



UNIVERSITY EXAMINATIONS

1ST SEMESTER 2022/2023 ACADEMIC YEAR

**THIRD YEAR EXAMINATION FOR THE DEGREE
BACHELOR OF SCIENCE (BIOCHEMISTRY)**

BIOC 312: BIOCHEMISTRY OF HORMONES

STREAM: R

TIME: 2 HRS

DAY: FRIDAY [8.30AM – 10.30AM] DATE: 09/12/2022

THIS QUESTION PAPER CONSISTS OF TWO (2) PAGES

PLEASE DO NOT OPEN UNTIL THE INVIGILATOR SAYS SO.

INSTRUCTIONS: - Answer ALL questions in section A and ONE question in section B**SECTION A: Answer ALL questions (50 mrks)****QUESTION ONE**

- (a) What is a pheromone? List the functions of different types of pheromones. (4 marks)
- (b) Differentiate between paracrine and ectocrine. (2 marks)
- (c) Highlight the major functions of leptin. (4 marks)

QUESTION TWO

- (a) Elucidate the structural features of thyrotropin releasing hormone (TRH)? (3 marks)
- (b) Highlight the causes of the adrenal cortex disorders. (3 marks)
- (c) Briefly discuss estrogens. (4 marks)

QUESTION THREE

- (a) Classify leukotrienes and explain their function and medical significance. (4 marks)
- (b) Supposing a student suspecting to be pregnant did a pregnancy test using a home test kit and got a negative result, what are the possible explanations and advice for this finding? (6 marks)

QUESTION FOUR

- (a) Explain the mechanism used by hormones to maintain an electrolyte balance. (5 marks)
- (b) Hypersecretion of a certain hormone causes acromegaly while its deficiency causes dwarfism. State the name of this hormone and how it mediates its functions. (5 marks)

QUESTION FIVE

Steroidal hormones have wide medical applications, discuss. (10 marks)

SECTION B: Answer ONLY ONE question - (20 marks)**QUESTION SIX**

Describe the synthesis, structure and mode of action of insulin. (20 mrks)

QUESTION SEVEN

Discuss hyperthyroidism, hypothyroidism and Cushing's disease. (20 mrks)