It does not matter how slowly you go as long as you do not stop

Sub --- Chemistry - 1

M.M. = 100 Time – 2 h

Note: Attempt all questions from section –‘A’ and section – ‘B’.

SECTION – ‘A’

1. Name the following :
2. The aliphatic hydrocarbon that contain acetylenic bond between two carbon atoms.
3. A metal that does not dissolve in nitric acid.
4. A precipitate which dissolves on heating.
5. The hydroxyl derivatives of alkanes.
6. The acid prepared by catalytic oxidation of ammonia.
7. A substitute for chloroform to treat anaesthesia.
8. Drying agent used in preparation of ammonia.
9. Experiment used to demonstrate high solubility of ammonia in water.
10. An acid that can dissolve silver.
11. A nitrate which does not react with dil. HCL.
12. Answer the following :
13. What is common name of ethyne?
14. Show the decomposition of conc. And dil. Nitric acid.On what does the products formed depends?
15. Identify the oxidising and reducing agent in aqua regia.
16. Give example of dihydric and trihydric alcohol.
17. What is the effect on burning splinter when brought closer to molten liquid. Why?
18. Give the general formula of alkanes , alkynes , and alkenes.
19. Mention the temp. And pressure at which HCL gas can be liquefied.
20. How would you seprate the substitution products during the reaction of alkanes with halogens? Give reason.
21. What is fixation of atmospheric nitrogen?
22. Explain : Ethyne prepared from calcium carbide has garlic odour but the odour of pure ethyne is ether – like.
23. Write the balanced chemical equations for the following:
24. Ammonium chloride is heated with sodium hydroxide
25. Mercury(I) nitrate reacts with dil. HCL.
26. Bleaching powder reacts with dil. HCl.
27. Copper is reacted with cold and dil. Nitric acid.
28. Ethanol is treated with acidified potassium chromate.
29. State observations when:
30. Ethene is oxidised with alkaline KMnO4 at room temp.
31. Calcium nitrate is heated.
32. Diammine silver(I) Chloride is added to dil. HNO3.
33. Combustion of ethene in air and in excess of air.
34. Bromine in CCl4 is added to ethyne.
35. Ethanol is burned in air.
36. Silver(I) Chloride is exposed to light.
37. Lead nitrate is heated.
38. Lunar caustic is heated.
39. Conc. HNO3 is heated.
40. Fill ups –
41. Liquified HCL gas \_\_\_\_\_\_(conducts/not conducts) electricity.
42. Hydration of alkenes lead to formation of \_\_\_\_\_\_\_\_(alcohols / aldehyde).
43. Nitric acid is \_\_\_\_\_\_(poisonous/non-poisonous) and stain the skin \_\_\_\_\_\_(yellow / black /red) and reacts with protein of skin to form \_\_\_\_\_\_\_.
44. Ethene polymerises to \_\_\_\_\_\_\_\_\_\_\_\_\_.
45. Alkynes are \_\_\_\_\_\_(more / less ) reactive than alkanes.

SECTION – ‘B’

1. Following is related to Ostwald Process:

a. Draw the flowchart of Ostwald Process.

b. What is absorption tower?

c.What is fuming nitric acid? How it can be obtained?

d. Why higher ratio of air is used?

e. Why quartz packed in layers is used?Name the catalyst used.

2. Following is related to Ethyne:

a. Draw the structures of isomers of Butyne and also write their IUPAC names.

b. Write common name of following:

i) Ethyne ii)Butyne iii) Propyne iv)Pentyne

c. Mention the reaction of lab preparation of ethyne. Name some impurities formed along with acetylene.

d. Name one impurity that cannot be removed by passing through water. How it can be removed?

e. State one precaution during the laboratory preparation of acetylene. What is the odour of laboratory prepared ethyne.

3.Following is related to Haber’ s process:

a.Write the equation for the process and also state the ratio of reactants.

b. Why finely divided iron is used as a catalyst?

c. Name the promoter used? Why it is used?

d. Why temp. Is low and Pressure is high?

e. State the temp. And Pressure used.

4. Following is related to laboratory preparation of HCl gas:

a. What are the reactants used? Write the equation of preparation.

b. Name and define the phenomenon that takes place when gas is evolved.

c. Name the drying agent used. How is gas collected?

d. Why conc. Nitric acid and P2O5 is not used in its preparation?

e. Why temp. Above 200 \* C is not preffered?

5. Following is related to the Hydrochloric acid /gas:

a. What is the main aim of the Fountain experiment?

b. What is the color of fountain seen? Why?

c. What is back – suction?

d. What is funnel arrangement?

e. Why a normal narrow glass tubing can’t be used in place of funnel?

6. Following is related to alcohols:

a. How can be alcohols prepared in laboratory ?

b. What is the method of preparation of alcohol in industry without usage of Sulphuric acid? What is the catalyst used?

c. What is the effect of ethanol on the body if consumed?

d. Write two tests for alcohols.

e. What is esterification? How esters can be detected?