

**BOWEN UNIVERSITY, IWO, OSUN STATE**  
*(of the Nigerian Baptist Convention)*  
**COLLEGE OF AGRICULTURE, ENGINEERING AND SCIENCE (COAES)**  
**BIOCHEMISTRY PROGRAMME**  
**SECOND SEMESTER, 2022/2023 SESSION**

**COURSE CODE: BCH 216**  
**COURSE TITLE: ENDOCRINOLOGY**

**CREDITS: 3**  
**TIME ALLOWED: 2 ½ HOURS**

**INSTRUCTIONS: ANSWER TWO QUESTIONS FROM EACH SECTION**  
**ANSWER EACH QUESTION ON A NEW PAGE**  
**SECTION A**

**QUESTION ONE:**

Write on the following terms:

- (a) Hormones (4 marks)
- (b) Intracellular receptors (4 marks)
- (c) Fusion genes (4marks)
- (d) Enhancer elements (4 marks)
- (e) Hormone response elements (HREs) (4 marks)

**QUESTION TWO:**

Discuss extensively the various classes of hormones and give two examples of each  
(20marks)

**QUESTION THREE:**

- (a) State five endocrine organs and their functions in the body system. (10marks)
- (b) Discuss the mechanism of hormone action. (10marks)

**SECTION B**

**QUESTION FOUR:**

- (a) What are antagonistic hormones? (5 marks)
- (b) Using appropriate examples, discuss how antagonistic hormones maintain homeostasis in the body (15 marks)

**QUESTION FIVE:**

- (a) What are prostaglandins? (2 marks)
- (b) Describe five (5) biological effects of prostaglandins (10 marks)
- (c) State four (4) similarities and four (4) differences between prostaglandins and hormones (8 marks)

**QUESTION SIX:**

- (a) How does G proteins act as molecular switches inside cells? (10 marks)
- (b) i) What are second messengers? (2 marks)  
ii) Give four (4) examples of second messengers (4 marks)
- (c) List four (4) hormones that use the adenylate cyclase system (4 marks)