



# CRAWFORD UNIVERSITY

FAITH CITY, IGBESA, OGUN STATE

2021/2022 RAIN SEMESTER EXAMINATIONS

COLLEGE: NATURAL AND APPLIED SCIENCES

DEPARTMENT: BIOLOGICAL SCIENCES

PROGRAMME: BIOCHEMISTRY

COURSE CODE: BCH 422

COURSE UNIT: 2

STATUS: ELECTIVE

COURSE TITLE: SPECIAL TOPICS IN HORMONAL BIOCHEMISTRY

**INSTRUCTION: ANSWER ANY FOUR (4) QUESTIONS. TIME ALLOWED: 2 HOURS**

- 2 Discuss the human endocrine system using suitable diagrams. [15 marks]
- 2 Discuss exhaustively any three (3) diseases associated with hormonal imbalances. [15 marks]
- 2 Describe the biosynthesis of any three of the following hormones: [15 marks]  
(i) Cortisol (ii) Progesterone (iii) Testosterone (iv) Estradiol  
Illustrate your answer with diagrams.
- 3 Write notes on hormone receptors. [15 marks]
- 4a Describe the hormonal regulation of glycolysis and gluconeogenesis. [7 marks]  
b How is blood sugar level controlled by insulin and glucagon? [8 marks]
- 5a Explain briefly the term 'Second messenger'. [7 marks]  
b Describe the role of cyclic Adenosine monophosphate (cAMP) as a second messenger.  
Illustrate your answer with diagram(s) if necessary. [8 marks]