

## UNIT Two Objective Statements-

- Rate yourself on each of these objective statements: 1-5 with 1 not at all and 5 very confident.
- Reword these statements as questions and answer them fully and by hand. NO typed answers are acceptable for this assignment.
- Make note of any areas that you are not confident in- determine why you are uncertain (not enough review, not sure, have questions).
- Compile any questions that remain and get clarification

### Describe Enzyme Action:

Enzymes have an active site to which specific substrates bind

Enzyme catalysis involves molecular motion and the collision of substrates with the active site

### Explain how specific factors impact enzyme function:

Temperature, pH, and substrate concentration affect the rate of activity of enzymes

Enzymes are denatured

### Suggest industrial uses for enzymes

Immobilized enzymes are widely used in industry

### Outline the method for producing lactose-free milk

Methods of production of lactose-free milk and its advantages
Design of experiments to test the effect of temperature, pH, and substrate concentration on the activity of enzymes
Experimental investigation of a factor affecting enzyme activity

### Can you explain why this is necessary:

Experimental design-accurate, quantitative measurements in enzyme experiments require replicates to ensure reliability
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### Explain the different types:

Metabolic pathways consist of chains and cycles of enzyme-catalysed reactions
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### Discuss the actions of enzymes in metabolic pathways

Enzymes lower the activation energy of the chemical reactions that they catalyse

Enzyme inhibitors can be competitive or non-competitive.

**Diagram and/or apply:**

End-product inhibition of the pathway that converts threonine is isoleucine

Use of databases to identify potential new anti-malarial drugs

**Calculate:**

Calculate rates of reaction from raw experimental results

Distinguish different types of inhibition from graphs at specified substrate concentration

**Distinguish:**

Different types of inhibition from graphs at specified substrate concentration

Different types of factors from graphs of enzymes ( pH , Temp, conc gradient)