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FORM 4 ENTRANCE EXAMS 2023

**233/3 CONFIDENTIAL INFORMATION FOR THE CHEMISTRY TEACHER ONLY**

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

1. 200cm3 of hydrochloric acid, solution **P**.
2. 150cm3 of sodium hydroxide, solution **Q**.
3. 0.50g of solid **B** weighed accurately.
4. About 0.2g of solid **Y**.
5. About 0.5g of solid **M**.
6. About 0.5g of solid **W**.
7. Burette 0-50 cm3.
8. Pipette 25 cm3.
9. One pipette filler
10. Means of labeling (one label).
11. 100 cm3 measuring cylinder.
12. 10ml measuring cylinder
13. 250 cm3 beaker.
14. Two conical flasks.
15. Six dry test-tubes.
16. About 1cm by 3cm aluminium foil
17. 1 red and 1 blue litmus papers.
18. Universal indicator paper
19. About 2cm3 ethanol placed in a test tube
20. 2 boiling tubes.
21. Metallic spatula
22. Funnel.
23. A test-tube holder.
24. Stop clock (wall clock)

**BENCH REAGENTS/ ACCESS REAGENTS**

1. Methyl orange indicator – supplied with dropper
2. Distilled water in a 500ml wash bottle
3. 2M sodium hydroxide – supplied with dropper
4. 2M aqueous ammonia – supplied with dropper
5. 0.5M lead (II) nitrate solution – supplied with dropper
6. Source of heat
7. Universal indicator solution supplied with a dropper
8. pH chart
9. Acidified potassium manganate (VII) – supplied with a dropper
10. Bromine water – supplied with a dropper

**NOTES**

1. Solution **P** is prepared by adding 18.0cm3 (density=1.18g/cm3) of concentrated hydrochloric acid into 600cm3 of distilled water contained in a one litre volumetric flask and diluting to one litre of solution.
2. Solution **Q** is prepared by dissolving 8.80g of sodium hydroxide in 600cm3 of distilled water contained in a one litre volumetric flask and diluting to one litre of solution. (**0.22M**)
3. Acidified potassium manganate (VII) is prepared by dissolving 2.0g of potassium manganate (VII) provided in about 100cm3 of 2M sulphuric (VI) acid, adding 800cm3 of distilled water and diluting to one litre of solution. Label this as acidified potassium manganate (VII).
4. Bromine water is prepared by adding 2ml of liquid bromine to 100cm3 of distilled water and the mixture stirred well in a fume cupboard.
5. Solids :

* **B** is **Na2CO3**
* **M** is **Ba(NO3)2**
* **W** is **Maleic acid**
* **Y** is **NaHCO3**