

SSLC EXAMINATION, MARCH - 2020

CHEMISTRY

(English)

Time : 1½ Hours

Total Score : 40

General Instructions :

- The first 15 minutes is the cool-off time. You may use the time to read and plan your answers.
- Answer the questions only after reading the instructions and questions thoroughly.
- Five questions are given in each Section. Answer any four from each Section.

SECTION - A

Score

(Answer any 4 questions from 1 to 5. Each question carries 1 score.)

1. What is the maximum number of electrons that can be accommodated in 'f' subshell ?
(2, 6, 10, 14) 1
2. Which is the gas liberated when metals react with dilute acids ? 1
3. Find relation and fill in the blank. 1
Bauxite : Leaching
Tinstone : _____
4. The monomer of natural rubber is _____
(ethene, vinyl chloride, isoprene, tetrafluoro ethene)
5. The volume of one mole of any gas at STP is _____ L.

SECTION - B

(Answer any 4 questions from 6 to 10. Each question carries 2 scores.)

6. Select from the box, the correct gas law related to the given situations.

Boyle's law, Charles' law, Avagadro's law

 - (a) An inflated balloon kept at sunlight bursts after sometime.
 - (b) The size of an air bubble rising from the bottom of an aquarium increases.
7. (a) Select the correct subshell electronic configuration of ${}_{24}\text{Cr}$ from the following :
 - (i) $1s^2 2s^2 2p^6 3s^2 3p^6 3d^4 4s^2$
 - (ii) $1s^2 2s^2 2p^6 3s^2 3p^6 3d^5 4s^1$
 - (b) Write the reason for selecting this configuration.

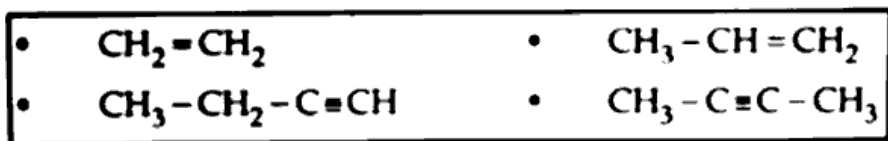
8. (a) Which one of the following metals is refined by liquation ?
(Zinc, Iron, Copper, Tin)

(b) Which property of metal is made use of here ?

9. Select the structural formulae of the given compounds from the box.

(a) Propene

(b) But-1-yne



10. (a) How is ethanol manufactured ?

(b) Denatured spirit is used for industrial purposes. What is denatured spirit ?

SECTION - C

(Answer any 4 questions from 11 to 15. Each question carries 3 scores)

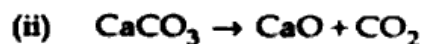
11. Electrolysis of molten Sodium Chloride (NaCl) is conducted.

(a) Which are the ions present in molten Sodium Chloride ?

(b) Which is the gas liberated at the positive electrode during electrolysis ?

(c) Write the chemical equation of the reaction taking place at the cathode.

12. Some important chemical equations of reactions taking place in a blast furnace are given below : <https://www.keralaboard.com>



(a) What are the substances fed into the blast furnace along with the ore of iron ?

(b) Which compound acts as the reducing agent here ?

(c) Select the equation for slag formation.

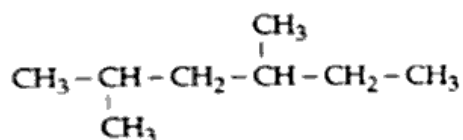
13. The molecular mass of methane (CH_4) is 16.

(a) What is the mass of 1 GMM of CH_4 ?

(b) Calculate the number of mole molecules in 160g of CH_4 .

(c) What is the mass of $5 \times 6.022 \times 10^{23}$ CH_4 molecules ?

14. (a) Which are the chemicals used to prepare ammonia in the laboratory ?
 (b) If we show a red litmus paper over ammonia gas, what change can be observed ?
 (c) Which property of ammonia is shown here ?
15. The structural formula of a hydrocarbon is given below :

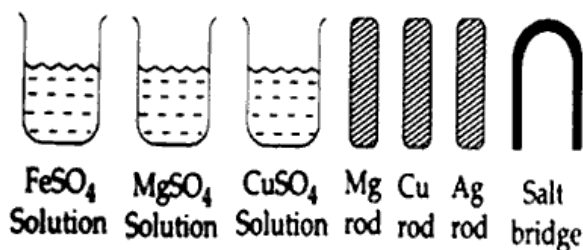


- (a) How many carbon atoms are there in the main chain ?
 (b) Identify the position numbers of branches.
 (c) Write the IUPAC name of this compound.

SECTION - D

(Answer any 4 questions from 16 to 20. Each question carries 4 scores.)

16. Some materials are given below :



- (a) From the given materials, choose the appropriate ones to construct a galvanic cell and draw the diagram of the cell.

(Order of reactivity : $\text{Mg} > \text{Fe} > \text{Cu} > \text{Ag}$)

- (b) Which is the anode of this cell ?
 (c) Write the chemical equation of the reaction taking place at the CATHODE.