CUET 2026 May 29 Shift 1 Biology

Question Paper (Memory-Based) with Solutions

Conducted by National Testing Agency (NTA)

General Instructions

(i) The examination will be conducted in Computer-Based Test (CBT) mode.

(ii) Each question carries +5 marks for correct answer and -1 mark for wrong answer.

(iii) The total number of questions are 50.

(iv) Duration of the exam is 1 hour (60 minutes).

1. Match List I with List II

List I		List II	
(a)	Mucus lining	(I)	Physiological barrier
(b)	Acid in stomach	(II)	Cellular barrier
(c)	PMNL-neutrophils	(III)	Physical barrier
(d)	Interferons	(IV)	Cytokine barrier

Choose the correct answer from the options given below:

(A) a-II, b-I, c-IV, d-III

(B) a-III, b-II, c-IV, d-I

(C) a-II, b-III, c-I, d-IV

(D) a-III, b-I, c-II, d-IV

Correct Answer: (D) a-III, b-I, c-II, d-IV

Solution:

Step 1: Match mucus lining.

Mucus lining prevents the entry of pathogens into the body.

Therefore:

$$(a) \rightarrow (III)$$

Mucus lining → Physical barrier

Step 2: Match acid in stomach.

Hydrochloric acid present in the stomach destroys many microorganisms.

Therefore:

$$(b) \rightarrow (I)$$

Acid in stomach → Physiological barrier

Step 3: Match PMNL-neutrophils.

PMNL-neutrophils are phagocytic white blood cells.

Therefore:

$$(c) \rightarrow (II)$$

PMNL-neutrophils → Cellular barrier

Step 4: Match interferons.

Interferons are cytokines produced against viral infections.

Therefore:

$$(d) \rightarrow (IV)$$

Interferons → Cytokine barrier

Thus,

$$\boxed{a\text{-III},\ b\text{-I},\ c\text{-II},\ d\text{-IV}}$$

Hence, the correct answer is:

$$\boxed{\text{(D)}}$$

Quick Tip: Innate immunity consists of four major barriers:

Physical barrier → Skin, mucus lining

Physiological barrier → Stomach acid, saliva

Cellular barrier → Neutrophils, macrophages

Cytokine barrier → Interferons

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2. In an allergic reaction, which of the following is secreted?

(A) Histamine

(B) Neutrophil

(C) Basophil

(D) Acidophil

Correct Answer: (A) Histamine

Solution:

Step 1: Recall the cause of allergic reactions.

Allergic reactions occur when the immune system shows an exaggerated response to allergens

such as pollen, dust, animal dander, etc.

Step 2: Identify the chemical mediator involved.

During an allergic reaction, mast cells and basophils release:

$$\boxed{\text{Histamine}}$$

Histamine causes:

- Sneezing
- Itching
- Inflammation
- Increased mucus secretion

Step 3: Evaluate the options.

- Histamine → Secreted during allergy ✓
- Neutrophil → White blood cell, not secreted ×
- Basophil → Cell that releases histamine ×
- Acidophil → Not related to allergic mediator ×

Therefore,

$$\boxed{\text{Histamine}}$$

Hence, the correct answer is:

$$\boxed{\text{(A)}}$$

Quick Tip: Remember:

Basophils and Mast Cells → Release Histamine

Histamine is responsible for most common symptoms of allergy such as sneezing, watery eyes, itching and inflammation.

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3. One of the following is not the causal organism for ringworm:

(A) Macrosporum

(B) Epidermophyton

(C) Trichophyton

(D) Microsporum

Correct Answer: (A) Macrosporum

Solution:

Step 1: Recall the causative organisms of ringworm.

Ringworm is a fungal infection of the skin caused by dermatophytes.

The common genera responsible for ringworm are:

Microsporum

Trichophyton

Epidermophyton

Step 2: Examine each option.

- **Microsporum** → Causes ringworm ✓
- **Trichophyton** → Causes ringworm ✓
- **Epidermophyton** → Causes ringworm ✓
- **Macrosporum** → Not a recognized causative genus of ringworm ×

Therefore,

Macrosporum

is not a causal organism of ringworm.

Hence, the correct answer is:

(A)

Quick Tip: Ringworm is caused by three important fungal genera:

Microsporum

Trichophyton

Epidermophyton

A common mnemonic is:

MTE

(Microsporum, Trichophyton, Epidermophyton)

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4. HIV causes reduction of:

(A) T-helper cells only

(B) All T-cells

(C) B-cells only

(D) Both B and T-cells

Correct Answer: (A) T-helper cells only

Solution:

Step 1: Recall the target cells of HIV.

HIV (Human Immunodeficiency Virus) primarily infects:

$$\boxed{\text{T-helper lymphocytes (CD4}^+\text{ cells)}}$$

These cells play a crucial role in coordinating the immune response.

Step 2: Understand the effect of HIV infection.

As HIV multiplies inside T-helper cells, it gradually destroys them.

This leads to:

$$\text{Progressive decline in CD4}^+\text{ T-helper cells}$$

and weakens the immune system.

Step 3: Evaluate the options.

- T-helper cells only → Correct ✓
- All T-cells → HIV specifically targets $CD4^+$ T-helper cells ×
- B-cells only → Not the primary target ×
- Both B and T-cells → Incorrect ×

Therefore,

$$\boxed{\text{T-helper cells only}}$$

Hence, the correct answer is:

$$\boxed{\text{(A)}}$$

Quick Tip: Remember:

$$\text{HIV} \rightarrow \text{CD4}^{+} \text{ T-helper cells}$$

$$\text{AIDS} = \text{Acquired Immunodeficiency Syndrome}$$

A decrease in $CD4^{+}$ T-helper cells is the hallmark of HIV infection.

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5. Widal test is used to diagnose:

(A) Typhoid

(B) Malaria

(C) Pneumonia

(D) Cancer

Correct Answer: (A) Typhoid

Solution:

Step 1: Recall the purpose of the Widal test.

The Widal test is a serological test used to detect antibodies against:

Salmonella typhi

the bacterium responsible for typhoid fever.

Step 2: Understand what the test detects.

The test identifies antibodies against:

O antigen

and

H antigen

of *Salmonella typhi* present in the patient's serum.

Step 3: Evaluate the options.

- Typhoid → Diagnosed using Widal test ✓
- Malaria → Diagnosed by blood smear/rapid antigen test ×
- Pneumonia → Diagnosed by clinical and laboratory methods ×
- Cancer → Not diagnosed by Widal test ×

Therefore,

Typhoid

Hence, the correct answer is:

(A)

Quick Tip: Remember:

Widal Test → Typhoid

Salmonella typhi → Typhoid fever

A commonly asked NCERT-based fact in CUET, NEET and board examinations.

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6. Arrange the following steps of retrovirus replication sequentially:

(A) Production of viral DNA by reverse transcriptase

(B) Introduction of viral RNA into host cell

(C) Production of new viral RNA by host cell

(D) Incorporation of viral DNA into host genome

Choose the correct answer from the options given below:

(A) B → A → D → C

(B) A → B → D → C

(C) B → D → A → C

(D) A → D → B → C

Correct Answer: (A) B → A → D → C

Solution:

Step 1: Entry of viral RNA into the host cell.

A retrovirus first enters the host cell and releases its genetic material.

Thus the first step is:

$$(B) \text{ Introduction of viral RNA into host cell}$$

Step 2: Formation of viral DNA.

Retroviruses possess the enzyme reverse transcriptase which synthesizes DNA from RNA.

Therefore:

$$(A) \text{ Production of viral DNA by reverse transcriptase}$$

occurs next.

Step 3: Integration into host genome.

The newly formed viral DNA becomes integrated into the host chromosome.

Thus:

$$(D) \text{ Incorporation of viral DNA into host genome}$$

is the third step.

Step 4: Synthesis of new viral RNA.

The integrated viral DNA utilizes the host cellular machinery to produce new viral RNA.

Therefore:

$$(C) \text{ Production of new viral RNA by host cell}$$

is the final step.

Hence the correct sequence is:

$$\boxed{B \rightarrow A \rightarrow D \rightarrow C}$$

Therefore, the correct answer is:

$$\boxed{\text{(A)}}$$

Quick Tip: Retrovirus replication follows the sequence:

RNA → DNA → Integration → New Viral RNA

A simple mnemonic is:

$$\boxed{\text{Enter} \rightarrow \text{Reverse Transcribe} \rightarrow \text{Integrate} \rightarrow \text{Replicate}}$$

This is the characteristic feature of HIV and other retroviruses.

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7. Match List I with List II

List I (Diseases)		**List II (Disease causing agent)**	
(a)	Amoebiasis	(I)	Trichophyton
(b)	Ascariasis	(II)	*Entamoeba histolytica*
(c)	Elephantiasis	(III)	Roundworm
(d)	Ringworm	(IV)	*Wuchereria*

Choose the correct answer from the options given below:

(A) a-IV, b-III, c-I, d-II

(B) a-III, b-II, c-I, d-IV

(C) a-II, b-III, c-IV, d-I

(D) a-II, b-IV, c-I, d-III

Correct Answer: (C) a-II, b-III, c-IV, d-I

Solution:

Step 1: Match Amoebiasis.

Amoebiasis is caused by:

$$\boxed{\textit{Entamoeba histolytica}}$$

Therefore,

$$(a) \rightarrow (II)$$

Step 2: Match Ascariasis.

Ascariasis is caused by the intestinal roundworm:

$$\boxed{\textit{Ascaris lumbricoides}}$$

Therefore,

$$(b) \rightarrow (III)$$

Step 3: Match Elephantiasis.

Elephantiasis (filariasis) is caused by:

$$\boxed{\textit{Wuchereria bancrofti}}$$

Therefore,

$$(c) \rightarrow (IV)$$

Step 4: Match Ringworm.

Ringworm is a fungal infection commonly caused by:

$$\boxed{\textit{Trichophyton}}$$

Therefore,

$$(d) \rightarrow (I)$$

Thus,

$$\boxed{a\text{-II},\ b\text{-III},\ c\text{-IV},\ d\text{-I}}$$

Hence, the correct answer is:

$$\boxed{\text{(C)}}$$

Quick Tip: Important disease-agent pairs:

Amoebiasis → *Entamoeba histolytica*

Ascariasis → Roundworm (*Ascaris*)

Elephantiasis → *Wuchereria bancrofti*

Ringworm → *Trichophyton, Microsporum, Epidermophyton*

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8. Filariasis is also called elephantiasis because:

(A) Body parts swell

(B) It is caused by elephant

(C) It is caused by Ascaris

(D) It is caused by Entamoeba

Correct Answer: (A) Body parts swell

Solution:

Step 1: Recall the causative organism of filariasis.

Filariasis (elephantiasis) is caused by filarial worms such as:

Wuchereria bancrofti

and

Wuchereria malayi

These parasites are transmitted by mosquitoes.

Step 2: Understand why it is called elephantiasis.

The parasites block lymphatic vessels and lymph nodes.

As a result:

Lymph accumulates in tissues

causing excessive swelling of body parts such as:

- Legs
- Scrotum
- Arms

The swollen body parts resemble the thick limbs of an elephant.

Hence the disease is called:

Elephantiasis

Step 3: Evaluate the options.

- Body parts swell → Correct ✓
- Caused by elephant → Incorrect ×
- Caused by Ascaris → Causes ascariasis ×
- Caused by Entamoeba → Causes amoebiasis ×

Therefore,

Body parts swell

Hence, the correct answer is:

(A)

Quick Tip: Elephantiasis = Filariasis

Wuchereria bancrofti → Blocks lymphatic vessels

Lymphatic blockage → Severe swelling of limbs

This characteristic swelling gives the disease its name "elephantiasis".

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9. Malignant malaria is caused by which of the following species of *Plasmodium*?

(A) *Plasmodium vivax*

(B) *Plasmodium malariae*

(C) *Plasmodium ovale*

(D) *Plasmodium falciparum*

Correct Answer: (D) *Plasmodium falciparum*

Solution:

Step 1: Recall the species causing malaria.

Human malaria is caused by different species of *Plasmodium*, including:

P. vivax

P. malariae

P. ovale

P. falciparum

Step 2: Identify the most dangerous species.

Among all malaria parasites,

Plasmodium falciparum

causes the most severe and fatal form of malaria known as:

Malignant malaria

It can lead to complications such as:

- Cerebral malaria
- Severe anaemia
- Kidney failure
- Death if untreated

Step 3: Evaluate the options.

- *P. vivax* → Benign tertian malaria ×
- *P. malariae* → Quartan malaria ×
- *P. ovale* → Mild malaria ×
- *P. falciparum* → Malignant malaria ✓

Therefore,

Plasmodium falciparum

Hence, the correct answer is:

(D)

Quick Tip: Remember:

Plasmodium falciparum → Malignant malaria

Plasmodium vivax → Benign tertian malaria

For CUET/NEET examinations:

$$\boxed{Falciparum = Fatal}$$

is a useful mnemonic.

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10. Given below are two statements: one is labelled as Assertion (A) and the other as Reason (R).

Assertion (A): When readymade antibodies are directly given to protect the body against foreign agents, it is called passive immunity.

Reason (R): The yellowish fluid colostrum secreted by mother contains antibodies (IgA) to protect the infant.

Choose the correct answer from the options given below:

(A) Both A and R are true and R is the correct explanation of A

(B) Both A and R are true but R is not the correct explanation of A

(C) A is true but R is false

(D) A is false but R is true

Correct Answer: (B) Both A and R are true but R is not the correct explanation of A

Solution:

Step 1: Examine Assertion (A).

Passive immunity is obtained when preformed antibodies are transferred to an individual.

Examples include:

- Antiserum injections
- Maternal antibodies transferred to the baby

Therefore,

Assertion (A) is true

Step 2: Examine Reason (R).

Colostrum is the yellowish first milk produced by the mother after childbirth.

It contains:

IgA antibodies

which provide protection to the newborn against infections.

Therefore,

Reason (R) is true

Step 3: Check whether R explains A.

Reason (R) describes one example of passive immunity, namely maternal transfer of antibodies through colostrum.

However, it does not explain the definition of passive immunity given in Assertion (A).

Thus,

R is not the correct explanation of A

Therefore,

Both A and R are true but R is not the correct explanation of A

Hence, the correct answer is:

(B)

Quick Tip: Types of immunity:

Active Immunity = Body produces its own antibodies

Passive Immunity = Ready-made antibodies are received

Examples of passive immunity:

Colostrum (IgA)

Maternal antibodies through placenta

Antiserum injections