



# CRAWFORD UNIVERSITY

## FAITH CITY, IGBESA, OGUN STATE

2016/2017 RAIN SEMESTER EXAMINATIONS

COLLEGE: NATURAL AND APPLIED SCIENCES

DEPARTMENT: BIOLOGICAL SCIENCES

PROGRAMME: BIOCHEMISTRY

COURSE CODE: BCH 216

COURSE TITLE: METABOLISM OF AMINO ACIDS

STATUS: COMPULSORY.

UNIT: 2

TIME: 2HOURS

**INSTRUCTION: ANSWER ANY FOUR (4) QUESTIONS**

- 1 (a) Explain the digestion and absorption of proteins.  
(b) What are essential and non essential amino acids? Give examples. Illustrate your answer with diagrams.
- 2 (a) Explain briefly five reactions of amino acids. Illustrate with biochemical equations in each case.  
(b) Using biochemical equations, show the products of transamination of the following amino acids:  
(i) Glutamic acid (ii) Phenylalanine (iii) Threonine (iv) Serine (v) Cysteine
3. Discuss the fate of the carbon skeleton of amino acids.
- 4a) Discuss the pathway for the conversion of phenylalanine to fumarate and acetoacetate. Illustrate your answers with diagrams.  
(b) Highlight the biosynthetic precursors of the twenty amino acids.
- 5(a) Discuss the processes involved in the formation of urea by mammals.  
(b) Differentiate between Carbamoyl phosphate I and Carbamoyl phosphate II
- 6 Discuss any **TWO** inborn errors associated with the metabolism of amino acids.  
(a) Phenylketonuria (a) Alcaptonuria (c) Albinism (d) Maple syrup urine disease.