

**NATIONAL UNIVERSITY OF LESOTHO**  
**FACULTY OF HEALTH SCIENCES**  
**DEPARTMENT OF NUTRITION**  
**PRINCIPLES OF METABOLIC ENDOCRINOLOGY-NUT3321**  
**SEMESTER II EXAMINATION**

**MAY 2023**

**TIME: 3 HOURS**

**MARKS:100**

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**Instructions:**

- a. Answer all questions.
- b. Write answers only.
- c. Number correctly

### Question1

- a. Explain briefly the interrelation of the nervous and endocrine systems. (5)
- b. List 8 main endocrine glands. (8)
- c. Explain how the GI hormones are involved in metabolic functions. (6)
- d. Give any 5 endocrine organs. (5)
- e. Explain the causes of the following conditions (bearing in mind the endocrine, hormonal and metabolic abnormalities). (12)
  - Addison's disease
  - Chronic Kidney Disease
  - Cushing's syndrome
  - Hyperparathyroidism
  - Insulinoma
  - Type 2 diabetes mellitus
- f. For the above conditions, give any 2 dietary and lifestyle interventions recommended for each condition. (12)

**Total: 48 Marks**

### Question 2

- a. Outline any 5 major functions of the GIT. (5)
- b. Mention any 2 mechanisms involved in the GIT activity and regulation. (2)
- c. State any 2 incretin hormones. (2)
- d. Critically discuss how incretin hormones can help in the management of the following conditions : (6)
  - Obesity
  - Diabetes Mellitus
  - Diarrhea

e. Fill in the table below:

GI Hormone	Organ affected
1.	
2.	
3	

4.	
5.	

(10)

**Total: 25 Marks**

**Question 3**

- a. List and explain in detail the functions of corticosteroids. (6)
- b. The hypothalamus is known to be a master regulatory organ. Explain briefly its mechanism of control. (5)
- c. List and explain any 3 nutrient deficiency disorders. (3)
- d. Critically explain the feedback mechanism (negative and positive) and give examples of hormones or glands involved. (6)
- e. Critically discuss how homeostasis and steady state are involved in feedback mechanisms. (4)
- f. What are nutraceuticals? Give any 2 common claims given regarding the use of nutraceuticals. (3)

**Total: 27 Marks**

**The end**