**People's Democratic Republic of Algeria**

**Ministry of Higher Education and Scientific Research**

**University of Larbi Ben Mhidi Department of biology sciences**

**Scientific English Exam Level: M1 Applied biochemistry**

**MODEL ANSWER Full Name and Group: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Read the text carefully then answer the questions that follow:**

Biochemistry plays a crucial role in the development of medications by helping scientists understand how the body’s chemical processes work. One of the key areas of focus in drug development is targeting enzymes and proteins, which are essential for many processes in the body.

Enzymes are proteins that speed up chemical reactions in the body. They play a central role in processes like digestion, metabolism, and cell communication. In many diseases, enzymes or proteins may not work properly, which can cause health problems. By studying the structure and function of these enzymes, scientists can design medications that either activate or block their activity.

For example, in cancer treatment, certain proteins that control cell growth can become overactive, leading to uncontrolled cell division. Biochemists can develop drugs that target these proteins, stopping the cancer cells from growing and spreading. Similarly, in diseases like HIV, the virus relies on an enzyme called reverse transcriptase to replicate itself. By understanding how this enzyme works, scientists have created medications that block its action, preventing the virus from multiplying.

Another important area is enzyme inhibitors, which are substances that block the activity of enzymes. These are used in many treatments, such as for high blood pressure or infections. For instance, in treating bacterial infections, biochemists can design drugs that target bacterial enzymes, stopping bacteria from growing or producing harmful toxins.

In summary, applied biochemistry helps scientists understand the behavior of enzymes and proteins in the body. This knowledge allows for the development of targeted medications that can treat a wide range of diseases by influencing the activity of these important molecules. By focusing on enzymes and proteins, biochemists can create treatments that are more effective and have fewer side effects, ultimately improving patient health.

### Questions (16pts):

1. **Suggest a title for the text.** **1pts**The role/importance of enzymes in biochemistry.
2. **What does the term "enzyme" mean in the context of this text? 1pts**Enzymes are proteins that speed up chemical reactions in the body.
3. **What does the expression "block the activity" mean in the context of the text? 1pts**

Stop speeding chemical reactions

1. **What does HIV stand for? 1pts**A) Human Immunodeficiency Virus B) Human Immune Virus C) High Infection Virus D) Human Influenza Virus
2. **Complete the missing words:"Enzymes speed up chemical reactions"** means that enzymes are special proteins that increase the rate at which chemical reactions occur in the body. Without enzymes, many of the reactions needed for life processes would happen too slowly to support life. Enzymes help these reactions happen fast and more efficiently. **1ptsx3**
3. **"In cancer treatment, certain proteins that control cell growth can become overactive" –** the word "**overactive**" means that proteins are working less than required for normal function**. What do you think? 1.5pts**more than required
4. **According to the text, Reverse Transcriptase is the enzyme that stops the conversion of HIV's RNA into DNA. What do you think? 1.5pts**The enzyme helps/makes the conversion
5. **What is the Arabic translation of "preventing the virus from multiplying"?1pts**منع الفيروس من التكاثر
6. **What is the Arabic translation of "harmful toxins"?1pts** السموم الضارة
7. **Find in the text the term whose translation in Arabic is "مواد".1pts**substances
8. **What is the central idea of the text?**The role/importance of biochemistry in developing medications by targeting enzymes
9. **Try to divide the text into sections, telling what each section is about. 1.5pts**Section 1: Biochemistry’s role in the development of medications  
   Section 2: Enzyme’s role in facing health problems  
   Section 3: Example of the Enzyme’s role in facing health problems  
   Section 4: Enzyme inhibitors and their importance  
   Section 5: The importance of biochemistry in developing medications by targeting enzymes

### Written Expression (4pts):

Write a **short paragraph** describing the importance of applied biochemistry, focusing **on an area not discussed in the text.**

* Information**1pts**
* Paragraph structure**1pts**
* Correct language**1pts**
* Coherence and cohesion**1pts**