NDAH CHRIS CHIMENEM

18/MHS03/007

ANATOMY

BCH 204

**QUESTION 1a: WHAT ARE COENZYMES**

A coenzyme is an organic non-protein compound that binds with an enzyme to catalyze a reaction.

**QUESTION 1b: DIFFERENTIATE BETWEEN FAT AND WATER VITAMIMS**

* Water soluble vitamins function as precursor for coenzymes and antioxidants while fat soluble vitamins function as coenzymes, hormones and antioxidants.
* Water soluble vitamins are usually non-toxicsince excess amounts of these vitamins are excreted in the urine, while fat soluble vitamins are ***toxic*** and even lethal when taken in excessive quantities.
* Water soluble vitamins are not stored extensively except vitamin B12***,*** and so their intake has to be more frequent than that of other fat soluble vitamins which are stored.

**QUESTION 1c: DESCRIBE NIACIN IN RELATION TO ITS COENZYMIC FUNCTION**

Niacin is a water soluble vitamin that can generally be found in two distinctive forms namely: nicotinic acid and nicotinamide. These substances are used in the body to form coenzymes NAD and NADP. NAD and NADP are involved in various oxidation and reduction reactions catalyzed by dehydrogenases in metabolism. They degrade carbohydrates, fats, proteins and alcohols and synthesize fatty acids and cholesterol. They also play a great role in cell signaling and are part of the energy production system in the body.