CRAWFORD UNIVERSITY
FAITH CITY, IGBESA, OGUN STATE
2010/2011 HARMATTAN SEMESTER EXAMINATIONS

COLLEGE: NATURAL AND APPLIED SCIENCES
DEPARTMENT: BIOLOGICAL SCIENCES
UNIT: BIOCHEMISTRY
COURSE CODE: BCH 213 **COURSE UNIT:** 2
COURSE TITLE: INTRODUCTION TO CELLULAR BIOCHEMISTRY.

INSTRUCTION: Answer any FOUR questions **TIME ALLOWED: 2 HOURS**

1 (a) Define the term "Biochemistry"
(b) What are the non-living constituents of the protoplasm?
(c) Outline five theories advanced by different scientists to describe the physical nature of the protoplasm.
(d) How would you describe a colloidal system?

2 (a) What do you understand by the term 'Cell'?
(b) Describe the following with the aid of well labelled diagrams
(i) Prokaryotic cell (Bacteria) (ii) Animal cell (iii) Plant cell

3 Explain clearly the structure and biochemical functions of the following organelles
(i) Mitochondria (ii) Nucleus (iii) Golgi body (iv) Lysosomes

4 a Describe the following and state their advantages
(i) Cellular differentiation (ii) Cellular specialization.
b Discuss with illustrations the following biochemical processes
(i) Passive transport (ii) Faciliated transport (iii) Active transport.

5 a Describe the structure and functions of the following membrane receptors
(i) G- protein (ii) Tyrosine-kinase receptor (iii) Ion-channel receptors.
b Write an ESSAY on the following:
(i) Cellular fractionation (ii) Cell disruption in animal tissue.

6. Discuss the process of endocytosis and exocytosis citing relevant physiological examples. Illustrate with diagrams.