Kerala State Board
Class X Chemistry
Sample Paper – 1

Time: 1½ hrs   **Total Marks: 40**
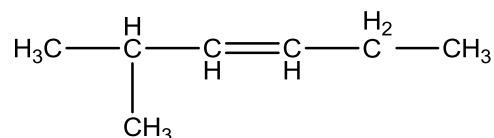
Instructions:
1. *15 minutes is given as cool of time.*
2. *This time is to be spent for reading the question paper and planning answers.*
3. *You are not supposed to write anything during the cool off time.*
4. *Attempt questions according to instructions*

1. What is the periodic trend followed in the electronegativity of elements in the periodic table?

[2]

2. Which of the following sub-shell cannot be possible and why?
   1s, 2f, 4f, 5p   [2]

3. Which of the following reactions are feasible?   [5]
   (a) $NaCl + Cu \rightarrow$
   (b) $FeSO_4 + Zn \rightarrow$
   (c) $CuSO_4 + Fe \rightarrow$
   (d) $AgNO_3 + Cu \rightarrow$
   (e) $CuSO_4 + Zn \rightarrow$

4. $CO + 3H_2 \xrightleftharpoons{\text{exothermic}} CH_4 + H_2O$
   (a) What will happen if the concentration of hydrogen is increased?   [1]
   (b) What happens when pressure is decreased?   [1]
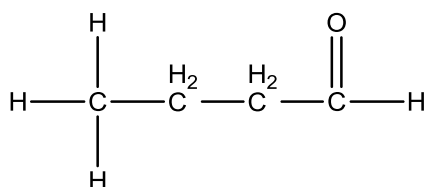   (c) What happens if the temperature is increased?   [1]
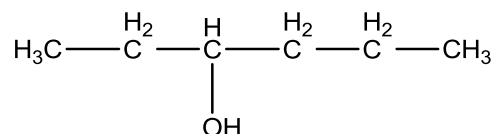
5. Write the IUPAC naming of the following hydrocarbons. [3]

(a)

$$H_3C-\underset{\underset{CH_3}{|}}{\overset{\overset{H}{|}}{C}}-\underset{H}{C}=\underset{H}{C}-\overset{H_2}{C}-CH_3$$

(a)

$$H-\underset{\underset{H}{|}}{\overset{\overset{H}{|}}{C}}-\overset{H_2}{C}-\overset{H_2}{C}-\overset{O}{\overset{||}{C}}-H$$

(a)

$$H_3C-\overset{H_2}{C}-\underset{\underset{OH}{|}}{\overset{H}{C}}-\overset{H_2}{C}-\overset{H_2}{C}-CH_3$$

6. Fill in the blanks. [3]

(a) Sulphuric acid turns blue vitriol _____.

(b) Reaction between acid and water is _____.

(c) _____ acts as a catalyst in contact process.

7. Name the terms:

(a) a. The mixture of petrol and alcohol. [1]

(b) b. Salts of sulphonic acids. [1]

(c) c. Ethanol mixed with poisonous substances. [1]

(d) d. Decomposition of sugar. [1]

8. Match the following: [5]

A	B
1. Analgesic	a. Lenses
2. Thermoplastic	b. Cement
3. Gypsum	c. Nylon
4 Flint glass	d. Lower body temperature
5. Antipyretic	e. Relieve pain

9. Define Charles' law and give it's mathematical expression. [2]

10. $H_2 + O_2 \longrightarrow H_2O$

(a) a. Balance the following chemical equation. [1]

(b) b. How many O_2 molecules can react with eight H_2 molecules? [1]

11. Some information of two gases at STP is given below. Analyze the table and answer the following questions.

Gas	Number of molecules	Volume (in litres)
SO_2	3.011×10^{23}	11.2
O_2	6.022×10^{23}	22.4

    i. i. Which law is related to this? [1]

    ii. Find out the number of moles of SO_2 and O_2 and calculate the mass of 11.2 litres SO_2 (Atomic Mass: S-32, 0-16) [4]

12. Which of these compounds does not possibly give addition compounds? [2]
    C_5H_{10}, C_3H_8 C_2H_2, C_7H_{14}. C_6H_{14}

13. Which glass is used for making window panes and bulbs? What are the raw materials used for it's manufacture. [2]