



**MASINDE MULIRO UNIVERSITY OF  
SCIENCE AND TECHNOLOGY  
(MMUST)**

**UNIVERSITY EXAMINATIONS**

**2021/2022 ACADEMIC YEAR**

**MAIN EXAMINATIONS  
MAIN CAMPUS**

**THIRD YEAR SECOND SEMESTER EXAMINATIONS**

**FOR THE DEGREE  
OF  
BACHELOR OF SCIENCE IN BIOCHEMISTRY**

**COURSE CODE: SBM 322**

**COURSE TITLE: CLINICAL BIOCHEMISTRY**

**DATE: WEDNESDAY, 20<sup>TH</sup> APRIL 2022      TIME: 8:00 – 10:00 A.M.**

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**INSTRUCTIONS TO CANDIDATES**

Answer ALL questions in section A and ANY TWO selected from section B

TIME: 2 Hours

MMUST observes ZERO tolerance to examination cheating

**SBM 322: CLINICAL BIOCHEMISTRY**  
This Paper consists of 2 Printed Pages. Please Turn Over.

**SECTION A (SHORT ANSWER QUESTIONS, 40 MARKS)**

1. Outline FIVE factors that cause malfunctioning of the cell. (5 marks)
2. Outline FIVE changes that occur in urine sample at room temperature which may affect laboratory results. (5 marks)
3. Outline FIVE main causes analytical errors of clinical biochemistry laboratory testing process. (5 marks)
4. Citing relevant examples outline the difference between functional and non- functional enzymes. (5 marks)
5. Citing relevant examples, briefly describe the etiology of inborn errors of metabolism. (5 marks)
6. State the differences between hemolytic, hepatocellular and obstructive jaundice. (5 marks)
7. Outline disorders associated with decreased gastric acid production. (5 marks)
8. State five differences between type I and type II diabetes mellitus. (5 marks)

**SECTION B (ESSAY QUESTIONS, 30 MARKS)**

9. Discuss the role of hormones in water and sodium homeostasis. (15 marks)
10. Discuss renal disorders outlining the etiology and laboratory diagnosis. (15 marks)
11. Discuss the FIVE disorders of carbohydrate metabolism. (15 marks)
12. Discuss in details the role of enzymes in disease diagnosis; cite relevant examples. (15 marks)