



**UNIVERSITY EXAMINATIONS**

**FOURTH YEAR EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF  
SCIENCE IN BIOCHEMISTRY**

**BIOC 402: ENDOCRINOLOGY**

**STREAMS: BSC BIOCHEMISTRY Y4S1**

**TIME: 2 HOURS**

**DAY/DATE: TUESDAY 11/12/2018**

**11.30 A.M. – 1.30 P.M.**

---

**INSTRUCTIONS:**

- Answer question **ONE** and **TWO** other questions
- Sketch maps and diagrams maybe used whenever they help to illustrate your answer
- Do not write anything on the question paper
- This is a **closed book exam**. No reference material are allowed in the examination room
- There will be **No** use of mobile phones or any other unauthorized materials
- Write your answers legibly and use your time wisely

**Question 1**

- a Write short notes on the following
- i) The roles of hormones in the body **(5 Marks)**
- ii) intracellular receptors and gene activation **(5 marks)**
- b Highlight the significance of oxytocin in the human body **(2 Marks)**
- c Using an example, describe the mode of action of hormones using cAMP as a second messenger **(3 Marks)**
- d Briefly describe the synthesis of insulin by the beta cells of the pancreas **(5 Marks)**
- e Briefly describe the anti-inflammatory effects of cortisol **(5 Marks)**
- f How does juvenile hormone control metamorphosis in insects **(5 marks)**

**Question 2**

- a Discuss the synthesis and major Physiological roles of thyroid hormone **(10 Marks)**
- b Discuss the roles of FIVE classes of phytohormones **(10 marks)**

**Question 3**

- a Discuss the metabolic effects of growth hormone and any ONE abnormality associated with the secretion of this hormone **(10 Marks)**
- b Discuss the events that take place during the post-ovulatory phase in the menstrual cycle **(10 Marks)**

**Question 4**

Discuss the role of insulin in carbohydrate metabolism **(10 Marks)**

Discuss any FIVE gut hormones and their effects **(10 Marks)**

---