**MURANG’A EXTRA COUNTY SCHOOLS**

**CHEMISTRY paper 3 FORM 4 END TERM 2-2022 CONFIDENTIAL**

**In addition to the apparatus and fittings found in the chemistry laboratory, each candidate will require the following:**

1. 2.1g of solid F (NaHCO3) weighed accurately and supplied in a dry stoppered container.
2. About 60cm3 of solution G(2M HCl)
3. About 130cm3 of solution of sodium hydroxide solution.(0.1M )
4. One thermometer -100C – 1100C
5. One stop watch/ clock
6. One 100ml plastic beaker
7. One burette 0 – 50ml
8. One pipette 25ml
9. One 250ml volumetric flask
10. About 500cm3 of distilled water supplied in a wash bottle
11. One label or means of labelling
12. One pipette filler
13. Two conical flasks
14. Clamp and stand
15. About 0.2g of solid A (Na2SO3)supplied in a stoppered container
16. 0.2g of solid B (maleic acid)
17. Six clean dry test-tubes and One boiling tube
18. One metallic spatula
19. Glass rod
20. About 0.2g of sodium carbonate(solid)
21. 2cm piece of pH paper

**ACCESS TO**

* 1. Means of heating.
	2. 2M aqueous sodium hydroxide supplied with a dropper
	3. Acidified potassium manganate (VII) supplied with a dropper
	4. Phenolphthalein indicator supplied with a dropper
	5. Full range pH chart
	6. Lead (II) nitrate supplied with a dropper(0.5M)
	7. Barium (II) chloride supplied with a dropper(0.5M)
	8. 2M hydrochloric acid supplied with a dropper

**NOTES**

1. Solution G is prepared by adding 172.0cm3 (1.28g/cm3) of concentrated hydrochloric acid to about 500cm3 of distilled water and diluting to one litre of solution. (2M HCI)
2. Acidified potassium manganate (VII) is made by dissolving 3.16g of the solid in about 500cm3 of 2M H2SO4 and diluting to one litre of solution. (0.02M KMnO4)
3. Sodium hydroxide is prepared by dissolving 4g of the solid in about 700cm3 of water then diluting to one litre.(0.1M NaOH)