

BOWEN UNIVERSITY, IWO
(Of the Nigerian Baptist Convention)
COLLEGE OF HEALTH SCIENCES
MEDICAL LABORATORY SCIENCE PROGRAMME
2021/2022 FIRST SEMESTER EXAMINATION
MLS 301; BASIC CLINICAL CHEMISTRY; TIME: 2.5 HRS

INSTRUCTION: ANSWER QUESTION ONE (1) AND ANY OTHER IN SECTION A AS WELL AS ANY TWO QUESTIONS IN SECTION B.

ALL QUESTIONS CARRY EQUAL MARKS

START EACH QUESTION ON A NEW PAGE

1. a. Express the values in the Table 1 as S.I. units (4 marks)
- b. Enumerate four (4) advantages of the S.I. units (4 marks)
- c. Explain the term 'Reference Values' (5 marks)
- d. Differentiate between the terms Acidosis and Alkalosis (12 marks)

S/N	Traditional units	S.I Units
1	20 mEq of sodium	
2	4 mEq of potassium	
3	10 mEq of calcium	
4	153mg/dl of plasma glucose	

Table 1

2. a. Draw a well labelled diagram of the nephron (5 marks)
- b. Explain the terms Glomerular filtration and, Tubular reabsorption and secretion indicating their clinical significance (10 marks)
- c. Describe how you will carry out Creatinine clearance test in a 60 year old male (10 marks)
3. a. Describe the physiological functions of plasma proteins (5 marks)
- b. Explain the term 'electrophoresis' (5 marks)
- c. Describe the World Health Organisation (WHO) criteria of diagnosing diabetes mellitus (15 marks)

SECTION B

4. a. Describe four (4) key components of gastric digestive function (8 marks)
- b. Explain the term "gastric analysis" (4 marks)
- c. Describe the steps in gastric analysis (8 marks)
- d. List five (5) parameters that each specimen is evaluated for in gastric analysis (5 marks)
5. a. Explain the term "achlorhydria" and state its clinical significance (10 marks)
- b. Explain the term "malnutrition" (5 marks)
- c. List 5 tests to detect deficiency of vitamins or minerals (5 marks)
- d. Describe the importance of Schilling's Test (5 marks)

6. a. Explain the term “maldigestion” (5 marks)
- b. Enumerate four (4) reasons why Gastric function tests may be carried out (5 marks)
- c. Describe how you will carry out a named test of malabsorption in detail (15 marks)