By the end of this unit you should be able to;

1. Describe how amino acids determine the structure of a protein
2. Show in diagrammatic form how a di-peptide is formed from two individual amino acids.
3. Describe how amino acids are classified according to their R group
4. State that the wide range of functions carried out by proteins results from the diversity of R groups
5. Describe the different levels of protein structure and the interactions involved in each
6. State what a prosthetic group is and explain the role of a named example
7. Explain how the interactions of R groups can be influenced by temperature and pH.

Ligand binding changes the conformation of a protein

1. Define the term ligand
2. Describe how a ligand binds and what happens to the protein upon binding
3. Define what is meant by allosteric proteins (enzymes)
4. Explain how the structure of an allosteric protein relates to its function
5. Explain the role of modulators in regulating enzyme activity
6. Explain the term co-operativity in terms of allosteric proteins and the example of haemoglobin
7. Describe how changes in temperature and pH alter the affinity of haemoglobin for oxygen and why this relevant in respiring tissues.
8. Describe the role of kinases and phosphatases in regulating the activity of cellular proteins