

NATIONAL OPEN UNIVERSITY OF NIGERIA
UNIVERSITY VILLAGE, PLOT 91 CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESS WAY,
JABI - ABUJA.
FACULTY OF SCIENCES
DEPARTMENT OF CHEMISTRY
2024 1 EXAMINATION

PROGRAMME: B.Sc.
COURSE CODE: CHM 303
COURSE TITLE: INORGANIC CHEMISTRY III
COURSE UNIT: 3
TIME: 3 HOURS
INSTRUCTION: Answer question one and any other three questions.

QUESTION ONE

- (1a) Why the reactions of Rb and Cs with water should not be attempted? (5 marks)
- (1bi). State at least two limitations of electrometallurgy method? (3 marks)
- (1bii). Give at least three uses of thiosulphate solution? (3 marks)
- (1c). Draw the molecular orbital energy level diagram of XeF_6 (4 marks)
- 1d. State five uses of group (V) element? 5marks
- 1e. State five uses of hydrogen? 5marks

QUESTION TWO

- (2a) Use chemical equation show how potassium and sodium react with oxygen? (5 marks)
- (2b). Describe gravity separation as used in extraction of metals? (5 marks)
- (2c). Explain how borate glasses are formed? (5 marks)

QUESTION THREE

- (3a) Why is group 1 and 2 elements highly electropositive metals and give reasons why they have the tendency to lose their outermost electron