

**CHUKA UNIVERSITY**

**SECOND YEAR EXAMINATION BIOC 205: BIOCHEMISTRY OF VITAMINS AND  
MINERALS**

**STREAM: Y2S2 BSc. BIOCHEMISTRY**

**TIME: 2 HOURS**

**INSTRUCTIONS**

- i. Answer Question One and any other Two Questions**
- ii. Do not write on the question paper**

**Question One (30 marks)**

- a. Briefly describe iron absorption in the body. (2marks)
- b. Describe the Wald's vision cycle. (6 marks)
- c. Describe the functions of vitamin D. (5 marks)
- d. What are the deficiency symptoms of Vitamin B2? (4 marks)
- e. Draw the structure of folic acid (3marks)
- f. Explain calcium absorption the body. (6 marks)
- g. What are the salient characteristics of iron deficiency anemia.(4 marks)

**Question Two (20 marks)**

- a. Describe selenium deficiency and toxicity (5 marks)
- b. Explain copper deficiency (5 marks)
- c. Describe various inborn errors of copper metabolism. (10 marks)

**Question Three (20 marks)**

- a. Explain the biological functions of vitamins. (10 marks)
- b. Explain how calcium levels are regulated by hormones. (5 marks)
- c. What are the regulatory functions of calcium? (5 marks)

**Question Four (20 marks)**

- a. Explain the deficiency symptoms of vitamin B12 (5marks)
- b. Describe the structural features of vitamin B12. ( 5 marks)
- c. Explain in brief the PAPLO -PAMPO shuttling and transaminations, (10marks)