



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

1 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) Progesterone (ii) Testosterone (iii) Estradiol (iv) Cortisol
Illustrate your answer with diagrams.

3 Write notes on the following: [15 marks]
(i) Hormone agonist (ii) Hormone antagonist (iii) Hormone partial agonists.

4a Describe the biosynthesis of Insulin as a peptide hormone. [7.5 marks]
b How is blood sugar level controlled by insulin and glucagon? [7.5 marks]

5a Explain briefly the term 'second messenger'. [7 marks]
b Describe the role of cyclic Adenosine monophosphate (cAMP) as a second messenger. [8 marks]
Illustrate your answer with diagram(s) if necessary.

6 Discuss the differences and similarities between hormones and enzymes. [15 marks]