

BOWEN UNIVERSITY IWO, OSUN STATE
(of the Nigerian Baptist Convention)
COLLEGE OF AGRICULTURE, ENGINEERING AND SCIENCE
BIOCHEMISTRY PROGRAMME
2022/2023 SESSION SECOND SEMESTER EXAMINATION

MATRIC NUMBER: _____ **PROGRAMME:** _____

NAME: _____

COURSE CODE: BCH 226 **COURSE TITLE: PRACTICAL BIOCHEMISTRY II**

TIME ALLOWED: 45 MINUTES

INSTRUCTIONS: ANSWER ALL QUESTIONS

SECTION A

The table below is the report of qualitative test for amino acids and proteins carried out by a biochemistry student of Bowen University. Study the table carefully and provide answers in the blank spaces.

S/N	TEST	OBSERVATION	INFERENCE
1a	Sample A (.....) + conc. HNO ₃ + cool under running tap	Yellow colour solution	_____
1b	Add 2 ml of 40% NaOH solution to make alkaline	Orange colour solution	_____
2	Glycine + 5 drops of Ninhydrin reagent + boiling	_____	_____
3	Sample B (.....) + 1 ml of Biuret reagent	Light blue colouration	_____
4	Sample C + Sodium nitroprusside + conc. Ammonia	_____	Presence of thiol (–SH) group

[16 marks]

- i) Explain the principle in Test 3
- ii) Mention the composition of Biuret reagent

- iii) Name the amino acid specific for Test 4
- iv) What are two (2) precautions taken during Test 4?

[4 marks]

SECTION B

1. Write the general structural formula for amino acids
2. Differentiate between essential and non-essential amino acids
3. Give 2 examples each of essential and non-essential amino acids
4. Mention two sulphur containing amino acids
5. Amino acids containing a benzene ring are referred to as what?
6. Give two examples of amino acids containing a benzene ring.
7. Give the structure of the tripeptide alanyl-glycyl-serine
8. What is the primary role of Ninhydrin reagent in the reaction of amino acids?
9. What are the four levels of structure of proteins?
10. State why distilled water is important in laboratory experiments

[2 marks each]