



Sl.No. 129491

**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.

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[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]



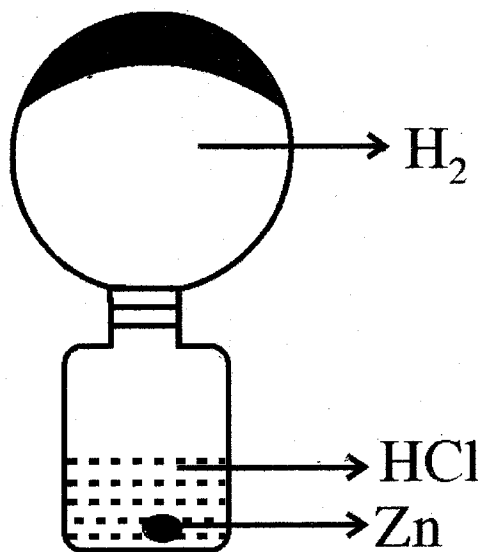
Q2) ✓ 12g C - 12 contains  $6.022 \times 10^{23}$  atoms of carbon.

- 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<sub>2</sub> 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.

- i) CH<sub>3</sub> - CH<sub>2</sub> - CH<sub>2</sub> - CH<sub>2</sub> - CH<sub>3</sub>.
- ii) CH<sub>3</sub> - CH<sub>2</sub> - O - CH<sub>2</sub> - CH<sub>3</sub>.
- iii) CH<sub>3</sub> - CH<sub>2</sub> - CH<sub>2</sub> - CH<sub>2</sub> - OH.
- iv) CH<sub>3</sub> - CH<sub>2</sub> - COOH.
- 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]

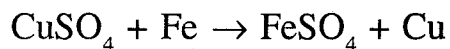


[SCORE]

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.



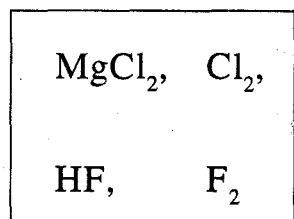
a) Write the reduction reaction taking place here.

[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]



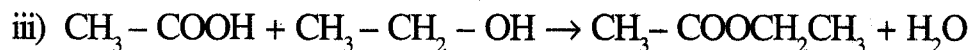
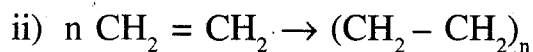
Q9) ✓ Some data related to mole concept at STP are given. Complete the table.

[4]

a)	64g O <sub>2</sub> ⇒	..... moles of O <sub>2</sub>
b)	11.2L NH <sub>3</sub> ⇒	..... g of NH <sub>3</sub>
c)	9.8g H <sub>2</sub> SO <sub>4</sub> ⇒	..... 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.

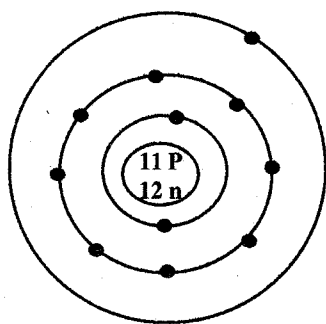
[1]

c) ✓ Write the chemical equation for the preparation of propyl ethanoate.

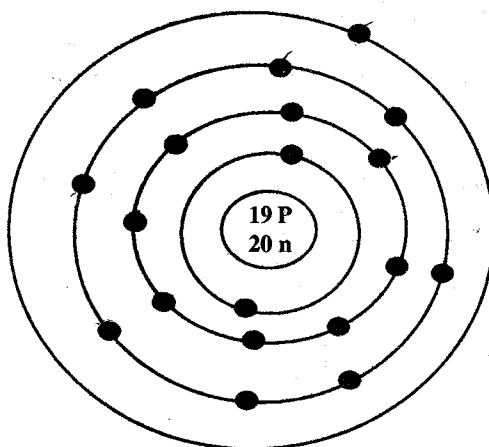
[1]



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



(A)

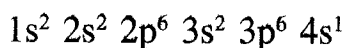
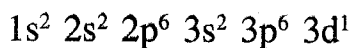


(B)

- 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]



[SCORE]

**Q12)** ✓ Sulphuric acid ( $\text{H}_2\text{SO}_4$ ) has the following uses.

- i) Concentrated  $\text{H}_2\text{SO}_4$  is a drying agent.
- ii)  $\text{H}_2\text{SO}_4$  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]

