

INTERIM JOINT MATRICULATION BOARD



AHMADU BELLO UNIVERSITY
ZARIA

INTERIM JOINT MATRICULATION BOARD EXAMINATION 2023

INSTRUCTIONS TO SCHOOLS, COLLEGES AND POLYTECHNICS

CHEMISTRY PAPER III (ALTERNATIVE B)

- 1 a) Prepare **solution D** by transferring an accurately weighed 6.32 g of potassium tetraoxomanganate(VII), KMnO_4 to 2 dm³ volumetric flask containing about 1 dm³ distilled water. Shake the resulting solution and make it up to mark with distilled water. Store the solution in ambered-coloured (dark brown) bottle. Give each student about 90 cm³ of the solution.
 - b) Prepare **solution E** by weighing an accurately quantity of 3.78 g of hydrated oxalic acid (ethanedioic acid dihydrate), $\text{H}_2\text{C}_2\text{O}_4 \cdot 2\text{H}_2\text{O}$ to 2 dm³ volumetric flask containing about 1 dm³ distilled water. Shake the solution to dissolve the compound and make it up to mark with distilled water. Give each student about 100 cm³ of the solution.
 - c) Prepare **solution F** by transferring 220 cm³ of concentrated tetraoxosulphate(VI) acid, H_2SO_4 (98 % w/w, specific gravity 1.80) into 2 dm³ volumetric flask containing about 1 dm³ distilled water. Allow the solution to cool and gradually make it up to mark with distilled water. Give each student about 70 cm³ of the solution.
 - d) A measuring cylinder in addition to other materials for volumetric analysis.
2. Each student should be provided with the following samples (about 1 g each) appropriately labeled as indicated

SAMPLE B1 = COPPER(II) CHLORIDE

SAMPLE B2 = HEXANOL

SAMPLE B3 = p-CHLOROBENZALDEHYDE

Ensure that all necessary test reagents for inorganic and organic qualitative analyses are provided at the laboratory benches.

THESE SHOULD BE THE CONTENT OF EACH SAMPLE AND THIS INFORMATION SHOULD NOT BE DISCLOSED TO CANDIDATES.