233/3
CHEMISTRY
PAPER 3 (PRACTICAL)
JULY/AUGUST 2016

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

1. About 150cm³ of solution A, labelled as solution A.
2. About 150cm³ of solution B, labelled as solution B.
3. About 80cm³ of solution C, labelled as solution C.
4. One pipette (25.0ml).
5. One pipette filler.
6. One burette.
7. One 250ml volumetric flask.
8. One label.
9. 500cm³ of distilled water.
10. Three conical flasks.
11. 10mls measuring cylinder (one)
12. One 100mls measuring cylinder.
13. One boiling tube.
14. Six test tubes.
15. One 100mls plastic beaker.
16. One thermometer.
17. 1g of solid X, supplied in a stoppered container.
18. Solid F (0.2g), supplied in a stoppered container.
19. One spatula.
20. 1g of $NaHCO_3$ in an envelope/or a stoppered container.

Access to:

1. Phenolphthalein indicator supplied with a dropper.
2. Bunsen burner.
3. Acidified potassium dichromate (VI) supplied with a dropper.
4. Universal indicator supplied with a dropper.
5. PH chart (4 – 11)
6. 2M NaOH.
7. 2M NH_4OH
8. 0.1M NaCl.
9. Acidified barium chloride.

NOTES:

- Solid X is $Al_2(SO_4)_3.16H_2O$, molecular weight = 630.38.
- Solid F is ascorbic acid $C_6H_8H_6$, molecular weight 176.13
- Solution A is prepared by taking 180cm³ of conc. HCl (gravity 1.18), and adding it to 600cm³ of distilled water in a 1 litre volumetric flask and adding it to the mark.
  Label this as solution A.
- Solution B is prepared by dissolving 80g of NaOH pellets in 800cm³ of distilled water, transfer to 1 litre volumetric flask and add distilled water up to the mark, label this as solution B.
- Solution C is prepared by dissolving 25g of ethane dioic acid ($H_2C_2O_4.2H_2O$).
  (Also called oxalic acid) in 600cm³ of distilled water, transfer to 1 litre volumetric flask and add distilled water to the mark, label this as solution C.
- Acidified potassium dichromate (VI) is made by dissolving 3.16g of solid $K_2Cr_2O_7$ in 600cm³ of 2M H_2SO_4 and diluting it with distilled water to make 1 litre.