

CHEMISTRY 233/3 CONFIDENTIAL

In addition to the apparatus found in the laboratory each candidate should be provided with :-

1. 50cm³ of solution Q.
2. 50cm³ of solution R.
3. 1 burette 50ml.
4. 1 pipette 25ml.
5. 1 thermometer (-10 – 110)^oC.
6. 6 test tubes.
7. 2 boiling tubes.
8. 70cm³ of solution S.
9. 6 pieces of 1cm long polished magnesium ribbon.
10. 10 ml measuring cylinder.
11. Stop watch.
12. Distilled water in a wash bottle.
13. Piece of tissue paper.
14. 100cm³ of Mc.
15. Pipette filler.
16. 1 volumetric flask 250 mls.
17. 2 labels.
18. 3 conical flasks.
19. Phenolphthalein indicator in a bottle dropper
20. White tile.
21. Clamp stand.
22. 1g of solid P (About).
23. About 1g of solid T.
24. Ph – chart.
25. 1 metallic spatula.
26. 5 cm³ of 0.5M Nitric (V) Acid in a test tube labeled Z
27. 2 litmus papers (1 blue & 1 red).
28. 2 filter papers.
29. 1 filter funnel.
30. 100cm³ of solution A.
31. 1 100ml beaker (empty)

Access to:

1. 2M ammonia solution supplied with a dropper.
2. 0.5M KI_(aq) supplied with a dropper.
3. 1M Nitric (V) acid with a dropper.
4. 0.1M Lead (II) Nitrate solution with a dropper.
5. Source of heat.
6. Acidified potassium dichromate (VI) with a dropper.
7. Bromine water, with a dropper.
8. Universal indicator supplied with a dropper.

Preparations

- Solution Q is made by dissolving 48g of NaOH pellets in about 800cm³ of distilled water and diluting to 1 litre.
- Solution R is made by dissolving 51.6cm³ of concentrated HCl (1.18g/cm³) in 800cm³ of distilled water and diluting to 1 litre.
- Solution S is made by dissolving 172cm³ of conc. HCl (1.18g/cm³) in 800cm³ of water and diluting to 1 litre.
- Solution A – Add 12.9cm³ of concentrated HCl (1.18g/cm³) in 500cm³ of distilled water and diluting to 1 litre.
- Solution Mc – Dissolve 87.5g of Na₂CO₃.10H₂O in 400cm³ of distilled water and top up with distilled water to 1 litre.
- Solid T is benzoic acid
- Solid P is a mixture of Pb (NO₃) and Na₂CO₃ in the ratio 2:1 respectively by mass.