ELIZADE UNIVERSITY, ILARA-MOKIN, ONDO STATE
FAÇULTY: BASIC AND APPLIED SCIENCES

DEPARTMENT: PHYSICAL AND CHEMICAL SCIENCES

SECOND SEMESTER EXAMINATIONS: 2015/2016 ACADEMIC SESSION

COURSE CODE: BCH 202 COURSE TITLE: GENERAL BIOCHEMISTRY II

DURATION: 2.5 HOURS HOD's SIGNATURE

TOTAL MARKS: 60

INSTRUCTIONS: Answer Question (1) and any other three (3) Questions

(1) a. (i) What is oxidative phosphorylation?
(ii) List all the electron careers involved in electron transport within Complexes I, III and IV of the respiratory chain.
(iii) State three inhibitors of cytochrome oxidase
(iv) Define standard redox potential

b. (i) Write an essay on Chemiosmosis
(ii) What is proton gradient? Write the equation for the free energy change of the proton gradient generated during electron transport
(iii) What is the significance of the proton gradient to the cell?

(2) In tabular form, draw a scheme to compare and contrast glycolysis and gluconeogenesis.

(3a) Describe the process of digestion and state the differences between absorption and digestion.
(3b) List four mechanisms of transport and write short notes on each of them

(4a) Differentiate between reducing and non-reducing sugars giving at least two examples.
(4b) Why is lactose a reducing sugar and sucrose a non-reducing sugar.
(4c) State the similarities and differences between amylose and amylopectin.

(5) How many ATP molecules can be generated from 1 molecule of glucose after passing through the glycolytic pathway and tricarboxylic acid cycle.

(6a) Describe the fates of pyruvate under aerobic and anaerobic conditions
(6b) State the primary functions of the pentose phosphate pathway
(6c) Give a short description of how metabolism of glucose through the pentose phosphate pathway influences the development of some pathologies.