

# Question Paper Preview

## Notations :

- 1.Options shown in green color and with ✓ icon are correct.
- 2.Options shown in red color and with ✗ icon are incorrect.

<b>Question Paper Name :</b>	Paper II Bio Chemistry
<b>Subject Name :</b>	Paper II Bio Chemistry
<b>Creation Date :</b>	2025-03-26 06:57:46
<b>Total Marks :</b>	300
<b>Display Marks:</b>	Yes
<b>Change Font Color :</b>	No
<b>Change Background Color :</b>	No
<b>Change Theme :</b>	No
<b>Help Button :</b>	No
<b>Show Reports :</b>	No
<b>Show Progress Bar :</b>	No

## Paper II Bio Chemistry

<b>Group Number :</b>	1
<b>Group Id :</b>	63068028485
<b>Group Maximum Duration :</b>	0
<b>Group Minimum Duration :</b>	150
<b>Show Attended Group? :</b>	No
<b>Edit Attended Group? :</b>	No
<b>Break time :</b>	0
<b>Group Marks :</b>	300

## Paper II Bio Chemistry

<b>Section Id :</b>	63068058630
<b>Section Number :</b>	1
<b>Section type :</b>	Online
<b>Section Marks :</b>	300
<b>Section Negative Marks :</b>	0.66
<b>Maximum Instruction Time :</b>	0
<b>Sub-Section Number :</b>	1
<b>Sub-Section Id :</b>	63068076019
<b>Question Shuffling Allowed :</b>	Yes

**Question Number : 1 Question Id : 6306801239515 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Reversible inhibitors:

### Options :

1. ✓ slow down a chemical reaction but do not stop it completely
2. ✗ prevent an unwanted chemical reaction from occurring

- ✘ stop down a chemical reaction
- ✘ speed up a chemical reaction

**Question Number : 2 Question Id : 6306801242178 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

In a non-competitive inhibition, the  $K_m$  value is \_\_\_\_\_ and  $V_{max}$  is \_\_\_\_\_.

**Options :**

- ✔ unchanged, lowered
- ✘ unchanged, highered
- ✘ changed, highered
- ✘ changed, lowered

**Question Number : 3 Question Id : 6306801242874 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Certain molecules that resemble the substrate of the enzyme and compete for the active sites of enzyme, thereby reduce its efficiency. What are they?

**Options :**

- ✘ Uncompetitive inhibitors
- ✔ Competitive inhibitors
- ✘ Partial inhibitors
- ✘ Feedback inhibitors

**Question Number : 4 Question Id : 6306801252022 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

In competitive enzyme inhibition, how does the inhibitor affect enzyme activity?

**Options :**

- ✘ It binds to the enzyme-substrate complex, preventing the reaction.
- ✔ It binds to the active site, competing with the substrate.
- ✘ It binds to a site other than the active site, changing the enzyme's shape.
- ✘ It binds permanently to the enzyme, inactivating it.

**Question Number : 5 Question Id : 6306801252163 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

What is the effect of an uncompetitive inhibitor on the Michaelis-Menten parameters  $V_{max}$  and  $K_m$ ?

**Options :**

- ✘  $V_{max}$  decreases and  $K_m$  increases.
- ✔  $V_{max}$  decreases  $K_m$  decreases.
- ✘  $V_{max}$  increases and  $K_m$  decreases.
- ✘  $V_{max}$  increases and  $K_m$  stays the same.

**Question Number : 6 Question Id : 6306801242195 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

\_\_\_\_\_ affects both the Michaelis constant and the maximum reaction rate of an enzyme.

**Options :**

- ✘ Competitive inhibition
- ✘ Non-competitive inhibition

3. ✘ Irreversible inhibition
4. ✔ Uncompetitive inhibition

**Question Number : 7 Question Id : 6306801242856 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

How many types of reversible inhibitors play role in enzyme kinetics?

**Options :**

1. ✘ 2 types
2. ✘ 5 types
3. ✔ 4 types
4. ✘ 6 types

**Question Number : 8 Question Id : 6306801242885 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which enzyme inhibitor binds to the enzyme-substrate complex and reduce the activity of the enzyme?

**Options :**

1. ✘ Competitive inhibitors
2. ✘ Allosteric inhibitors
3. ✔ Non competitive inhibitor
4. ✔ Mixed inhibitor

**Note: For this question, ambiguity is found in question/answer. Candidate will get full marks for this question if any of the correct options are chosen.**

**Question Number : 9 Question Id : 6306801252148 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

In non-competitive inhibition, an inhibitor binds to an enzyme at a site other than the active site. Which of the following statements best describes the effect of a non-competitive inhibitor on enzyme kinetics?

**Options :**

1. ✔ It decreases the  $V_{max}$  (maximum velocity) but does not affect  $K_m$  (Michaelis constant).
2. ✘ It increases both  $V_{max}$  and  $K_m$ .
3. ✘ It decreases  $K_m$  without affecting  $V_{max}$ .
4. ✘ It affects neither  $V_{max}$  nor  $K_m$ .

**Question Number : 10 Question Id : 6306801252335 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Match items in Column A to column B.

Column A	Column B
1. Optimal pH for trypsin activity	a. Protein digestion
2. Substrate of Trypsin	b. Serine protease
3. Enzyme Classification	c. 7.5 – 8.5
4. Function of Trypsin	d. Peptides and proteins

**Options :**

1. ✘ 1-d, 2-b, 3-a, 4-c
2. ✔ 1-c, 2-d, 3-b, 4-a
3. ✘ 1-c, 2-a, 3-d, 4-b
4. ✘ 1-d, 2-c, 3-b, 4-a

**Question Number : 11 Question Id : 6306801242204 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which of the following amino acid residues are the active site of chymotrypsin that consists of a catalytic triad?

**Options :**

1. ✓ Serine, histidine and aspartate
2. ✗ Serine, methionine and glutamate
3. ✗ Threonine, glutamate and aspartate
4. ✗ Methionine, histidine and aspartate

**Question Number : 12 Question Id : 6306801243173 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

A statement is given followed by conclusions numbered I and II. You are to decide which of the given conclusions could be drawn definitely from the given statement.

**Statement:** Feedback inhibition is a regulatory mechanism, that occurs when the product of a metabolic pathway inhibits an earlier step in the pathway, preventing excessive production of product.

**Conclusions:**

- I. Prevents excessive production of metabolites and maintains cellular balance.
- II. Helps regulate enzyme activity in response to changes in metabolite levels.

**Options :**

1. ✗ Only conclusion I is true.
2. ✗ Only conclusion II is true.
3. ✓ Both conclusions I and II are true.
4. ✗ Neither conclusion I nor II are true.

**Question Number : 13 Question Id : 6306801243197 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Carboxypeptidase is involved in protein digestion. What is the product of this enzyme action?

**Options :**

1. ✗ Peptones
2. ✓ Free amino acids
3. ✗ Peptides
4. ✗ Denatured proteins

**Question Number : 14 Question Id : 6306801252221 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

In mixed inhibition, which of the following represents the modified form of the Lineweaver-Burk equation for mixed inhibition?

**Options :**

1. ✓  $1/v_o = K_m/V_{max}[S] + 1/V_{max} ( 1+[I]/K_m)$
2. ✗  $1/v_o = K_m ( 1+[I]/K_i)/V_{max}[S] + 1/V_{max} ( 1+[I]/K_i)$
3. ✗  $1/v_o = K_m ( 1+[I]/K_m )/V_{max}[S] + 1/V_{max} ( 1+[I]/K_m)$
4. ✗  $1/v_o = K_m ( 1+[I] K_i' )/V_{max}[S] + 1/V_{max}$

**Question Number : 15 Question Id : 6306801252291 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Aspartate transcarbamoylase (ATCase) is regulated allosterically by ATP and CTP. Which of the following describes the specific effect of CTP binding on the kinetic properties of ATCase?

**Options :**

1. ✗ CTP binding increases  $V_{max}$  and decreases  $K_{0.5}$ , shifting the curve toward hyperbolic kinetics.

2. ✘ CTP binding decreases  $V_{\max}$  but does not affect  $K_{0.5}$ .
3. ✔ CTP binding increases  $K_{0.5}$ , resulting in a more sigmoidal substrate saturation curve.
4. ✘ CTP binding decreases  $K_{0.5}$ , converting the enzyme to the R state.

**Question Number : 16 Question Id : 6306801243279 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

The following statement is given followed by conclusions numbered I and II. You are to decide which of the given conclusions could be drawn definitely from the given statement.

**Statement:** Lipoic acid has powerful antioxidant and anti-inflammatory properties.

**Conclusions:**

- I. Lipoic acid helps protect cells from damage caused by free radicals which can contribute to chronic diseases like cancer, diabetes and heart diseases.
- II. Lipoic acid help regulate digestive disorder.

**Options :**

1. ✘ Only conclusion I is true.
2. ✘ Only conclusion II is true
3. ✔ Both conclusions I and II are true.
4. ✘ Neither conclusion I nor II are true.

**Question Number : 17 Question Id : 6306801246998 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Match the following.

- |                          |                                      |
|--------------------------|--------------------------------------|
| A) Abzymes               | 1) Enhance catalytic activity        |
| B) Lab animals immunised | 2) Lowering the energy of activation |
| C) Enzymes               | 3) Synthetic haptens                 |
| D) Metal ions            | 4) Catalytic antibody                |

**Options :**

1. ✔ A-4, B-3, C-2, D-1
2. ✘ A-4, B-3, C-1, D-2
3. ✘ A-3, B-4, C-2, D-1
4. ✘ A-4, B-2, C-3, D-1

**Question Number : 18 Question Id : 6306801252365 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which of the following statements best describes the role of coenzymes in enzyme-catalysed reactions?

**Options :**

1. ✘ Coenzymes act as permanent components of the enzyme active site, facilitating the formation of enzyme-substrate complexes.
2. ✘ Coenzymes increase the activation energy required for the reaction to proceed, thereby enhancing the efficiency of the enzyme.
3. ✘ Coenzymes bind irreversibly to enzymes and modify their active sites, making them more specific for their substrates.
4. ✔ Coenzymes transfer functional groups or electrons between substrates, but are not consumed or permanently altered in the process.

**Question Number : 19 Question Id : 6306801252400 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Coenzyme A is primarily involved in which type of metabolic process?

**Options :**

1. ✘ Protein synthesis
2. ✘ DNA replication
3. ✔ Fatty acid metabolism
4. ✘ Electron transport

**Question Number : 20 Question Id : 6306801242659 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Thiamine pyrophosphate is synthesised in the \_\_\_\_\_.

**Options :**

1. ✔ cytosol
2. ✘ nucleus
3. ✘ endoplasmic reticulum
4. ✘ golgi complex

**Question Number : 21 Question Id : 6306801242686 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Tetrahydrofolate (THF) and Cyanocobalamine are \_\_\_\_\_, respectively.

**Options :**

1. ✔ vitamin B<sub>9</sub> and vitamin B<sub>12</sub>
2. ✘ vitamin B<sub>9</sub> and vitamin B<sub>2</sub>
3. ✘ vitamin B<sub>5</sub> and vitamin B<sub>7</sub>
4. ✘ vitamin B<sub>1</sub> and vitamin B<sub>2</sub>

**Question Number : 22 Question Id : 6306801244443 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

The following statement is given followed by conclusions numbered I and II. You are to decide which of the given conclusions could be drawn definitely from the given statement.

**Statement:**

Biotin is a vitamin that plays a crucial role in various bodily functions and essential for the metabolism of fatty acids, carbohydrates and amino acids.

**Conclusions:**

- I. Biotin is a fat soluble-vitamin that can be stored in body fatty tissues and liver.
- II. Biotin is part of B-complex vitamins that supports overall health and well-being.

**Options :**

1. ✘ Only conclusion I is true.
2. ✔ Only conclusion II is true.
3. ✘ Both conclusions I and II are true.
4. ✘ Neither conclusion I nor II is true.

**Question Number : 23 Question Id : 6306801245279 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Match the types of mutagenesis with corresponding results effected.

**Type of mutagenesis**

- L. Site directed mutagenesis
- M. Point mutagenesis sequence
- N. Nonsense mutagenesis

**Result effected**

- A. Results in premature introduction of stop codon in DNA sequence
- B. Results in introduction of specific mutation at a targeted location of DNA
- C. Results in a single nucleotide change in DNA sequence

**Options :**

1. ✘ L-A, M-B, N-C
2. ✘ L-B, M-A, N-C
3. ✔ L-B, M-C, N-A
4. ✘ L-C, M-B, N-A

**Question Number : 24 Question Id : 6306801252385 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

What distinguishes flavin nucleotides (FMN and FAD) in their role as cofactors in enzymatic electron transfer reactions?

**Options :**

1. ✘ They are consumed as substrates during the reaction.
2. ✘ They facilitate only two-electron transfer.
3. ✔ They are tightly bound to enzymes and act as intermediates for one- or two-electron transfers.
4. ✘ Their reduction potential is unaffected by the local protein environment.

**Question Number : 25 Question Id : 6306801408285 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which of the following coenzymes function as a redox reaction?

**Options :**

1. ✔ Flavin adenine dinucleotide
2. ✘ Alcohol dehydrogenase
3. ✘ Procarboxypeptidase
4. ✘ Deoxyadenosylcobalamin

**Question Number : 26 Question Id : 6306801242698 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which of the following is a function of Ribozyme?

**Options :**

1. ✘ Transamination
2. ✘ Redox reaction
3. ✘ Transcription
4. ✔ Translation

**Question Number : 27 Question Id : 6306801252434 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Select the most appropriate option based on the Assertion (A) and Reason (R) given.

**Assertion (A):** Enzymatic catalysis is more efficient than traditional synthetic catalysts in terms of turnover number (TON).

**Reason (R):** Enzymes stabilize the transition state through specific interactions, reducing the activation energy significantly.

**Options :**

1. ✔ Both (A) and (R) are true, and (R) is the correct explanation of (A).
2. ✘ Both (A) and (R) are true, but (R) is NOT the correct explanation of (A).
3. ✘ (A) is true, but (R) is false.
4. ✘ (A) is false, but (R) is true.

**Question Number : 28 Question Id : 6306801245355 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

What is the mechanism of action of serine protease?

**Options :**

1. ✓ **Cleave peptide bonds using a catalytic triad of serine, histidine and aspartate**
2. ✗ **Cleave peptide bonds using a catalytic dyad of cysteine and histidine**
3. ✗ **Cleave peptide bonds using a catalytic of cysteine, histidine and arginine**
4. ✗ **Cleave peptide bonds using a catalytic dyad of serine and arginine**

**Question Number : 29 Question Id : 6306801408271 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which of the following is correct about Zymogen?

**Options :**

1. ✓ **Enzyme precursor**
2. ✗ **Hormone**
3. ✗ **Enzyme inhibitor**
4. ✗ **Vitamin**

**Question Number : 30 Question Id : 6306801245418 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Where in the cell are the Zymogen granules/vesicles synthesised and activated?

**Options :**

1. ✗ **Plasma membrane**
2. ✗ **Nucleolus**
3. ✓ **Golgi apparatus**
4. ✗ **Smooth Endoplasmic reticulum**

**Question Number : 31 Question Id : 6306801245763 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Read the given statement and conclusions carefully and decide which of the given conclusion(s) logically follow(s) from the statement.

**Statement:** LDH isoenzymes are found in various tissues, including the heart, liver, skeletal muscle and kidney, and are useful in diagnosis of diseases.

**Conclusions:**

- I. The levels of LDH isoenzymes are significant during myocardial infarction.
- II. LDH enzymes are specific to liver.

**Options :**

1. ✓ **Only conclusion I**
2. ✗ **Only conclusion II**
3. ✗ **Both conclusions I and II**
4. ✗ **Neither conclusion I nor II**

**Question Number : 32 Question Id : 6306801245801 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Select the option that is correct regarding the following two statements labelled Assertion (A) and Reason (R).

**Assertion (A):** Covalent modifications make the attachment of a molecule or group to an enzyme or a protein,

thereby changing the properties or functions in metabolic pathway, in either reversible or irreversible manner.  
**Reason (R):** Covalent modifications influence protein stability; affect their degradation and turnover.

**Options :**

1. ✘ Both A and R are true, and R is not correct explanation of A.
2. ✔ Both A and R are true and R is correct explanation of A.
3. ✘ A is true, and R is false.
4. ✘ A is false, and R is true.

**Question Number : 33 Question Id : 6306801253248 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which of the following statements best describes the process of zymogen activation?

**Options :**

1. ✘ Zymogens are activated by the binding of a cofactor that changes their shape.
2. ✔ Zymogens are activated by the irreversible removal of a peptide fragment, exposing the active site.
3. ✘ Zymogens are activated by phosphorylation of specific amino acids.
4. ✘ Zymogens are activated when they bind to their substrate molecules.

**Question Number : 34 Question Id : 6306801253259 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

In the case of an oligomeric protein like haemoglobin, which of the following changes occurs as a result of substrate binding to one subunit?

**Options :**

1. ✔ The enzyme undergoes a conformational change that increases the affinity of other subunits for the substrate.
2. ✘ The binding of the substrate to one subunit causes no change in the activity of other subunits.
3. ✘ The enzyme active site becomes less accessible to additional substrates.
4. ✘ Substrate binding only affects the enzyme ability to bind oxygen but not its enzymatic activity.

**Question Number : 35 Question Id : 6306801408270 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which of the following is an example of an oligomeric and tetrameric enzyme?

**Options :**

1. ✔ Lactate dehydrogenase (LDH)
2. ✘ Pyruvate dehydrogenase
3. ✘ Alanine aminotransferase
4. ✘ Dihydrolipoamide acetyl-transferase

**Question Number : 36 Question Id : 6306801245705 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which isoenzymes of LDH are present in heart muscle?

**Options :**

1. ✘ LDH 4 and LDH 5
2. ✔ LDH 1 and LDH 2
3. ✘ LDH 3 and LDH 4
4. ✘ LDH 5 and LDH 3

**Question Number : 37 Question Id : 6306801246505 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Match the industrial application with the functional description of the enzyme chymotrypsin.

Application	Functional description
L. Medical research	A. Enzyme assisted protein hydrolysis
M. Leather production	B. Textile fibre modification
N. Food processing	C. Pharmaceutical peptide synthesis

**Options :**

- ✘ L-A, M-B, N-C
- ✔ L-C, M-B, N-A
- ✘ L-B, M-C, N-A
- ✘ L-B, M-A, N-C

**Question Number : 38 Question Id : 6306801247062 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Match the following.

- |                        |                        |
|------------------------|------------------------|
| A) Chymotrypsin        | 1) Chymotrypsinogen    |
| B) Ping pong mechanism | 2) Trypsin             |
| C) Active form         | 3) Covalent hydrolysis |
| D) Inactive form       | 4) Serine proteases    |

**Options :**

- ✔ A-4, B-3, C-2, D-1
- ✘ A-4, B-3, C-1, D-2
- ✘ A-4, B-2, C-3, D-1
- ✘ A-3, B-4, C-2, D-1

**Question Number : 39 Question Id : 6306801246654 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

What is the primary function of IgA?

**Options :**

- ✘ Activate complement
- ✘ Neutralise toxins
- ✘ Facilitate phagocytosis
- ✔ Provide mucosal protection

**Question Number : 40 Question Id : 6306801253310 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which of the following statements accurately describes the difference between innate and acquired immunity?

**Options :**

- ✘ Innate immunity is specific to particular pathogens, while acquired immunity is general and non-specific.
- ✔ Innate immunity provides immediate defense against pathogens, while acquired immunity develops slowly and targets specific pathogens.
- ✘ Acquired immunity is present at birth, while innate immunity develops over time in response to exposure.
- ✘ Both innate and acquired immunity require previous exposure to pathogens to be effective.

**Question Number : 41 Question Id : 6306801253370 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Based on the following statement and conclusion, which of the given options is most accurate?

**Statement:** Flow cytometry is a technique that allows for the detection and measurement of physical and chemical

characteristics of a population of cells or particles.

**Conclusion:** Flow cytometry can be used in immunodiagnostics to analyse immune cell populations by labelling them with fluorescent antibodies specific to cell surface markers.

**Options :**

- ✘ Flow cytometry is limited to measuring only cell size and cannot differentiate between cell types.
- ✔ Flow cytometry can measure multiple parameters of each cell simultaneously, allowing it to identify different cell types within a sample.
- ✘ Flow cytometry is unable to differentiate between live and dead cells in a sample.
- ✘ Flow cytometry does not use fluorescent markers in immunodiagnostic applications.

**Question Number : 42 Question Id : 6306801253422 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Read the given assertion (A) and reason (R) and select the most appropriate option.

(A): Traditional vaccines often require booster doses to maintain immunity over time.

(R): Traditional vaccines, like inactivated vaccines, may not stimulate long-lasting memory cells after a single dose.

**Options :**

- ✔ Both (A) and (R) are true, and (R) is the correct explanation of (A)
- ✘ Both (A) and (R) are true, but (R) is not the correct explanation of (A)
- ✘ (A) is true, but (R) is false
- ✘ (A) is false, but (R) is true

**Question Number : 43 Question Id : 6306801408265 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Match the following:

- A) Type I hypersensitivity - 1) Cytotoxic reaction  
B) Type II hypersensitivity - 2) Cell mediated hypersensitivity  
C) Type III hypersensitivity - 3) Immediate hypersensitivity  
D) Type IV hypersensitivity - 4) Immune complex reaction

**Options :**

- ✘ A - 3, B - 4, C - 1, D - 2
- ✘ A - 2, B - 4, C - 1, D - 3
- ✔ A - 3, B - 1, C - 4, D - 2
- ✘ A - 3, B - 4, C - 2, D - 1

**Question Number : 44 Question Id : 6306801408266 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

The maturation of B-cells and T-cells takes place in:

**Options :**

- ✘ pancreas and liver
- ✘ liver and spleen
- ✔ bone marrow and thymus
- ✘ bone marrow and liver

**Question Number : 45 Question Id : 6306801243370 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Immunoprecipitation was developed in relation to which of the following mechanisms?

**Options :**

1. ✘ Supercritical
2. ✘ Intermolecular space
3. ✘ Reversed phase
4. ✔ Affinity

**Question Number : 46 Question Id : 6306801246761 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which of the following accurately defines an epitope?

**Options :**

1. ✔ Region on an antigen that is recognised by an antibody
2. ✘ Region on an antibody that is recognised by an antigen
3. ✘ A type of immune cell
4. ✘ A type of cytokine

**Question Number : 47 Question Id : 6306801255556 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which type of immune cell is primarily responsible for the production of antibodies?

**Options :**

1. ✘ T-helper cells (Th cells)
2. ✔ B-lymphocytes (B cells)
3. ✘ Natural killer (NK) cells
4. ✘ Macrophages

**Question Number : 48 Question Id : 6306801408255 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which of the following statements is correct with respect to ELISA?

**Options :**

1. ✘ ELISA is based on immunochemical principles of antigen-antigen reaction.
2. ✔ The antibody against the protein to be determined is fixed on an inert solid such a polystyrene.
3. ✔ The biological sample containing the protein to be estimated is applied on the antigen coated surface.
4. ✘ ELISA is not widely used for the determination of proteins.

**Note: For this question, ambiguity is found in question/answer. Candidate will get full marks for this question if any of the correct options are chosen.**

**Question Number : 49 Question Id : 6306801408256 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

In which technique are Haptens applicable?

**Options :**

1. ✔ RadioimmunoAssay (RIA)
2. ✘ Ion exchange chromatography
3. ✔ Hybridoma technology
4. ✘ Spectrophotometry

**Note: For this question, ambiguity is found in question/answer. Candidate will get full marks for this question if any of the correct options are chosen.**

**Question Number : 50 Question Id : 6306801243377 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

If a person has AB<sup>-</sup> blood, who all can donate blood to him?

**Options :**

- ✘ A<sup>+</sup>, B<sup>-</sup>, O<sup>-</sup>, AB<sup>+</sup>
- ✘ A<sup>-</sup>, B<sup>-</sup>, O<sup>+</sup>, AB<sup>+</sup>
- ✘ A<sup>+</sup>, B<sup>+</sup>, O<sup>+</sup>, AB<sup>-</sup>
- ✔ A<sup>-</sup>, B<sup>-</sup>, O<sup>-</sup>, AB<sup>-</sup>

**Question Number : 51 Question Id : 6306801246918 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

A statement is given followed by two conclusions numbered I and II. Identify which of the given conclusions is/are true based on the given statement.

**Statement:** Conjugate vaccine combined with weakened pathogen (such as a bacterium) with a carrier protein enhances the immune response, provides long term protection and reduces disease severity.

**Conclusions:**

- I. Conjugate vaccines significantly reduce mortality and morbidity rates.
- II. Conjugate vaccines enhance immunogenicity.

**Options :**

- ✘ Only conclusion I is true.
- ✘ Only conclusion II is true.
- ✔ Both conclusions I and II are true.
- ✘ Neither conclusion I nor II is true.

**Question Number : 52 Question Id : 6306801253346 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

During an agglutination reaction, why does the 'zone of equivalence' between antibody and antigen concentrations produce the strongest visible agglutination, and what would likely occur if the reaction takes place outside this zone?

**Options :**

- ✔ The zone of equivalence allows for optimal antibody-antigen cross-linking, leading to visible clumping; outside this zone, agglutination may not occur due to excess antibodies or antigens inhibiting cross-linking.
- ✘ The zone of equivalence minimises steric hindrance, which allows antibodies to bind more rapidly; outside this zone, the antibody structure changes, preventing effective agglutination.
- ✘ The zone of equivalence increases the binding affinity of antibodies, which maximises clumping; outside this zone, the affinity between antibodies and antigens is too low for agglutination.
- ✘ The zone of equivalence optimises pH, allowing maximum antigen-antibody interaction; outside this zone, pH changes prevent effective binding, leading to the absence of agglutination.

**Question Number : 53 Question Id : 6306801253358 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

In a precipitation reaction using immunodiffusion, you observe that the precipitin line forms closer to the antigen well rather than midway between the antigen and antibody wells. What does this observation indicate about the relative concentrations of antigen and antibody?

**Options :**

- ✔ The antigen is in excess relative to the antibody.
- ✘ The antibody is in excess relative to the antigen.
- ✘ Both antigen and antibody are present in optimal proportions.
- ✘ The antigen is denatured, preventing proper binding.

**Question Number : 54 Question Id : 6306801255568 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

A pharmaceutical company develops a new drug that exhibits immunogenic properties only when combined with a specific carrier protein. This phenomenon is best explained by the concept of haptens. Which of the following statements about haptens is most accurate?

**Options :**

1. ✘ Haptens are inherently immunogenic molecules that can independently induce a strong immune response.
2. ✔ Haptens require attachment to a carrier molecule to form an antigenic determinant that can elicit an immune response.
3. ✘ Haptens are large macromolecules that naturally stimulate both B and T cell-mediated immunity.
4. ✘ The immunogenicity of haptens is solely dependent on their molecular weight, with no role for structural complexity or carrier association.

**Question Number : 55 Question Id : 6306801247007 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which of the following is a type of white blood cell that plays a key role in the immune response?

**Options :**

1. ✘ Neutrophil
2. ✔ Lymphocyte
3. ✘ Monocyte
4. ✘ Eosinophil

**Question Number : 56 Question Id : 6306801249005 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Match the platelet processes with the respective functions.

Platelet process	Function
L. Aggregation	A. Blood vessel constriction
M. Phagocytosis	B. Platelet plug formation
N. Adhesion	C. Removal of pathogens

**Options :**

1. ✘ L-A, M-B, N-C
2. ✔ L-B, M-C, N-A
3. ✘ L-C, M-A, N-B
4. ✘ L-C, M-B, N-A

**Question Number : 57 Question Id : 6306801253473 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

The main function of plasma cells is to:

**Options :**

1. ✘ phagocytose pathogens
2. ✔ secrete antibodies
3. ✘ present antigens to T cells
4. ✘ destroy infected cells

**Question Number : 58 Question Id : 6306801247027 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

A statement is given followed by two conclusions. Identify which of the given conclusions is/are true based on the given statement.

**Statement:** Red blood cells (RBCs) are flexible and disk shaped.

**Conclusions:**

- I. RBCs cannot travel through narrow blood vessels.
- II. RBCs can change shape to fit through narrow blood vessels.

**Options :**

- 1. ✘ Only conclusion I is true.
- 2. ✔ Only conclusion II is true.
- 3. ✘ Both conclusions I and II are true.
- 4. ✘ Neither conclusion I nor II is true.

**Question Number : 59 Question Id : 6306801247040 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which of the following is a disorder characterised by a low platelet count?

**Options :**

- 1. ✘ Thrombocytosis
- 2. ✔ Thrombocytopenia
- 3. ✘ Leukopenia
- 4. ✘ Anemia

**Question Number : 60 Question Id : 6306801253494 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Read the given assertion (A) and reason (R) and select the most appropriate option.

(A): White blood cells play a vital role in the immune system by defending the body against infectious diseases and foreign invaders.

(R): White blood cells perform this function primarily through phagocytosis, where they engulf and digest pathogens.

**Options :**

- 1. ✔ Both (A) and (R) are true, and (R) is the correct explanation of (A)
- 2. ✘ Both (A) and (R) are true, but (R) is not the correct explanation of (A)
- 3. ✘ (A) is true, but (R) is false
- 4. ✘ (A) is false, but (R) is true

**Question Number : 61 Question Id : 6306801254450 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which of the following proteins is directly responsible for converting fibrinogen into fibrin during clot formation?

**Options :**

- 1. ✔ Thrombin
- 2. ✘ Plasmin
- 3. ✘ Prothrombin
- 4. ✘ Collagen

**Question Number : 62 Question Id : 6306801408264 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

The non-cellular components of blood consist of \_\_\_\_\_.

- i) Fibrin
- ii) Thrombin
- iii) Sodium
- iv) Plasma
- v) Thrombocytes

- vi) Phagocytes
- vii) Creatinine
- viii) Water
- ix) hormones
- x) enzymes

**Options :**

1. ✘ i, iii, x
2. ✔ i, ii, iii, iv, vii, viii, ix
3. ✘ ii, iii, vii, ix
4. ✘ viii, ix, x

**Question Number : 63 Question Id : 6306801247085 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

What is the process of separating lymphocytes from whole blood called?

**Options :**

1. ✔ Lymphapheresis
2. ✔ Leukapheresis
3. ✘ Lateletpheresis
4. ✘ Erythroporesis

**Note: For this question, ambiguity is found in question/answer. Candidate will get full marks for this question if any of the correct options are chosen.**

**Question Number : 64 Question Id : 6306801254765 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which of the following is the primary mechanism by which convalescent plasma therapy aids in the treatment of infectious diseases like COVID-19?

**Options :**

1. ✔ Neutralising pathogens by binding to viral antigens
2. ✘ Stimulating the patient's immune system to produce more antibodies
3. ✘ Directly destroying infected host cells
4. ✘ Inhibiting RNA transcription within host cells

**Question Number : 65 Question Id : 6306801408262 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

The composition of lymph is most similar to \_\_\_\_\_.

**Options :**

1. ✘ blood
2. ✘ serum
3. ✘ cytosol
4. ✔ interstitial fluid

**Question Number : 66 Question Id : 6306801247096 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which of the following accurately defines autoimmunity?

**Options :**

1. ✘ An immune response against foreign antigens
2. ✔ An immune response against self-antigens
3. ✘ A type of hypersensitivity reaction

4. ✘ A type of immune deficiency

**Question Number : 67 Question Id : 6306801408283 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which of the following cells acts as antigen-presenting cell to initiate autoimmune response?

**Options :**

1. ✔ Tissue macrophages
2. ✘ Cytokines
3. ✘ B cells
4. ✘ Natural killer cells

**Question Number : 68 Question Id : 6306801247149 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Select the option that is true regarding the following two statements labelled Assertion (A) and Reason (R).

**Assertion (A):** Hashimoto's disease is characterised by the presence of anti-thyroid antibodies.

**Reason (R) :** The immune system produces antibodies against thyroid proteins, leading to thyroid inflammation and damage.

**Options :**

1. ✘ Both A and R are true, and R is not the correct explanation of A.
2. ✔ Both A and R are true, and R is the correct explanation of A.
3. ✘ A is true, and R is false.
4. ✘ A is false, and R is true.

**Question Number : 69 Question Id : 6306801247198 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which of the following is true about thyrotoxicosis?

**Options :**

1. ✔ Excessive thyroid hormone secretion
2. ✘ Deficient thyroid hormone secretion
3. ✘ Normal thyroid hormone production
4. ✘ Thyroid gland inflammation

**Question Number : 70 Question Id : 6306801249072 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which of the following autoantibodies is most commonly associated with Systemic Lupus Erythematosus (SLE)?

**Options :**

1. ✔ Antinuclear antibody (ANA)
2. ✘ Anti-dsRNA
3. ✘ Anti-histones
4. ✘ Anti-RP(Riboprotein)

**Question Number : 71 Question Id : 6306801255193 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Read the given statement(s) and conclusion(s) and select the most appropriate option.

**Statement:**

Autoimmunity occurs when the immune system mistakenly identifies self-antigens as foreign and mounts an immune response against them.

**Conclusion:**

Regulatory T cells (Tregs) play a crucial role in preventing autoimmunity by suppressing self-reactive T cells.

**Options :**

1. ✘ The statement is correct, but the conclusion is incorrect.
2. ✘ Both the statement and conclusion are correct, but they are unrelated.
3. ✔ Both the statement and conclusion are correct, and the conclusion is a direct result of the statement.
4. ✘ The statement is incorrect, but the conclusion is correct.

**Question Number : 72 Question Id : 6306801255245 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which of the following autoimmune diseases is categorised as systemic?

**Options :**

1. ✘ Grave's disease
2. ✘ Addison's disease
3. ✔ Sjögren's syndrome
4. ✘ Hashimoto's thyroiditis

**Question Number : 73 Question Id : 6306801255264 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which type of antibody is commonly elevated in individuals with Hashimoto's disease?

**Options :**

1. ✘ Anti-insulin antibodies
2. ✔ Anti-thyroglobulin antibodies
3. ✘ Anti-gliadin antibodies
4. ✘ Anti-Ro antibodies

**Question Number : 74 Question Id : 6306801248978 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

A statement is given followed by two conclusions numbered I and II. Identify which of the given conclusions is/are true based on the given statement.

**Statement:** Rheumatoid arthritis and lupus are autoimmune diseases.

**Conclusions:**

- I. Both are autoimmune connective tissue diseases.
- II. Both are autoimmune neurologic diseases.

**Options :**

1. ✔ Only conclusion I is true.
2. ✘ Only conclusion II is true.
3. ✘ Both conclusions I and II are true.
4. ✘ Neither conclusion I nor II is true.

**Question Number : 75 Question Id : 6306801249112 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

What type of disease is rheumatoid arthritis an example of?

**Options :**

1. ✘ Degenerative joint disease
2. ✔ Autoimmune disorder

3. ✘ Inflammatory muscle disease
4. ✘ Metabolic bone disease

**Question Number : 76 Question Id : 6306801255284 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Match each laboratory finding (A-D) in Systemic Lupus Erythematosus (SLE) with its corresponding significance (1-4).

Laboratory finding	Significance
A. Elevated Erythrocyte Sedimentation Rate	1. Indicates increased risk of thrombosis
B. Anti-phospholipid antibodies	2. Associated with systemic inflammation
C. Anti-Ro/SSA antibodies	3. Correlates with neonatal lupus in infants
D. Low platelet count	4. Marker for hematologic involvement

**Options :**

1. ✘ A-2, B-1, C-3, D-4
2. ✘ A-1, B-2, C-4, D-3
3. ✘ A-4, B-3, C-1, D-2
4. ✔ A-3, B-4, C-2, D-1

**Question Number : 77 Question Id : 6306801408254 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Autoantibodies block thyroid cell stimulation by binding to which of the following receptors?

**Options :**

1. ✘ Acetylcholine
2. ✔ Thyrotropin
3. ✘ Thyrocholine
4. ✘ Acetyltropin

**Question Number : 78 Question Id : 6306801255497 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which type of immunoglobulin is primarily found in mucosal secretions, such as saliva, tears, and breast milk, and plays a critical role in mucosal immunity?

**Options :**

1. ✘ IgM
2. ✘ IgE
3. ✔ IgA
4. ✘ IgD

**Question Number : 79 Question Id : 6306801255504 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

What is the basic structural unit of an immunoglobulin (Ig) molecule?

**Options :**

1. ✘ One heavy chain and one light chain
2. ✔ Two heavy chains and two light chains
3. ✘ Four heavy chains
4. ✘ Two light chains only

**Question Number : 80 Question Id : 6306801408253 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which of the following statements is correct with respect to the nature and structure of Igs?

**Options :**

- ✘ Immunoglobulins, a specialised group of proteins are not mostly associated with gamma globulin fraction of plasma proteins.
- ✘ Immunoglobulin is not a functional term while gamma globulin is a physical term.
- ✘ Immunoglobulin molecules consist of three identical heavy chains and three light chains held together by disulphide linkages and covalent interactions.
- ✔ The heavy chains of immunoglobulin are linked to carbohydrates, hence immunoglobulins are glycoproteins.

**Question Number : 81 Question Id : 6306801249456 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which of the following adjuvants is NOT used in the HPV vaccine?

**Options :**

- ✘ Aluminium hydroxide
- ✔ Incomplete Freund's adjuvant
- ✘ 3-O-desacyl-4' monophosphoryl lipid A (MPL)
- ✘ Quillaja saponaria (QS-21)

**Question Number : 82 Question Id : 6306801255545 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Match the heavy chain type in Column A with its characteristic immunoglobulin property or function in Column B.

Column A : Heavy chains	Column B: Properties/functions
1. Gamma ( $\gamma$ )	A. Found in mucosal surfaces and secretions
2. Mu ( $\mu$ )	B. 1 <sup>st</sup> antibody formed against pathogens
3. Epsilon ( $\epsilon$ )	C. Crosses the placenta to protect the fetus
4. Alpha ( $\alpha$ )	D. Triggers histamine release in allergic responses

**Options :**

- ✔ 1 → C, 2 → B, 3 → D, 4 → A
- ✘ 1 → A, 2 → D, 3 → B, 4 → C
- ✘ 1 → D, 2 → A, 3 → C, 4 → B
- ✘ 1 → B, 2 → C, 3 → A, 4 → D

**Question Number : 83 Question Id : 6306801408260 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

What components are added to formulate a vaccine after the development of antigen?

**Options :**

- ✘ Only adjuvants and stabilisers
- ✘ Only stabilisers and preservatives
- ✘ Adjuvants, assays and stabilisers
- ✔ Adjuvants, stabilisers and preservatives

**Question Number : 84 Question Id : 6306801408261 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

The variable region of a light chain in an immunoglobulin is encoded by the \_\_\_\_\_.

**Options :**

- ✘ Segment V only
- ✘ Segment J only

3. ✘ Segment C
4. ✔ Segments V and J

**Question Number : 85 Question Id : 6306801249427 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Select the option that is true regarding the following two statements labelled Assertion (A) and Reason (R).

**Assertion (A):** Ig heavy chains determine the class of an antibody.

**Reason (R):** The heavy chain constant region determines the antibody class, IgA, IgD, IgG or IgM.

**Options :**

1. ✘ Both A and R are true, and R is not the correct explanation of A.
2. ✔ Both A and R are true and R is the correct explanation of A.
3. ✘ A is true, and R is false.
4. ✘ A is false, and R is true.

**Question Number : 86 Question Id : 6306801249483 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

A statement is given followed by two conclusions. Identify which of the given conclusions is/are true based on the given statement.

**Statement:** Immunoglobulins (Igs) are also known as antibodies produced by B cells in response to antigenic stimulation. They play a crucial role in the immune system by recognising and binding to specific antigens marking them for destruction. IgG can be a major driver of inflammation in autoimmune and infectious diseases. IgG can activate monocytes/macrophages to secrete cytokines, which can induce tissue damage.

**Conclusions:**

**I.** Igs are essential for neutralising pathogens such as bacteria and viruses.

**II.** They play a key role in inflammation and tissue damage.

**Options :**

1. ✘ Only conclusion I is true.
2. ✘ Only conclusion II is true.
3. ✔ Both conclusions I and II are true.
4. ✘ Neither conclusion I nor II is true.

**Question Number : 87 Question Id : 6306801255521 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Read the given statement(s) and conclusion(s) and select the most appropriate option.

**Statement:**

The hypervariable (HV) regions of the light chain contribute to the diversity of the antigen-binding site.

**Conclusion:**

All three hypervariable regions in the light chain are derived solely from the V segment of the light chain gene.

**Options :**

1. ✔ Only the statement is correct.
2. ✘ Only the conclusion is correct.
3. ✘ Both the statement and the conclusion are correct.
4. ✘ Both the statement and the conclusion are incorrect.

**Question Number : 88 Question Id : 6306801408259 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

For the cleavage of Ig G, which enzyme produces three fragments?

**Options :**

1. ✓ Papain
2. ✗ Pepsin
3. ✗ Trypsin
4. ✗ Chymotrypsin

**Question Number : 89 Question Id : 6306801251843 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which of the following is classified as a peptide hormone?

**Options :**

1. ✗ Thyroxine
2. ✗ Adrenaline
3. ✓ Insulin
4. ✗ Progesterone

**Question Number : 90 Question Id : 6306801251883 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which of the following hormones is classified as peptide hormone?

**Note: For this question, discrepancy is found in question/answer. So, this question is ignored for all candidates.**

**Options :**

1. Thyroxine
2. Adrenaline
3. Insulin
4. Progesterone

**Question Number : 91 Question Id : 6306801255594 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Hormones can be classified based on their chemical structure. Which of the following is NOT a category of hormones based on this classification?

**Options :**

1. ✗ Peptide hormones
2. ✗ Steroid hormones
3. ✓ Glycolipid hormones
4. ✗ Amine hormones

**Question Number : 92 Question Id : 6306801408258 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Chemical messengers secreted by ductless glands are called \_\_\_\_\_.

**Options :**

1. ✗ vitamins
2. ✗ proteins
3. ✗ antibodies
4. ✓ hormones

**Question Number : 93 Question Id : 6306801251813 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which of the following is a characteristic of endocrine glands?

**Options :**

1. ✓ Produce hormones that are secreted into the blood stream
2. ✗ Produce hormones that are secreted into the digestive system
3. ✗ Produce hormones that are secreted into the nervous system
4. ✗ Do not produce any hormones

**Question Number : 94 Question Id : 6306801252021 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

The given statement is followed by two conclusions numbered I and II. Identify which of the given conclusions is/are true based on the given statement.

**Statement:**

Adrenaline is released in response to stress and stimulates the 'fight or flight' response.

**Conclusions:**

I. Overproduction of adrenaline can lead to hypertension, tachycardia and anxiety.

II. Lower production of adrenaline causes dwarfism and short stature.

**Options :**

1. ✓ Only conclusion I is true.
2. ✗ Only conclusion II is true.
3. ✗ Both conclusions I and II are true.
4. ✓ Neither conclusion I nor II is true.

**Note: For this question, ambiguity is found in question/answer. Candidate will get full marks for this question if any of the correct options are chosen.**

**Question Number : 95 Question Id : 6306801252055 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which of the following hormones is produced by the hypothalamus and inhibits the release of the growth hormone from the pituitary gland?

**Options :**

1. ✗ Growth hormone-releasing hormone (GHRH)
2. ✓ Somatostatin (SST)
3. ✗ Thyrotropin-releasing hormone (TRH)
4. ✗ Corticotropin-releasing hormone (CRH)

**Question Number : 96 Question Id : 6306801255674 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Match the hormones in column A with their functions in column B.

Column A	Column B
1. Parathyroid hormone	A. Reduces blood calcium levels
2. Thyroxine (T4)	B. Increases blood calcium levels
3. Calcitonin	C. Regulates metabolism and energy levels

**Options :**

1. ✗ 1-A, 2-C, 3-B
2. ✓ 1-B, 2-C, 3-A

3. ✘ 1-C, 2-B, 3-A

4. ✘ 1-B, 2-A, 3-C

**Question Number : 97 Question Id : 6306801408280 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Match the following.

A) Antidiuretic hormone	1) Promotes growth of the body
B) Oxytocin	2) Promotes TSH release
C) Thyrotrophin-releasing hormone	3) Stimulates uterine contraction and milk ejection
D) Growth hormone	4) Promotes water reabsorption by kidneys

**Options :**

1. ✔ A-4, B-3, C-2, D-1

2. ✘ A-4, B-3, C-1, D-2

3. ✘ A-4, B-2, C-3, D-1

4. ✘ A-3, B-4, C-2, D-1

**Question Number : 98 Question Id : 6306801408282 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

The hormone that binds to intracellular receptor is \_\_\_\_\_.

**Options :**

1. ✘ Adrenocorticotrophic hormone

2. ✔ Thyroxine

3. ✘ Follicle stimulating hormone

4. ✘ Glucagon

**Question Number : 99 Question Id : 6306801252100 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which of the following is a downstream effect of cAMP activation in TSH signaling?

**Options :**

1. ✘ Inhibition of thyroglobulin

2. ✔ Stimulation of thyroid peroxidase activity

3. ✘ Reduced iodide transport

4. ✘ Decreased thyroid hormone secretion

**Question Number : 100 Question Id : 6306801252119 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which of the following is an effect of estrogen on the hypothalamus?

**Options :**

1. ✔ Stimulation of GnRH production

2. ✘ Inhibition of TSH

3. ✔ Stimulation of FSH production

4. ✔ Inhibition of LH production

**Note: For this question, ambiguity is found in question/answer. Candidate will get full marks for this question if any of the correct options are chosen.**

**Question Number : 101 Question Id : 6306801255724 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which of the following correctly describes one of the primary effects of adrenaline during the 'fight or flight' response?

**Options :**

- ✘ It increases glycogen synthesis in the liver to store glucose for later use.
- ✔ It promotes lipolysis in adipose tissue by activating hormone-sensitive lipase.
- ✘ It decreases heart rate and blood pressure to conserve energy during stress.
- ✘ It stimulates insulin secretion to enhance glucose uptake by skeletal muscles.

**Question Number : 102 Question Id : 6306801408279 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which hormone receptor is encoded by the diabetes gene (DB)?

**Options :**

- ✔ Leptin receptor
- ✘ Oxytocin receptor
- ✘ Peptide receptor
- ✘ Kinetin receptor

**Question Number : 103 Question Id : 6306801252152 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which part of the peripheral nervous system (PNS) is responsible for transmitting sensory information to the central nervous system?

**Options :**

- ✘ Efferent neurons
- ✔ Afferent neurons
- ✘ Neuroglia
- ✘ Nissl granules

**Question Number : 104 Question Id : 6306801253143 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

A statement is given, followed by conclusions numbered I and II. You are to decide which of the given conclusions could be drawn definitely from the given statement.

**Statement**

Certain specific neural system is/are involved in the regulation of emotions, such as fear and anxiety.

**Conclusions**

- I. The Cochlear neural system processes auditory information.
- II. The Limbic neural system is responsible for controlling emotions.

**Options :**

- ✘ Only conclusion I is true.
- ✔ Only conclusion II is true.
- ✘ Both conclusions I and II are true.
- ✘ Neither conclusion I nor II is true.

**Question Number : 105 Question Id : 6306801255752 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which part of the nervous system is responsible for voluntary movements?

**Options :**

1. ✓ Somatic nervous system
2. ✗ Autonomic nervous system
3. ✗ Parasympathetic nervous system
4. ✗ Enteric nervous system

**Question Number : 106 Question Id : 6306801408277 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Preganglionic neurons lie within the \_\_\_\_\_.

**Options :**

1. ✓ Central Nervous System (CNS)
2. ✗ Parasympathetic Nervous System
3. ✗ Somatic Nervous System
4. ✗ Sympathetic Nervous System

**Question Number : 107 Question Id : 6306801408278 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

How many pairs of the spinal nerves are found in humans?

**Options :**

1. ✓ 31 pairs
2. ✗ 13 pairs
3. ✗ 12 pairs
4. ✗ 21 pairs

**Question Number : 108 Question Id : 6306801253122 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Given below are two statements: Assertion (A) and Reason (R). Read the statements carefully and select the correct option.

**(A):** Neurons in the adult brain are unable to divide and multiply.

**(R):** Neurons in the brain have reached the end of their cell cycle and are in a state of terminal differentiation.

**Options :**

1. ✗ Both A and R are true, but R is not the correct explanation for A.
2. ✓ Both A and R are true, and R is the correct explanation for A.
3. ✗ A is true, but R is false.
4. ✗ A is false, but R is true.

**Question Number : 109 Question Id : 6306801255830 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which ion is primarily involved in the depolarisation phase of an action potential?

**Options :**

1. ✗ Calcium ( $\text{Ca}^{2+}$ )
2. ✗ Potassium ( $\text{K}^+$ )
3. ✓ Sodium ( $\text{Na}^+$ )
4. ✗ Chloride ( $\text{Cl}^-$ )

**Question Number : 110 Question Id : 6306801256600 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

What role do chloride ions ( $\text{Cl}^-$ ) play in the composition of cerebrospinal fluid?

**Options :**

1. ✘ Stabilise pH
2. ✘ Enhance neuronal excitability
3. ✔ Maintain osmotic balance
4. ✘ Facilitate protein transport

**Question Number : 111 Question Id : 6306801256645 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Read the given statement and conclusions and select the most appropriate option.

**Statement:**

All reflex actions are automatic responses to stimuli.

**Conclusions:**

1. All automatic responses are reflex actions.
2. Reflex actions involve the nervous system.

**Options :**

1. ✘ Only conclusion 1 follows.
2. ✔ Only conclusion 2 follows.
3. ✘ Both conclusions 1 and 2 follow.
4. ✘ Neither conclusion 1 nor 2 follows.

**Question Number : 112 Question Id : 6306801257430 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Read the given statement and conclusions carefully and select the correct option.

**Statement**

The gag reflex is a brainstem reflex that helps prevent foreign objects from entering the airway.

**Conclusions**

- I. It is a protective reflex that prevents choking of the airway.
- II. It is a vital reflex that maintains the posture and balance.

**Options :**

1. ✔ Only conclusion I is true.
2. ✘ Only conclusion II is true.
3. ✘ Both conclusions I and II are true.
4. ✘ Neither conclusion I nor II is true.

**Question Number : 113 Question Id : 6306801408276 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Where are neurotransmitters present inside the neuron?

**Options :**

1. ✘ Synaptic knob
2. ✔ Synaptic vesicles
3. ✘ Nissl's granules
4. ✘ Schwann cells

**Question Number : 114 Question Id : 6306801256651 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which of the following accurately describes the relationship between the stretch reflex and the Golgi tendon reflex in maintaining muscle function and preventing injury in our body?

**Options :**

- ✘ The stretch reflex and Golgi tendon reflex are both monosynaptic, with the stretch reflex promoting muscle relaxation and the Golgi tendon reflex causing contraction to prevent overstretching.
- ✔ The stretch reflex facilitates muscle contraction in response to sudden lengthening, while the Golgi tendon reflex inhibits excessive muscle contraction through polysynaptic pathways to protect tendons and prevent damage.
- ✘ Both the stretch reflex and Golgi tendon reflex work through polysynaptic pathways, but the Golgi tendon reflex is faster because it involves fewer interneurons.
- ✘ The stretch reflex only operates in the absence of conscious control, while the Golgi tendon reflex requires voluntary muscle activity to activate protective mechanisms.

**Question Number : 115 Question Id : 6306801257453 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which part of the kidney filters urine from blood?

**Options :**

- ✘ Proximal convoluted tube
- ✘ Loop of Henle
- ✔ Glomerulus
- ✘ Distal convoluted tube

**Question Number : 116 Question Id : 6306801257467 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Match the hormones with their effects on urine formation.

Hormones	Effects
L. Anti Diuretic Hormone (ADH)	A. Increases sodium absorption
M. Atrial Natriuretic Peptide (ANP)	B. Decreases water re-absorption
N. Angiotensin II	C. Increases water re-absorption

**Options :**

- ✘ L-A, M-B, N-C
- ✘ L-C, M-A, N-B
- ✔ L-C, M-B, N-A
- ✘ L-B, M-C, N-A

**Question Number : 117 Question Id : 6306801408274 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

What is the daily volume of glomerular filtrate in an adult male and female?

**Options :**

- ✘ 50 litres in males and 90 litres in females
- ✘ 120 litres in males and 130 litres in females
- ✔ 180 litres in males and 150 litres in females
- ✘ 180 litres in males and 180 litres in females

**Question Number : 118 Question Id : 6306801256669 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

In a modern day bomb calorimeter, the food sample is burnt in:

**Options :**

- ✘ a vacuum chamber

2. ✓ an oxygen-rich environment
3. ✗ a nitrogen-rich environment
4. ✗ a carbon dioxide-rich environment

**Question Number : 119 Question Id : 6306801257493 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which of the following nutrients is most closely associated with maintaining healthy bones?

**Options :**

1. ✗ Vitamin C
2. ✓ Calcium
3. ✗ Iron
4. ✗ Potassium

**Question Number : 120 Question Id : 6306801259253 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

This question consists of two statements: Assertion (A) and Reason (R). Read the statements carefully and select the correct answer from the given options.

**(A):** Nutraceuticals and functional foods play a crucial role in preventing chronic diseases.

**(R):** They contain bioactive compounds that modulate metabolic pathways, thereby reducing the risk of chronic diseases.

**Options :**

1. ✗ Both A and R are true, and R is not the correct explanation of A.
2. ✓ Both A and R are true, and R is the correct explanation of A
3. ✗ A is true, and R is false.
4. ✗ A is false, and R is true.

**Question Number : 121 Question Id : 6306801407703 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

How much of vitamin A is required for a 70 kg adult man on daily basis?

**Options :**

1. ✗ 5000 IU
2. ✗ 1000 IU
3. ✓ 3000 IU
4. ✗ 4000 IU

**Question Number : 122 Question Id : 6306801408273 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which is the right calorific value for the carbohydrates, fats and proteins obtained in a bomb calorimeter?

**Options :**

1. ✓ 4, 9 ,5
2. ✗ 6, 8, 7
3. ✗ 6, 9,7
4. ✗ 7, 8, 9

**Question Number : 123 Question Id : 6306801246178 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

The percentage of absorbed nitrogen retained in the body represents:

**Options :**

1. ✓ the biological value (BV) of protein
2. ✗ the biological value (BV) of fat
3. ✗ the biological value (BV) of carbohydrate
4. ✗ the biological value (BV) of vitamin

**Question Number : 124 Question Id : 6306801246221 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which of the following statements is correct with the respect to alkaline phosphatase (ALP)?

**Options :**

1. ✗ Liver is the sole source of alkaline phosphatase.
2. ✓ The liver and bone isoenzymes of alkaline phosphatase (ALP) can be separated by electrophoresis.
3. ✗ Alkaline phosphatase is not elevated in cirrhosis of liver and hepatic tumours.
4. ✗ Alkaline phosphatase (ALP) is mainly not derived from bone and liver.

**Question Number : 125 Question Id : 6306801246253 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Match the following.

- |              |                           |
|--------------|---------------------------|
| A) Calcium   | 1) Goiter                 |
| B) Magnesium | 2) Hypochromic anaemia    |
| C) Iron      | 3) Neuromuscular weakness |
| D) Iodine    | 4) Rickets                |

**Options :**

1. ✓ A-4, B-3, C-2, D-1
2. ✗ A-4, B-3, C-1, D-2
3. ✗ A-4, B-2, C-3, D-1
4. ✗ A-3, B-4, C-2, D-1

**Question Number : 126 Question Id : 6306801256744 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

What is the primary role of dietary fibre in adult nutrition?

**Options :**

1. ✗ Provides essential amino acids
2. ✗ Increases calcium absorption
3. ✓ Improves bowel regularity and supports gut health
4. ✗ Enhances glucose production

**Question Number : 127 Question Id : 6306801256753 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

What is Marasmus characterised by?

**Options :**

1. ✗ Severe protein deficiency only
2. ✓ Severe deficiency of both calories and protein
3. ✗ Vitamin deficiency
4. ✗ Excess carbohydrate consumption

**Question Number : 128 Question Id : 6306801258925 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which of the following factors primarily influences BMR in children?

**Options :**

1. ✘ Age
2. ✘ Sex
3. ✔ Weight
4. ✘ Height

**Question Number : 129 Question Id : 6306801408252 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

A condition of severe, prolonged, and persistent vomiting during pregnancy is called \_\_\_\_\_.

**Options :**

1. ✔ hyperemesis gravidarum
2. ✘ placenta previa
3. ✘ gestational diabetes
4. ✘ preeclampsia

**Question Number : 130 Question Id : 6306801246200 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

The daily requirement of riboflavin for an adult is \_\_\_\_\_.

**Options :**

1. ✘ 2.2 - 2.7 mg
2. ✔ 1.2 - 1.7 mg
3. ✘ 3.2 - 3.7 mg
4. ✘ 1.8 - 2.2 mg

**Question Number : 131 Question Id : 6306801256762 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

What unique structural feature of glycogen makes it more readily mobilisable than starch in humans?

**Options :**

1. ✔ A higher proportion of  $\alpha$ -1,6 glycosidic bonds
2. ✘ The presence of  $\beta$ -1,4 glycosidic bonds
3. ✘ Smaller molecular size compared to amylose
4. ✘ Lack of branching compared to amylopectin

**Question Number : 132 Question Id : 6306801256772 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

**Statement:** A patient shows symptoms of bleeding gums, petechiae, poor wound healing, and fatigue. The dietary history reveals very low intake of fruits and vegetables.

**Conclusion:** The patient has Vitamin C deficiency (scurvy), causing impaired collagen synthesis.

Which biochemical process is directly inhibited in this deficiency?

**Options :**

1. ✔ Hydroxylation of proline and lysine residues in collagen
2. ✘ Cross-linking of tropocollagen fibers
3. ✘ Formation of collagen triple helix
4. ✘ N-glycosylation of collagen precursors

**Question Number : 133 Question Id : 6306801259229 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which of the following is a rich nutritional source of Vitamin K?

**Options :**

- ✘ Citrus fruits (oranges, lemons, limes)
- ✔ Leafy green vegetables (spinach, kale, collard greens)
- ✘ Whole grains (brown rice, quinoa, whole wheat)
- ✘ Legumes (lentils, chickpeas, black beans)

**Question Number : 134 Question Id : 6306801246273 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which protein is therapeutically useful for the treatment of burns and haemorrhage?

**Options :**

- ✘ Globulin
- ✔ Albumin
- ✘ Haptoglobin
- ✘ Transferrin

**Question Number : 135 Question Id : 6306801262637 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

What is the primary function of albumin, a plasma protein?

**Options :**

- ✘ Regulation of lipids
- ✘ Regulation of blood clotting
- ✔ Maintenance of blood pressure and volume
- ✘ Transport of cofactor

**Question Number : 136 Question Id : 6306801262653 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which of the following liver function tests is most sensitive for detecting alcohol induced liver damage?

**Options :**

- ✘ Alanine transaminase (ALT)
- ✘ Aspartate transaminase (AST)
- ✘ Alkaline phosphatase (ALP)
- ✔ Gamma-glutamyl transferase (GGT)

**Question Number : 137 Question Id : 6306801262798 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Read the given statements and conclusions, and select the most appropriate option.

**Statement:**

Acid phosphatase (ACP) is primarily found in prostate gland, while alkaline phosphatase (ALP) is primarily found in liver and bone.

**Conclusions:**

- I. ACP levels are elevated during prostate cancer.
- II. ALP levels are elevated during liver disease.

**Options :**

1. ✘ Only conclusion I is true
2. ✘ Only conclusion II is true
3. ✔ Both conclusions I and II are true
4. ✘ Neither of conclusion I or II are true

**Question Number : 138 Question Id : 6306801262908 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Match the following laboratory tests with their corresponding approximate reference ranges.

Laboratory Test	Reference range
L. Serum Creatinine	A. 10-20 mg/d L
M. Blood Urea Nitrogen (BUN)	B. 0.5-1.2mg/d L
N. Total Bilirubin	C. 0.2-2.12 mg/d L

**Options :**

1. ✔ L-B, M-A, N-C
2. ✘ L-A, M-B, N-C
3. ✘ L-B, M-C, N-A
4. ✘ L-C, M-B, N-A

**Question Number : 139 Question Id : 6306801263175 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Match the following laboratory tests with their corresponding approximate reference ranges in normal adult men.

Laboratory Test	Reference Range
L. Serum Creatinine	A. 8-24 mg/d L
M. Blood Urea Nitrogen (BUN)	B. 0.6 -1.2mg/d L
N. Total Bilirubin	C. 0.3- 1.2 mg/d L

**Options :**

1. ✔ L-B, M-A, N-C
2. ✘ L-A, M-B, N-C.
3. ✘ L-B, M-C, N-A
4. ✘ L-C, M-B, N-A

**Question Number : 140 Question Id : 6306801246263 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

The excretory function of the liver can be evaluated by using a dye \_\_\_\_\_.

**Options :**

1. ✘ inulin
2. ✔ bromosulphthalein
3. ✘ iodine
4. ✘ gadolinium

**Question Number : 141 Question Id : 6306801246297 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which serum enzyme is most predominantly elevated in viral hepatitis?

**Options :**

1. ✔ Alanine transaminase
2. ✘  $\gamma$ -Glutamyl transpeptidase
3. ✘ Alcohol dehydrogenase

4. ✘ Lactate dehydrogenase

**Question Number : 142 Question Id : 6306801256805 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which of the following types of jaundice is caused by an obstruction in the bile duct?

**Options :**

1. ✘ Pre-hepatic jaundice
2. ✘ Hepatic jaundice
3. ✔ Post-hepatic jaundice
4. ✘ Neonatal jaundice

**Question Number : 143 Question Id : 6306801256816 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

A significant elevation of both aspartate aminotransferase (AST) and alanine aminotransferase (ALT) with an AST/ALT ratio greater than 2 is most suggestive of what?

**Options :**

1. ✘ Non-alcoholic fatty liver disease (NAFLD)
2. ✘ Acute hepatitis
3. ✔ Alcoholic liver disease
4. ✘ Hepatocellular carcinoma

**Question Number : 144 Question Id : 6306801262723 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which of the following is a characteristic of GGT (gamma-glutamyl transferase)?

**Options :**

1. ✘ High molecular weight
2. ✔ Induced by alcohol consumption
3. ✘ High isoelectric point
4. ✘ Hydrophobic nature

**Question Number : 145 Question Id : 6306801246332 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

The lipoprotein(s) possessing the highest quantity of phospholipids is/are:

**Options :**

1. ✔ HDL
2. ✘ LDL
3. ✘ VLDL
4. ✘ chylomicrons

**Question Number : 146 Question Id : 6306801256826 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

What is the most likely reason for ketonuria in a non-diabetic individual?

**Options :**

1. ✔ Starvation
2. ✘ Acute infection
3. ✘ Proteinuria
4. ✘ Hematuria

**Question Number : 147 Question Id : 6306801256828 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

**Statement:** Creatine supplementation increases phosphocreatine stores in muscles, enabling rapid regeneration of ATP during high-intensity exercise.

**Conclusion:** Creatine supplementation directly enhances the energy availability in muscles during intense activities.

What is the correct evaluation of the conclusion?

**Options :**

1. ✓ The conclusion is correct.
2. ✗ The conclusion is incorrect.
3. ✗ The conclusion is unrelated to the statement.
4. ✗ The conclusion is speculative.

**Question Number : 148 Question Id : 6306801256829 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Match the diseases with the tests used for diagnosis.

Diseases	Diagnostic tests
A. Diabetes mellitus	1. Oral Glucose Tolerance Test (OGTT)
B. Helicobacter pylori	2. Urease breath test
C. Pancreatitis	3. Serum Lipase and Amylase
D. Vitamin B12 Deficiency	4. Schilling Test

**Options :**

1. ✗ A-4, B-3, C-1, D-2
2. ✓ A-1, B-2, C-3, D-4
3. ✗ A-3, B-4, C-2, D-1
4. ✗ A-2, B-1, C-4, D-3

**Question Number : 149 Question Id : 6306801262748 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which of the following is a characteristic of acid phosphatase (ACP)?

**Options :**

1. ✗ High isoelectric point
2. ✗ Hydrophobic nature
3. ✓ Found in prostrate tissue
4. ✗ High molecular weight

**Question Number : 150 Question Id : 6306801262836 Question Type : MCQ**

**Correct Marks : 2 Wrong Marks : 0.66**

Which of the following renal function tests is most sensitive for early detection of kidney damage?

**Options :**

1. ✗ Urinalysis
2. ✗ Serum creatinine
3. ✓ Estimated glomerular filtration rate (eGFR)
4. ✗ Blood urea nitrogen (BUN)