ELIZADE UNIVERSITY, ILARA-MOKIN
FACULTY OF BASIC AND APPLIED SCIENCES,
DEPARTMENT OF PHYSICAL AND CHEMICAL SCIENCES
(BIOCHEMISTRY OPTION)
FIRST SEMESTER EXAMINATION (2016/2017 SESSION)

COURSE: BCH 409 (INTERMEDIARY METABOLISM AND REGULATIONS)
TIME ALLOWED: 2 HOURS, 30 MINUTES

HOD SIGNATURE:

Instruction: Answer four (4) questions in all selecting at least two (2) questions from each section.

SECTION A

(1a) Describe three major metabolic pathways that deliver acetyl-CoA into the Kreb`s cycle for energy production.

(1b) State three (3) disorders of carbohydrate metabolism and their specific deficient enzymes.

(1c) Differentiate between;
i) Metabolic turnover
ii) Metabolic pool

(2a) What is an operon?

(2b) Describe the lactose operon.

(2c) Differentiate between enzyme regulation by feedback inhibition and enzymes synthesis.

(3a) Describe the urea cycle.

(3b) Why is ketogenesis an important biochemical process in the body?

(3c) State five biological functions of protein in the body.

SECTION B

(4a) Explain the relationship among the following: cofactors, coenzymes and prosthetic groups.

(4b) Differentiate between an apoenzyme and a holoenzyme.

(4c) List the six major classes of enzymes.

(4d) What are allosteric enzymes?

(5a) What information could be derived from the (i) ΔG and, (ii) $\Delta G^{\ddagger}$ of a reaction?

(5b) List the common features of the active sites of enzymes.

(5c) State the Michaelis-Menten equation and explain the meaning of K_M.

(6a) Write notes on two disorders of amino acid metabolism.

(6b) What is metabolic regulation?