- Invitation of competent expertise
- Computers with internet
- Library and resource centre

NUTRTITION BIOCHEMISTRY

UNIT CODE: MED/CU/PM/CC/05/6/A

Relationship to Occupational Standards
This unit addresses the unit of competency: apply biochemical techniques.

Duration of Unit: 60 hours

UNIT DESCRIPTION
This unit specifies the competencies required to apply biochemical techniques. It involves demonstrating the knowledge of macromolecules and their metabolism, enzymes, molecular genetics and biochemistry of macronutrients

Summary of Learning Outcomes

1 Demonstrate the knowledge of macromolecules and their metabolism
2 Demonstrate the knowledge of enzymes and hormones
3 Demonstrate the knowledge of molecular genetics
4 Demonstrate the knowledge of biochemistry of macronutrients

Learning Outcomes, Content and Suggested Assessment Methods

Learning Outcome	Content	Suggested Assessment Methods
1. Demonstrate the knowledge of macromolecules and their metabolism	• Meaning of biochemistry • Basic structure of a living cell and how its organized to conduct its characteristic chemical function • Types of macro molecules • The structural elements of macromolecules and their interaction with other small molecules • The hierarchy of molecular organization of cells	• Written . • Observation • Third party report • Oral questioning • Interviews
2. Demonstrate the knowledge of enzymes and hormones	• Nature of enzymes and the process of enzyme catalysis	• Written . • Observation • Third party report • Oral questioning

Learning Outcome	Content	Suggested Assessment Methods
	• Biochemical reactions which micro and macro molecules undergo within the organisms • The structure of enzymes • The relationship among holoenzymes, apoenzymes and cofactors • The general mechanisms by which enzymes catalyze reactions • Properties of enzymes • Isoenzymes and zymogens • Functions of hormones • Secretion mode of action and regulation of hormones • Endocrine disorders	• Interviews
3. Demonstrate the knowledge of molecular genetics	• Structural elements of chromosomes • Classification of Nucleic acids • Heterocyclic bases present in nucleic acid • Structures and functions of DNA and RNA • Pentose sugars in nucleic acid • The process of DNA replication • The process of DNA transcription • Protein synthesis process • Point mutation • Chromosomes and chromosome pathology	• Written . • Observation • Third party report • Oral questioning • Interviews
4. Demonstrate the knowledge of biochemistry of macronutritient	• Meaning of terms in biochemistry of macvronutrients • Biochemistry of carbohydrates; structure, properties and classification of carbohydrates, carbohydrate metabolism, energy path ways and metabolic disoders of carbohydrate metabolism	• Written . • Observation • Third party report • Oral questioning • Interviews

Learning Outcome	Content	Suggested Assessment Methods
	• Biochemistry of proteins; structure, properties and classification of proteins, protein metabolism, metabolic path ways and metabolic disoders of protein metabolism • Biochemistry of lipids; structure, properties and classification of lipids, lipid metabolism, metabolic path ways and metabolic disoders of lipid metabolism	

Suggested Methods of Delivery

- Projects
- Demonstration by trainer
- Practice by the trainee
- Discussions
- Direct instruction

Recommended Resources

- Labs
- Cold chains
- Vaccines
- Stationery
- Staining reagents
- Culture systems