CRAWFORD UNIVERSITY

FAITH CITY, IGBESA, OGUN STATE

2018/2019 RAIN SEMESTER EXAMINATIONS
COLLEGE: NATURAL AND APPLIED SCIENCES
DEPARTMENT: BIOLOGICAL SCIENCES
PROGRAMME: BIOCHEMISTRY COURSE CODE: BCH 216
COURSE TITLE: PROTEIN METABOLISM COURSE UNIT: 2
INSTRUCTION: ANSWER ANY FOUR QUESTIONS TIME ALLOWED: 2HRS

(1a). Describe the processes involved in the enzymatic digestion and absorption of proteins.

(b). What are essential and non-essential amino acids? Give examples.

(2a). Give an account of the processes involved in the formation of urea by mammals.

(b). Discuss how the deficiency of the urea cycle may be reduced by consumption of diet rich in aromatic compounds. Illustrate with biochemical equations.

(3). Describe with a balanced chemical reactions, the biosynthesis of the following amino acids;

(i). Glutamate and glutamine from 3-phosphoglycerate.

(ii). Glycine and serine from glutamate.

(iii) Cysteine from serine.

(4). Describe the biosynthesis of proline from alpha-ketoglutarate.

(b) Highlight the biosynthetic precursors of the 20- amino acids.

(5). Discuss the fate of the carbon skeleton of degraded amino acids.

(6) Describe the incorporation of biological nitrogen into ammonia.

(b)Show the role of glutamine synthetase in the incorporation of ammonia into biomolecules.