

**CHUKA**



**UNIVERSITY**

**UNIVERSITY EXAMINATIONS**

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

**BIOC 416: MEDICAL BIOCHEMISTRY 1**

**STREAMS: BSC.BIOCHEMISTRY**

**TIME: 2 HOURS**

**DAY/DATE: WEDNESDAY 31/3/2021**

**2.30 PM –4.30 PM**

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**INSTRUCTIONS:**

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

**Question One (30 Marks)**

- Using examples, describe the difference between physiologic and pathologic hyperplasia. [5 Marks]
- Explain how cell size and content determine classification of anemia. [5 Marks]
- Explain why vitamin K deficiency predisposes an individual to a coagulation disorder. [5 Marks]
- Describe paraneoplastic syndromes and explain their significance in cancer diagnosis. [5 Marks]
- Describe paraneoplastic syndromes and explain their significance in cancer diagnosis. [5 Marks]
- Explain the metabolic dysfunctions that may occur in the human body due to potassium deficiency. [5 Marks]

**Question Two (20 Marks)**

- Describe relative polycythemia and absolute polycythemia as types of hematologic dysfunction. [10 Marks]
- Describe the clinical manifestations of acute leukemia. [10 Marks]

**Question Three (20 Marks)**

- a. Describe the pathophysiology of Hodgkin Lymphoma. [10 Marks]
- b. Describe the pathophysiology of Disseminated Intravascular Coagulation (DIC). [10 Marks]

**Question Four (20 Marks)**

- a) Describe the biochemical features of Macrocytic-Normochromic Anemias. [10 Marks]
- b) Describe the pathophysiological differences between iron deficient anemia and folate deficient anemia. [10 Marks]

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