



Sl.No. 33333

*Special Gravel 5*

**S.S.L.C. EXAMINATION, MARCH - 2013**

**CHEMISTRY (English)**

Time : 1½ Hours

Total Score : 40

**Instructions :**

- 1) Answer all questions.
- 2) First 15 minutes are given as "Cool-off Time" in addition to 1½ hours. Use this time to read and understand the questions.
- 3) Answer the questions only after reading and understanding the questions thoroughly.
- 4) Manage the time to answer the questions.
- 5) Score for each question is given against each question.
- 6) Question with choice is included. For such question answer only one question.
- 7) Write the question numbers for main and sub questions correctly.

[SCORE]

**Q1** ✓ Names of some minerals are given below.

- i) Haematite
- ii) Bauxite
- iii) Dolomite

a) ✓ Identify the mineral of iron (Fe). [1]

b) ✓ Name the reducing agent mainly used in the extraction of iron from its ore. [1]

c) ✓ What is the role of powdered lime stone in the extraction process of iron? [1]



Q2) 12g C - 12 contains  $6.022 \times 10^{23}$  atoms of carbon.

a)  $6.022 \times 10^{23}$  is known as \_\_\_\_\_ [1]

b) Calculate the number of carbon atoms present in 48g C - 12. [1]

c) Which weighs more,  $6.022 \times 10^{23}$  molecules of  $\text{CO}_2$  or  $6.022 \times 10^{23}$  molecules of  $\text{H}_2\text{O}$ ? [1]

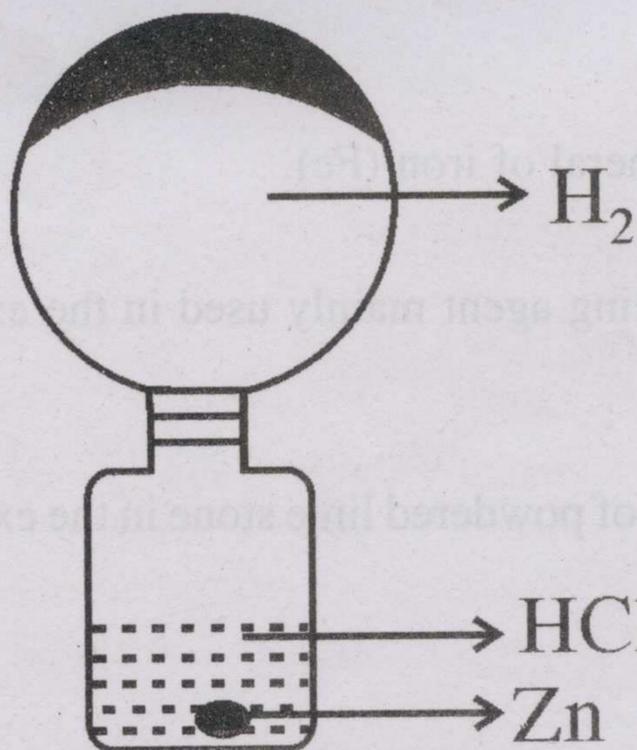
Q3) Ammonium Chloride can be prepared by treating two gases together.

a) Name the two gases. [1]

b) Which one of the above two gases is used for the preparation of fertilizers? [1]

c) How will you prepare calcium chloride ( $\text{CaCl}_2$ ) by using ammonium chloride. [1]

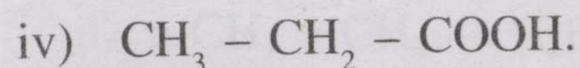
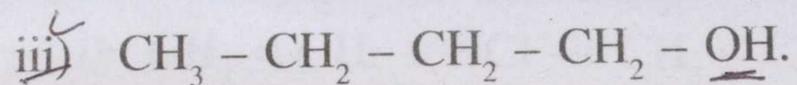
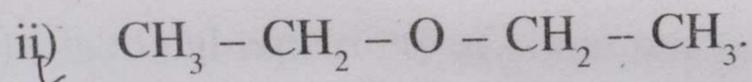
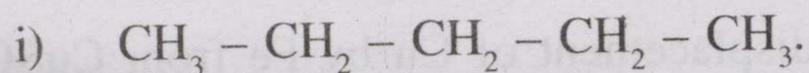
Q4) A group of students prepared hydrogen balloon in the laboratory as shown in the picture below.





- (a) What will be the observation if this "setup" is taken from laboratory and placed at sun light for one hour? [1]
- (b) Name the gas law associated with the above observation. [1]
- (c) The volume of  $H_2$  gas at constant pressure is 500 mL at 300 K. Calculate the temperature at which the volume is reduced to 400 mL at the same pressure. [2]

Q5) Some organic compounds are given.



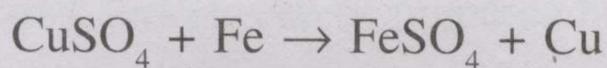
- a) Identify alcohol from these compounds. [1]
- b) Write the IUPAC name of the alcohol. [1]
- c) Of the above compounds, one compound is an isomer of another compound. Find the isomer pair, and name the isomerism. [2]



Q6) Tobacco extract and garlic extract are replaced by chemical pesticides like endosulfan. Write any two harmful effects of the use of chemical pesticides.

[2]

Q7) Chemical equation for the reaction between  $\text{CuSO}_4$  solution and iron nail is given below.



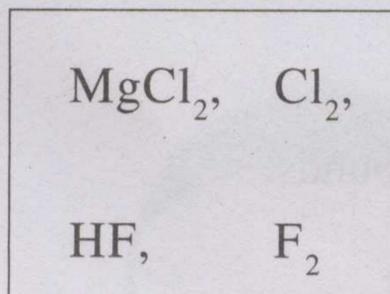
a) Write the reduction reaction taking place here.

[1]

b) Give reason for the displacement of Cu by Fe from  $\text{CuSO}_4$  solution.

[1]

Q8) Some molecules are given in the box.



a) Identify the ionic molecule.

[1]

b) Write the reason for its ionic nature.

[1]

c) Explain the polar nature of HF.

[1]



[SCORE]

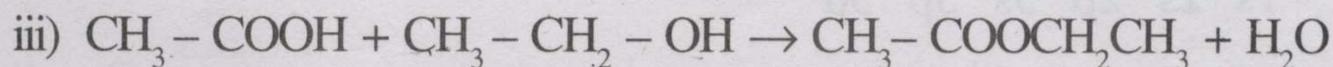
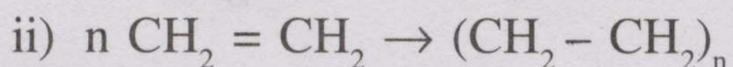
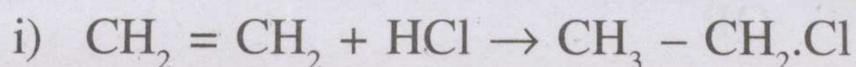
Q9) Some data related to mole concept at STP are given. Complete the table.

[4]

a)	64g O <sub>2</sub> ⇒	$\frac{64}{32} = 2$ ..... moles of O <sub>2</sub>
b)	11.2L NH <sub>3</sub> ⇒	$\frac{11.2}{22.4} \times 17 = 8.5$ ..... g of NH <sub>3</sub>
c)	9.8g H <sub>2</sub> SO <sub>4</sub> ⇒	$\frac{9.8}{98} = 0.1$ ..... moles of H <sub>2</sub> SO <sub>4</sub>
d)	5 mole CO <sub>2</sub> ⇒	..... L of CO <sub>2</sub>

[Atomic Mass O = 16; N = 14; H = 1; S = 32; C = 12]

Q10) Chemical equations of some reactions are given below.



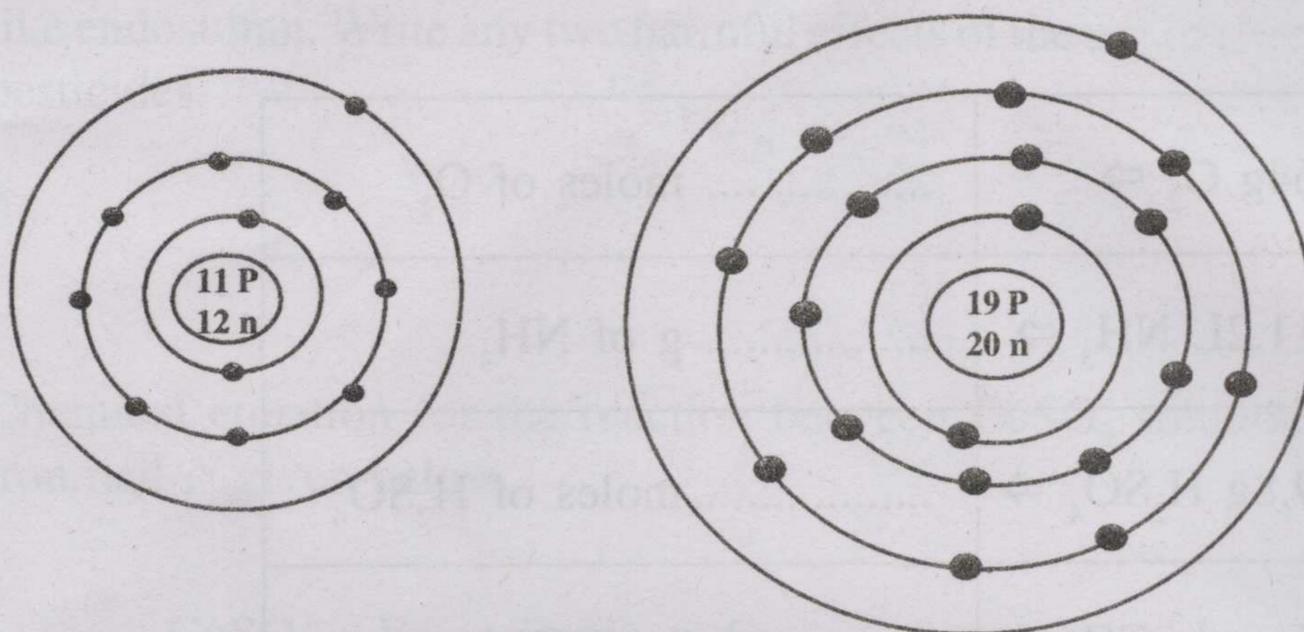
a) Write the names of any two reactions. [2]

b) Write the IUPAC name of the product formed in the third reaction. [1]

c) Write the chemical equation for the preparation of propyl ethanoate. [1]



Q11) Bohr models of two atoms are given (symbols are not real).



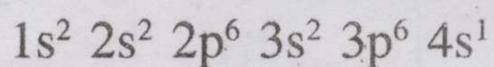
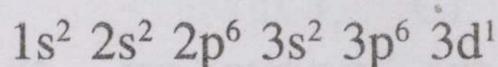
(A)

(B)

- a) What is the atomic number of atom A? [1]
- b) Write the subshell electronic configuration of atom B. [1]
- c) Suppose the electron in each atom is to be removed, which may need higher ionisation energy? Give reason. [2]

OR

Two electronic configuration of an element 'A' are given below. (Symbols not real)



- a) Identify the correct electronic configuration. [1]
- b) Write the period in which the element is present in the periodic table. [1]
- c) Consider another element 'C' with subshell configuration  $1s^2 2s^2 2p^6 3s^1$ . In which among the atoms A and C, the attraction of nucleus towards the outer most electron is more? Give reason. [2]



Q12) Sulphuric acid ( $H_2SO_4$ ) has the following uses.

i) Concentrated  $H_2SO_4$  is a drying agent.

ii)  $H_2SO_4$  is used to prepare nitric acid in laboratory.

Illustrate the uses with suitable examples.

[2]

Q13) Plastic pollution is a major threat to solid waste management. Give two suggestions to avoid the threat.

[2]



2,8,1  
2,8,1