KASSU JOINT EXAMINATIONS 2024

KENYA CERTIFICATE OF SECONDARY EDUCATION

233/3- CHEMISTRY - PAPER 3

(PRACTICAL)

KASSU-JET-2024-2 1/4 HOURS

CONFIDENTIAL.

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

1. About **100 cm3** of Sodium hydroxide solution
2. About **50 cm3** of solution B
3. pipette and pipette filler.
4. 50ml burette
5. 2 conical flasks (250ml)
6. A 250ml volumetric flask
7. 1 thermometer (-10° C to 110°C)
8. Stop watch/clock
9. 100ml plastic beaker
10. 6 test tubes
11. 2 boiling tubes
12. 10ml measuring cylinder
13. 1 label
14. Filter funnel
15. 500 cm^3 Distilled water
16. 0.5g sodium hydrogen carbonate.
17. 5cm^3 Ethanol.
18. 1-14 PH chart.
19. 2.0g Solid Q.
20. 2.0g Solid A.
21. 1 spatula.

ACCESS TO:

22. Universal indicator solution.
23. Phenolphthalein indicator supplied with a dropper
24. Acidified potassium manganate (VII) solution supplied with a dropper.
25. Bromine water supplied with a dropper.
26. Conc. Sulphuric (VI) acid with a dropper.

27. Means of heating

28. 2M Lead (II) nitrate solution.
29. 2M Dilute nitric (V) acid solution.
30. 0.5M Barium nitrate solution.
31. 2M Sodium hydroxide solution.
32. 2M Aqueous ammonia.
33. 2M Hydrochloric acid.

Preparation

- **Solution B (2 M HCl)** is prepared by measuring about 500cm3 of distilled water and placing it in a one litre volumetric flask then add the 172cm3 of concentrated hydrochloric acid carefully and top up to the mark.
- **Sodium hydroxide** solution (0.1M) is prepared by dissolving 4.0g of the solid in about 500cm3 of water then diluting to one litre in a volumetric flask.
- **2M** aqueous Ammonia is prepared by dissolving 298cm^3 of concentrated Ammonia in distilled water and diluting to one litre of solution.
- Barium nitrate solution is prepared by dissolving 0.05g in one litre of solution.
- **2M** bench reagent of Sodium hydroxide is prepared by dissolving 80g of sodium hydroxide in one litre of solution.
- Bromine water is prepared by taking 10cm^3 of liquid Bromine and dissolving it in 100cm^3 of distilled water in a fume cupboard or open air. This must be freshly prepared and stored in a dark bottle.
- Acidified potassium manganate (VII) is prepared by dissolving 3.16g of $KMnO_4$ in 600cm^3 of 2MH_2SO_4 and made to one litre solution.
- **2M** Lead (II)nitrate solution is prepared by dissolving 662.4g of $Pb(NO3)_2$in one litre of distilled water.
- **Solid R** is 2.0g of oxalic acid weighed accurately and supplied in a stopped container.
- **Solid Q** is 2.0g of hydrated $Al_2(SO_4)_3$
- **Solid A** is 2.0g of **potassium nitrate. (KNO_3)**