internal organs of the body. It may occur in any tissue containing epithelial cells. It includes cervical cancer, breast cancer, skin cancer, stomach cancer etc.

---

## Question86

**Short-lived immunity acquired from mother to foetus across placenta or through mother's milk to the infant is categorised as (2003)**

**Options:**

- A. active immunity





- B. passive immunity
- C. cellular immunity
- D. innate non-specific immunity

**Answer: B**

**Solution:**

**Solution:**

(b): Short-lived immunity acquired from mothers to foetus across placenta or through mother's milk to the infant is categorised as passive immunity. Passive immunity, an acquired immunity, is resistance based on antibodies performed in another host. In this case, the foetus is not directly responsible for its body immunity but it becomes immunised by mother's milk across placenta.

---

## Question87

**Christmas disease is another name for (2003)**

**Options:**

- A. haemophilia B
- B. hepatitis B
- C. Down's syndrome
- D. sleeping sickness

**Answer: A**

**Solution:**

**Solution:**

(a) : Haemophilia B, a type of haemophilia is also known as christmas disease. It is due to deficiency of a blood coagulation factor, the christmas factor (factor IX). Christmas was the person ( 20 th century) in whom the factor was first identified. Haemophilia B is a defect of the blood which prevents its clotting.

---

## Question88

**Cancerous cells can easily be destroyed by radiations due to (2002)**

**Options:**

- A. rapid cell division
- B. lack of nutrition



- C. fast mutation
- D. lack of oxygen

**Answer: A**

**Solution:**

(a) : Cancerous cells are the cells that undergo rapid cell division. These cells are destroyed by X-ray radiation. During cell division, the DNA double helix opens up and undergo various other processes. Such processes are disrupted when exposed to radiation and the cancerous cells die selectively when radiated.

---

## Question89

**Which one of the following is correct match?  
(2001)**

**Options:**

- A. Reserpine - tranquilliser
- B. Cocaine- opiate narcotic
- C. Morphine - hallucinogenic
- D. Bhang- analgesic

**Answer: A**

**Solution:**

**Solution:**

(a): Tranquillisers are drugs that have good effect in all types of psychosis, especially in schizophrenia. In a psychotic patient, these drugs reduce aggressiveness, thoughts and behaviour are gradually normalized and anxiety is relieved, e . g . , reserpine which is an alkaloid extracted from the roots of Rauwolfia serpentina. Higher doses of it can cause sedation and mental depression, Cocaine is a stimulant. Morphine is an opiate narcotic. Bhang is a hallucinogenic.

---

## Question90

**L.S.D. is  
(2001)**

**Options:**

- A. hallucinogenic
- B. sedative
- C. stimulant



D. tranquilliser

**Answer: A**

**Solution:**

**Solution:**

(a) : Hallucinogens are drugs that change thoughts, feelings and perceptions of individuals. They cause hallucinations. LSD (Lysergic acid diethylamide) is one such hallucinogen that causes horrible dreams, chronic psychosis and severe damage to the central nervous system. Sedatives give a feeling of calmness, relaxation or drowsiness in the body. Their high doses induce sleep. Tranquillisers lower tension and anxiety without inducing sleep. Stimulants are the drugs that stimulate the nervous system, make a person more wakeful, alert and active; and cause excitement.

---

## Question91

**Salmonella is related with  
(2001)**

**Options:**

A. typhoid

B. polio

C. T.B.

D. tetanus

**Answer: A**

**Solution:**

**Solution:**

(a) : Typhoid is caused by Salmonella typhi. The organisms of the disease are present in the stool. They may be present in urine. They can, therefore, be carried by water and contaminated food. Their spread through water can give rise to severe epidemics. Polio is caused by Enterovirus. TB is caused by Mycobacterium tuberculosis. Tetanus is caused by Clostridium tetani.

---

## Question92

**Which is the most infectious disease?  
(2001)**

**Options:**

A. Hepatitis-B

B. AIDS

C. Cough and cold



D. Malaria

**Answer: A**

**Solution:**

**Solution:**

(a) : Hepatitis B (serum hepatitis) occurs at any age and mode of transmission is through contact or blood. Infection is severe, often fatal and is accompanied by loss of appetite, nausea, whitish stool (due to lack of bile) and jaundice. 0.0002% of hepatitis B infected blood contact is enough to transmit hepatitis B.

---

## Question93

**Interferons are synthesized in response to (2001)**

**Options:**

A. mycoplasma

B. bacteria

C. viruses

D. fungi

**Answer: C**

**Solution:**

**Solution:**

(c) : Interferons are proteins that increase the resistance of a cell to attack by viruses by unmasking genes that synthesize antiviral proteins. In humans, three groups of interferons have been discovered:  $\alpha$  interferons from white blood cells;  $\beta$  -interferons from connective tissue fibroblasts; and  $\gamma$ -interferons from lymphocytes.

---

## Question94

**Reason of lung cancer is (2001)**

**Options:**

A. coal mining

B. calcium fluoride

C. cement factory

D. bauxite mining



**Answer: A**

### **Solution:**

(a) : Lung cancer is a disease where tissue in the lung grows out of control. This may lead to metastasis, invasion of adjacent tissue and infiltration beyond the lungs. The vast majority of primary lung cancers are carcinomas of the lung, resulting from epithelial cells. One of the causes of lung cancer is exposure to coal dust. Exposure to coal dust can cause some coal mine workers to develop pneumoconiosis, or "black lung." This occurs when inhaled coal dust becomes embedded in the lungs, causing them to harden and making breathing difficult.

---

## **Question95**

**Which is showing accurate pairing?  
(2000)**

### **Options:**

- A. Syphilis *Treponema pallidum*
- B. AIDS *Bacillus conjugalis*
- C. Gonorrhoea - *Leishmania donovani*
- D. Typhoid *Mycobacterium leprae*

**Answer: A**

### **Solution:**

#### **Solution:**

(a) : Syphilis is caused by a spirochete (spiral bacterium) *Treponema pallidum*. The symptoms of syphilis occur in three stages. The first stage usually consists of a painless lesion called a chancre at the organism's site of entry. The second stage begins as the organism enters the blood. Symptoms such as fever, a flu like illness, a skin rash, hair loss, and swollen joints may come and go over a period of several years. In the third stage permanent brain damage, heart disease, and blindness often occurs.

AIDS is a viral disease caused by Human Immuno deficiency virus. Gonorrhoea is a sexual disease and its causative organism is *Neisseria gonorrhoea*. Typhoid is caused by bacillus bacteria *Salmonella typhi*.

---

## **Question96**

**Which disease of man is similar with cattle's, bovine spongiform encephalopathy?  
(2000)**

### **Options:**

- A. Encephalitis
- B. Jakob-Cruetzfeldt disease



C. Spongiosis of cerebrum

D. Spondylitis

**Answer: B**

**Solution:**

**Solution:**

(b) : The common term for bovine spongiform encephalopathy is mad cow disease, which is a progressive neurological disorder of cattle. In humans it is called Creutzfeldt-Jakob disease, after the two doctors who first described the symptoms of the disease. It is caused by prions (proteinaceous infectious particles). It is characterized by rapidly progressive dementia associated with myoclonic jerks. The brains of affected individuals show a characteristic cystic degeneration.

---

## Question97

**Saline solution is given to patients of cholera because (2000)**

**Options:**

- A.  $\text{Na}^+$  prevents water loss from body
- B.  $\text{NaCl}$  function as regulatory material
- C.  $\text{NaCl}$  produces energy
- D.  $\text{NaCl}$  is antibacterial

**Answer: A**

**Solution:**

**Solution:**

(a) : Cholera is an acute infection of the small intestine by the bacterium *Vibrio cholerae*, which causes severe vomiting and diarrhoea (known as rice-water stools) leading to dehydration. The disease is contracted from food or drinking water contaminated by faeces from a patient. The resulting dehydration and the imbalance in the concentration of body fluids can cause death within 24 hours. Since, a large quantity of fluid and salts are rapidly lost through stools and vomit, therefore, the most important treatment is to replace the lost fluid and salts equally rapidly. Rapid replacement of fluid and electrolytes is needed by oral rehydration-therapy. The electrolytes consist of  $\text{Na}^+$  ions that prevent water loss from the body.

---

## Question98

**The antibodies are (1999)**

**Options:**

- A. proteins

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B. carbohydrates

C. lipids

D. germs

**Answer: A**

---

## Question99

**The term 'active immunity' means (1999)**

**Options:**

A. increasing rate of heart beat

B. increasing quantity of blood

C. resistance developed after disease

D. resistance developed before disease

**Answer: C**

**Solution:**

**Solution:**

(c) : Active immunity is the immune response generated in an individual due to contact with infectious pathogen or vaccination. In many cases, it is life long.

---

## Question100

**Human immuno deficiency virus (HIV) has a protein coat and a genetic material which is (1998)**

**Options:**

A. double stranded RNA

B. double stranded DNA

C. single stranded DNA

D. single stranded RNA

**Answer: D**

**Solution:**

**Solution:**

(d) : HIV is a retrovirus, which contains single stranded RNA, surrounded by protein coat (core shell) as genetic material. It causes AIDS. HIV is different in structure from other retroviruses. It is around  $120\text{ nm}$  in diameter (around 60 times smaller than a red blood cell) and roughly spherical.

---

## Question101

**Botulism caused by Clostridium botulinum affects the (1998)**

**Options:**

- A. lymph glands
- B. central nervous system
- C. spleen
- D. intestine

**Answer: B**

**Solution:**

**Solution:**

Botulism is a serious disease caused by the botulinum toxin. It is a type of food poisoning. It affects neuromuscular junctions and causes paralysis. It occurs due to the saprophytic bacterium, Clostridium botulinum. The bacteria produce the toxin which first paralyzes the face and progress to limbs. Thus, the correct answer is 'Neuromuscular junctions.'

---

## Question102

**Typhoid fever is caused by (1998)**

**Options:**

- A. Shigella
- B. Escherichia
- C. Giardia
- D. Salmonella





**Answer: D**

**Solution:**

Typhoid fever is an acute illness associated with fever caused by the Salmonella typhi bacteria growing in the intestines and blood. The bacteria is deposited in water or food by a human carrier and are then spread to other people in the area. It is spread by eating or drinking food or water contaminated with the feces of an infected person.

---

## Question103

**Which of the following is an opiate narcotic?  
(1997)**

**Options:**

- A. Amphetamines
- B. LSD
- C. Barbiturates
- D. Morphine

**Answer: D**

**Solution:**

**Solution:**

(d) : Opiates are derived from opium along with their synthetic relatives. Opiates have narcotic, analgesic, sedative and astringent effects. Narcotic is a drug that induces stupor and relieves pain. Morphine is the main opium alkaloid, which is a strong analgesic and also has sedative and calming effect. It depresses respiratory centre and contributes to the fall in blood pressure. It can cause release of ADH, reduction in urine output, constipation and mild hyperglycaemia etc. It causes addiction.

Barbiturates are substituted derivatives of barbituric acid. They reduce anxiety and induce sleep. Amphetamines are synthetic drugs which are strong stimulants. LSD (Lysergic acid diethylamide) is the most powerful hallucinogens that causes severe damage to central nervous system.

---

## Question104

**Which of the following will be curable in next two decades?  
(1997)**

**Options:**

- A. Tuberculosis
- B. Cancer
- C. Poliomyelitis



D. None of these

**Answer: B**

**Solution:**

**Solution:**

(b) : Cancer may be curable in next two decades. The completion of the human genome is causing profound changes in thinking and direction of biomedical research. Cancer is caused by malfunctioning of genes, either through activation of cancer causing oncogenes, or through inactivation of tumor suppressor genes. By comparing the active genes in the tumor to that of normal cells, the genes causing the cancer can be determined. Side by side there is a huge progress in the field of genetic engineering and biotechnology. All these aspects give us hope that cancer may be curable in next two decades. TB is curable by taking anti-tubercular drugs and polio may be on the verge of eradication if the pulse polio programme succeeds.

---

## Question105

**Diphtheria is caused by (1997)**

**Options:**

- A. nematodes
- B. bacteria
- C. virus
- D. none of these.

**Answer: B**

**Solution:**

**Solution:**

(b) : Diphtheria is caused by *Corynebacterium diphtheriae* (bacteria) usually affecting children upto five years of age. It may start as sore throat, chills with mild fever, sometimes vomiting and headache. Throat and/or tonsils show a grey membrane which may spread down and cause hoarseness and difficulty in breathing. Nose may be affected giving rise to a blood-tinged nasal discharge from one nostril. If the disease is not treated early and properly the toxin produced by the bacteria affects the heart and the nervous system, and proves fatal. The germs are present in the discharges from the nose and throat of patients and also of healthy people who act as the "carriers". The patients and the carriers spread the disease through acts like kissing, talking, coughing and sneezing. Incubation period is of 2 - 5 days. The patient should be kept in a well-ventilated room if there is no isolation hospital in the town. The most important preventive measure-against this disease is that all babies should be immunised within the first six weeks of birth using DPT vaccine.

---

## Question106

**Which of the following diseases is now considered completely eradicated from India? (1997)**

**Options:**

- A. Small pox
- B. Poliomyelitis
- C. Plague
- D. Kala-azar

**Answer: A**

**Solution:**

**Solution:**

(a) : Small pox is an acute highly communicable disease. It is caused by virus named Variola virus. Now it is eradicated from world including India. It is highly infectious disease starting with high fever, chill, backache and headache, followed by appearance of rash on the third day of illness. The rash appears first on the face, then on the rest of the body. The rash starts as small reddish spots which change into papules. These in turn change into small vesicles containing clear fluid. Vesicles change into pustules. Finally, a scab is formed and it falls off by the third week. These scabs leave deep pits or scars known as pock marks. The virus is present in the oral and nasal discharges of the patients and is ejected during the acts of coughing, sneezing, etc., and infects the healthy people.

-----

## Question107

**Which of the following symptoms indicate red sickness?  
(1997)**

**Options:**

- A. Nausea and loss of hair
- B. Ulcerated skin, nausea and loss of hair
- C. Red and ulcerated skin
- D. Nausea and anaemia

**Answer: B**

**Solution:**

**Solution:**

(b) : The symptoms of red sickness are ulcerated skin, nausea and loss of hair.

-----

## Question108

**If a person shows production of interferons in his body, the chances are that he has got an infection of  
(1997)**



**Options:**

- A. tetanus
- B. malaria
- C. typhoid
- D. measles

**Answer: D**

**Solution:****Solution:**

(d) : Interferons are antiviral proteins that increase the resistance of a cell to attack by viruses.

As measles is a viral disease, so body produces interferons.

Measles is an acute infectious eruptive viral disease of childhood, caused by an RNA containing Rubeola virus/Polynosa morbillorum.

Typhoid and tetanus are bacterial diseases caused by Salmonella typhi and Clostridium tetani respectively.

Malaria is a protozoan disease caused by Plasmodium species.

---

## Question109

**Which of the following pair of diseases is caused by virus?  
(1996)**

**Options:**

- A. Rabies, mumps
- B. Cholera, tubercalosis
- C. Typhoid, tetanus
- D. AIDS, syphilis

**Answer: A**

**Solution:****Solution:**

(a) : Mumps is an infectious disease causing fever, difficulty in opening the mouth and painful swelling of the parotid glands which lie just below the lobe of the ears. It is caused by a Paramyxovirus, which comes out in the saliva of the infected person. Rabies (Hydrophobia) is caused by a virus named as rabies virus. It is introduced in the body by the bite of rabid (mad) dogs usually. Fear of water is the most important characteristic symptom of this disease.

Other symptoms are saliva from the mouth, severe headache, high fever, alternating periods, of excitement and depression, inability to swallow even fluids due to choked throat. The virus destroys the brain and spinal cord. Rabies is 100% fatal. Cholera and tuberculosis are bacterial diseases caused by Vibrio cholerae and Mycobacterium tuberculosis respectively. Typhoid and tetanus are bacterial diseases caused by Salmonella typhi and Clostridium tetani respectively. AIDS is caused by HIV (human immunodeficiency virus). Syphilis is caused by spirochaete Treponema pallidum.

---

## Question110

## Antibodies are produced by (1996)

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### Options:

- A. leucocytes
- B. monocytes
- C. lymphocytes
- D. spleen

**Answer: C**

### Solution:

#### Solution:

(c) : Lymphocytes secrete antibodies to destroy microbes and their toxins, reject grafts and kill tumour cells. Antibodies are protein in nature. Monocytes (type of WBC) is phagocytic in nature and engulf bacteria and cellular debris. Spleen is an organ that produces lymphocytes.

---

## Question111

### The interferons are (1996)

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### Options:

- A. antigen proteins
- B. antiviral proteins
- C. antibiotic proteins
- D. all of these

**Answer: B**

---

## Question112

### Which of the following is the false statement about antibiotics? (1996)

**Options:**

- A. Some persons have allergy from antibiotics.
- B. Antibiotics are capable of curing any disease.
- C. This term was given by Waksman in 1942 .
- D. Antibiotics is produced by micro-organisms

**Answer: B**

**Solution:****Solution:**

(b) : Antibiotics are not capable of curing any disease. Antibiotics are those substances that destroy or inhibit the growth of micro-organisms, particularly disease producing bacteria and fungi. The term antibiotic was introduced by Waksman in 1942 . Antibiotics are obtained form micro-organisms (especially moulds) or synthesized. Common antibiotics include penicillin, streptomycin and tetracyclines. They are used to treat various infections but tend to weaken the body's natural defence mechanisms and can cause allergies. Overuse of antibiotic can lead to the development of resistant strains of micro-organism.

---

## Question113

**Nicotine acts as a stimulant, because it mimics the effect of (1995)**

**Options:**

- A. testosterone
- B. dopamine
- C. thyroxine
- D. acetylcholine

**Answer: D**

**Solution:****Solution:**

(d) : Nicotine is the major stimulatory component of tobacco products including cigarettes. Nicotine has a number of effects on the human body similar to acetylcholine. It stimulates passage of nerve impulses, causes muscles to relax and causes the release of adrenaline, increasing both blood pressure and heart beat rate.

---

## Question114

**The blood cancer is known as (1995)**

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**Options:**

- A. haemolysis
- B. haemophilia
- C. leukaemia
- D. thrombosis

**Answer: C**

**Solution:**

**Solution:**

(c) : The normal count of WBCs is 5000 to 10000 per cubic millimeter of blood. Leukaemia or blood cancer is characterized by abnormal increase of WBCs count, 20000 – 1000000 / mm<sup>3</sup> due to their increased formation in the bone marrow. Haemolysis is breakdown of RBCs. Haemophilia is a disease in which blood clots slowly. Thrombosis is a clot formation inside the blood vessels.

---

## Question115

**Which one of the following pairs is not correctly matched? (1995)**

**Options:**

- A. Syphilis *Trichuris trichiura*
- B. Sleeping sickness-*Trypanosoma gambiense*
- C. Dengue fever-arbovirus
- D. Plague - *Yersinia pestis*

**Answer: A**

**Solution:**

**Solution:**

(a) : Syphilis is caused by a spirochete (spiral bacterium) *Treponema pallidum*. Sleeping sickness is a disease of tropical Africa caused by the presence in the blood of the parasitic protozoan, *Trypanosoma gambiense*. Plague is an epidemic disease of rats which is transmitted to humans by rat fleas. Dengue is a disease transmitted to humans by mosquito, *Aedes aegypti*.

---

## Question116

**Which one of the following diseases is due to an allergic reaction? (1995)**

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**Options:**

- A. Enteric fever
- B. Skin cancer
- C. Goitre
- D. Hay fever

**Answer: D**

**Solution:**

**Solution:**

(d) : Hay fever is a form of allergy due to the pollen of grasses, trees, and other plants, characterized by inflammation of the membrane lining the nose and sometimes of the conjunctiva. The symptoms of sneezing, running or blocked nose, and watering eyes are due to histamine released by the mast cells.

---

## Question117

**Which of the following causes plague?  
(1995)**

**Options:**

- A. Trichinella spiralis
- B. Salmonella typhimuium
- C. Yersinia pestis
- D. Leishmania donovani

**Answer: C**

**Solution:**

**Solution:**

(c) : Plague is an acute epidemic disease of rats and other wild rodents caused by the bacterium Yersinia pestis, which is transmitted to humans by rat fleas. Headache, fever, weakness, aching limbs, and delirium develop and are followed by acute painful swellings of the lymph nodes. Bleeding under the skin, producing black patches, can lead to ulcers, which may prove fatal. Treatment with tetracycline, streptomycin, and chloramphenicol is effective. Trichinosis is caused by Trichinella spiralis which lives as an endoparasite in human intestine. Salmonella typhimurium causes enteric fevers Leishmania donovani causes kala-azar.

---

## Question118

**Antigens are present  
(1995)**





**Options:**

- A. inside the cytoplasm
- B. on nuclear membrane
- C. inside the nucleus
- D. on cell surface

**Answer: D**

**Solution:**

**Solution:**

(d) : An antigen is any foreign substance like protein or polysaccharide present on the external coating of pathogen, feathers, constituent of a vegetable, fruit, meat, drug, chemical, tissue or organ transplant which induces the immune system to produce antibodies.

---

## Question119

**A cell-coded protein that is formed in response to infection, with most animal viruses, is called (1994)**

**Options:**

- A. histone
- B. antibody
- C. interferon
- D. antigen

**Answer: C**

**Solution:**

**Solution:**

Interferons are a group of signaling proteins made and released by the host cells in response to the presence of pathogens, such as viruses. A virus-infected cell will release interferons causing nearby cells to heighten their anti-viral defenses.

---

## Question120

**Which one of the following does correctly match a sexually transmitted disease with its pathogen? (1994)**



**Options:**

- A. Syphilis–Treponema pallidum
- B. Gonorrhoea–Entamoeba histolytica
- C. Urethritis–Bacillus anthracis
- D. Softsore–Bacillus brevis

**Answer: A**

**Solution:**

**Solution:**

(a) : Syphilis is caused by a spirochete (spiral bacterium) Treponema pallidum. Gonorrhoea is caused by Neisseria gonorrhoea. Urethritis is inflammation of urethra.

---

## Question121

**A metastatic cancerous tumour is termed 'sarcoma' if the disorder is in (1994)**

**Options:**

- A. fibroblasts
- B. circulatory system
- C. immune system
- D. epithelial cells

**Answer: A**

**Solution:**

**Solution:**

(a) : Fibroblasts are the cells present in connective tissue. Sarcomas are cancers that are located in connective and muscular tissues derived from mesoderm. Thus, they include the cancers of bones, cartilages, tendons, adipose tissue, lymphoid tissue and muscles.

---

## Question122

**The main reason why antibodies could not solve all the problems of bacteria mediated disease is (1994)**

**Options:**



- A. decreased efficiency of the immune system
- B. insensitivity of the individual following prolonged exposure to antibiotics
- C. development of mutant strains resistant to antibodies
- D. inactivation of antibiotics by bacterial enzymes

**Answer: C**

**Solution:**

**Solution:**

(c) : Bacteria develop mutant strains that become resistant to antibodies, so these antibodies become incapable of removing bacteria mediated diseases.

---

## Question123

**Obstacle to large scale transplantation of organs is [1994]**

**Options:**

- A. insufficiency of organ donors
- B. immunological rejection of foreign bodies
- C. religious or ethnic considerations
- D. lack of effective surgical techniques

**Answer: B**

**Solution:**

**Solution:**

(b) The major obstacle in transplantation of organs is that the recipient body does not accept the donor's organ. The body defence mechanism reject and treat the transplanted organ as a foreign particle and reacts actively.

---

## Question124

**A cell coded protein formed in response to infection with most animal viruses is [1994]**

**Options:**

- A. Antigen
- B. Antibody



C. Interferon

D. Histone

**Answer: C**

**Solution:**

**Solution:**

(c) A special defence system works specially against viral infection. It has no effect on micro-organism. Cells invaded by a virus produce an antiviral protein called interferon (IFN). The latter is released from the infected cell and on reaching the nearby non-infected cells it makes them resistant to the virus infection.

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## Question125

**Opiate narcotic is  
(1993)**

**Options:**

A. bhang

B. charas

C. heroin

D. nicotine

**Answer: C**

**Solution:**

**Solution:**

(c) : The drugs derived from opium along with their synthetic relatives are called opioids or opiates. Opiates have narcotic, analgesic, astringent (that causes contraction of body parts), and sedative effect.

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## Question126

**Give the correct matching of causative agent/ germ and disease.  
(1993)**

**Options:**

A. Anopheles– Malaria

B. Leishmania – Sleeping sickness

C. Glossina – Kala-azar

D. Wuchereria – Filariasis



**Answer: D**

**Solution:**

**Solution:**

(d) : Wuchereria bancrofti is a parasitic filarial nematode worm spread by a mosquito vector. It is one of the three parasites that cause lymphatic filariasis. Elephantiasis can result if the infection is left untreated. Limited treatment modalities exist and no vaccines have been developed. Malaria is caused by protozoan parasites of the genus Plasmodium. Malaria parasites are transmitted by female Anopheles mosquitoes. Sleeping sickness or African trypanosomiasis is a parasitic disease in people and animals, caused by protozoa of genus Trypanosoma and transmitted by the tsetse fly. Kala-azar is caused by Leishmania (protozoan) and is transmitted by sand fly.

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## Question127

**If all ponds and puddles are destroyed, the organism likely to be destroyed is [1993]**

**Options:**

- A. Leishmania
- B. Trypanosoma
- C. Ascaris
- D. Plasmodium

**Answer: D**

**Solution:**

**Solution:**

(d) Plasmodium is transmitted through female Anopheles mosquito to human and the most favourite dwelling place for Anopheles is water or moist places like ponds and puddles.

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## Question128

**Schizogont stage of Plasmodium occurs in human cells [1993]**

**Options:**

- A. Erythrocytes
- B. Liver cells
- C. Erythrocytes and liver cells
- D. Erythrocytes, liver cells and spleen cells

**Answer: C**

**Solution:**

**Solution:**

(c) Schizogont or asexual stage occurs in human erythrocytes and liver cells

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## Question129

**Cells involved in immune mechanism are [1993]**

**Options:**

- A. Erythrocytes
- B. Lymphocytes
- C. Eosinophils
- D. Thrombocytes

**Answer: B**

**Solution:**

**Solution:**

(b) Lymphocytes are the part of specific defence system called immune system.

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## Question130

**The part of life cycle of malarial parasite Plasmodium vivax, that is passed in female Anopheles is [1992]**

**Options:**

- A. sexual cycle
- B. pre-erythrocytic schizogony
- C. exoerythrocytic schizogony
- D. post-erythrocytic schizogony

**Answer: A**

**Solution:**



(a) Plasmodium vivax completes sexual cycle or gamogony in female Anopheles mosquito. Asexual cycle is passed in man (schizogony).

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## Question131

**Who discovered Plasmodium in R.B.C of human beings ?  
[1991]**

**Options:**

- A. Ronald Ross
- B. Mendel
- C. Laveran
- D. Stephens

**Answer: C**

**Solution:**

**Solution:**

(c) Laveran discovered Plasmodium in R.B.C of human beings and concluded that malaria is caused by Plasmodium vivax. Sir Ronald Ross (1896) was the first to observe oocytes of Plasmodium in female Anopheles.

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## Question132

**Malignant tertian malarial parasite is  
[1991]**

**Options:**

- A. Plasmodium falciparum
- B. P. vivax
- C. P. ovale
- D. P. malariae

**Answer: A**

**Solution:**

(a) In human beings different types of malaria are caused by 4 different species of Plasmodium.

They are :

1. Benign tertian malaria - Plasmodium vivax.
2. Malignant (Pernicious or cerebral) tertian malaria - Plasmodium falciparum.



- 3. Quartan malaria - Plasmodium malariae.
  - 4. Mild tertian malaria - Plasmodium ovale.
- 

## Question133

### Analgesic drugs (1990)

#### Options:

- A. form tissues
- B. relieve pain
- C. relieve fatigue
- D. cause pain

**Answer: B**

#### Solution:

##### Solution:

(b) : A substance that reduces pain without causing unconsciousness, either by reducing the pain threshold or by increasing pain tolerance. There are several categories of analgesic drugs, including morphine and its derivatives which produce analgesia by acting on the central nervous system; nonsteroidal anti-inflammatory drugs (e.g. aspirin); and local anaesthetics.

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## Question134

### Amoebiasis is prevented by [1990]

#### Options:

- A. eating balanced food
- B. eating plenty of fruits
- C. drinking boiled water
- D. using mosquito nets

**Answer: C**

#### Solution:

(c) Amoebiasis or amoebic dysentery is caused by a parasite Entamoeba histolytica present in the upper part of large intestine of human. It is caused due to ingesting contaminated food or water with cyst (trophozoite) of Entamoeba. It feeds on R.B.C of





## Question135

**In hot summer and cold winter, the number of malaria cases as well as Anopheles declines, reappearance of malaria in humid warm conditions is due to [1990]**

**Options:**

- A. surviving malarial parasites in human carriers
- B. surviving sporozoites in surviving mosquitoes
- C. monkeys
- D. mosquito larvae in permanent waters

**Answer: B**

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## Question136

**Which one engulfs pathogens rapidly? (1989)**

**Options:**

- A. Acidophils
- B. Monocytes
- C. Basophils
- D. Neutrophils

**Answer: D**

**Solution:**

**Solution:**

(d) : Neutrophils, are the most abundant type of white blood cells and form an integral part of the immune system. These phagocytes are normally found in the blood stream. However, during the acute phase of inflammation, particularly as a result of bacterial infection, neutrophils leave the vasculature and migrate toward the site of inflammation in a process called chemotaxis. They are the predominant cells in pus, accounting for its whitish/yellowish appearance. Neutrophils react within an hour of tissue injury and are the hallmark of acute inflammation. Monocytes are also phagocytes but take

## Question137

**Malaria fever coincides with liberation of [1989]**

**Options:**

- A. cryptomerozoites
- B. metacryptomerozoites
- C. merozoites
- D. trophozoites

**Answer: C**

**Solution:**

(c) Malarial parasite, (*Plasmodium vivax*), Protist of class Sporozoa, digenetic parasite causes malarial fever in human. The malarial parasite was discovered by Laveran (1880). Sir Ronald Ross (1898) discovered that Malaria disease is spread by mosquitoes. Its life cycle completes in two organisms-Primary host, female Anopheles mosquito and man (Intermediate or Secondary host). It enters human blood-through sporozoites. Malarial fever begins with the release of merozoites in the liver cells, from RBC of human.

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