VIJAYAPADHAM

KOTTARAKKARA EDUCATIONAL DISTRICT
SSLC PRE MODEL EXAMINATION 2021-22

PM 01 CY 10 E **Time : 1 $\frac{1}{2}$ hr**

Class : X **Score : 40**

MM 9 E: **CHEMISTRY**

PART 1

A. Answer any four questions from 1 to 6 questions. Each carries 1 score.(4x1=4)

1.Which sub shell is common to all the shells?

2.During the preparation of ammonia ,ammonia gas is collected in an inverted gas jar, what do you understand about the density of ammonia .?

3.Observe the relation in the first pair and complete the second....

a. Liquation - Tin

b. Distillation - .....

4.Which is the functional group of carboxylic acid?

5.General formula of Alkane is

($C_n H_{2n}$, $C_n H_{2n+2}$,$C_n H_{2n-2}$)

6.To which block of the periodic table does actinoids belong

B.Answer all the questions. Each carries 1 score.(3x1=3)

7.Volume of 1 mole of any gas at STP is .....

8.Which gas is liberated at anode when molten sodium chloride is electrolysed

9.Concentrated sulphuric acid is not used as a drying agent in the preparation of ammonia why?

PART II

A.Answer the following question.2 score (1x2=2)

10.Iron is produced in the blast furnace by the reduction of haematite .

a) Which is the reducing agent used here?

b) Write the chemical equation for the formation of slag in blast furnace .

B.Answer any one question from 11&12. Each carries 2 score(1x2=2)

11.a) Find out the oxidation state of Mn in MnO_2.

b)Write the subshell electronic configuration of Manganese ion in MnO_2 .(atomic number of Manganese is 25)

12.CH_3 - COO- CH_2- CH_3 is an Ester .

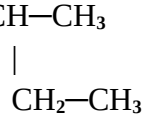
a) Select the chemicals used for the preparation of this ester from the following .

(CH_3-CH_2-COOH, CH_3-COOH, CH_3-CH_2-OH, CH_3-OH)

b) Write the chemical equation of this reaction.

PART III

A. Answer any three from 13 to 16 each carries 3 score (3x3=9)

13.


a) Write the root word of the longest carbon chain .

b) What is the name of the branch .

c) Write the IUPAC name of this compound.

14.The molecular mass of ammonia is 17.

a) 1 GMM of NH_3=------g

b) Number of molecules in 1 GMM of NH_3=-----

c) The number of moles in 85g of NH_3=------.

15.You are given Mg rod, Cu rod, Zn rod, $AgNO_3$ solution, $CuSO_4$ solution and $ZnSO_4$ solution .

a) Make a galvanic cell using these.

b) Write the chemical reaction taking place at anode.

16.Equation related with the concentration of 2 ores of Zinc are given below

1) $ZnCO_3$ + Heat → ZnO + CO_2

2) ZnS + O_2 + Heat → ZnO + SO_2

a) Which of these equation represents roasting?

b) How does roasting differ from calcination?

B. Answer the following question. Each carries 3 score.(1x3=3)

17.Complete the given flow chart

PART IV

A. Answer any 2 from 18 to 20.Each carries 4 marks (2x4=8)

18.The relation between volume and temperature of a given mass of gas at constant pressure is given below

Volume(L)	Temperature(T) K	V/T
600	300	.....x.....
800	.....y.....	2
......z....	450	2

a) find out the value of x, y ,z

b) Write the gas law associated with this

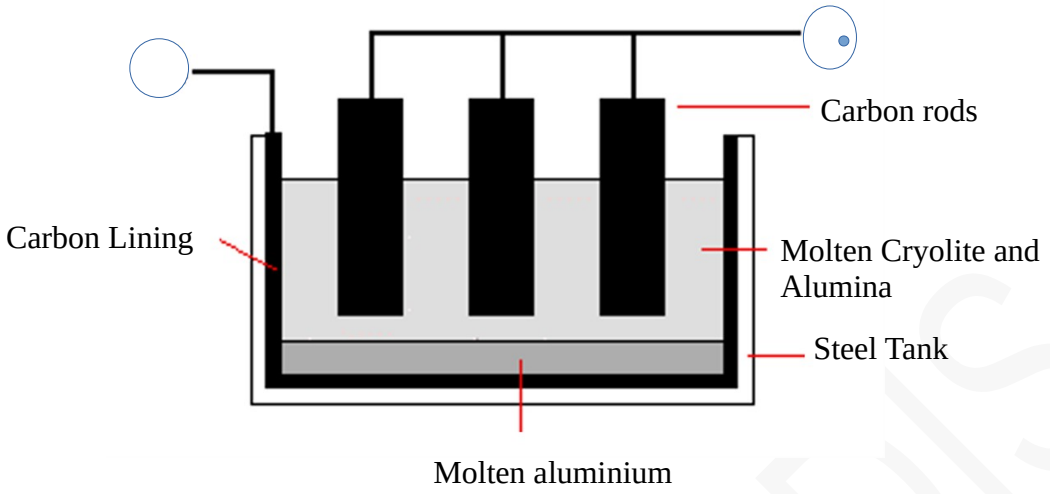
19.Zinc rod is placed in copper sulphate solution. After sometime it is seen that colour of the solution decreases.

a) Write the equation of oxidation reaction ?

b) Write the equation of reduction reaction ?

c) What happens to the colour of solution, when silver is used instead of zinc .?

20.Analyse the given picture and answer the following questions



a) which are the anode and cathode used for the electrolysis of Alumina
b) write the chemical equation of the reaction taking place at cathode
c) Carbon rods are frequently replaced, why?

B.Answer any one question from 21 &22.Each carries 4 marks (1x4+=4)

21.Chemical equation of industrial preparation of ammonia is given

$N_2 + 3H_2 \rightleftharpoons 2\ NH_3$ + Heat

Identify the effect of following changes in forward reaction
a) Pressure is increased.
b) Temperature is increased.
c) Ammonia is frequently removed from the system.
d)A suitable catalyst is used.

22.Examine the compounds given below and find out the isomeric pairs. To which type do they belong?

a) $CH_3 – CH_2 – CH_2 – CH_2 – CH_3$

b) $CH_3 – CH_2 – CH_2 – CH_2 – OH$

c)
$$CH_3 – \underset{\displaystyle CH_3}{\overset{\displaystyle CH_3}{\underset{|}{\overset{|}{C}}}} – CH_3$$

d)
$$CH_3 – CH_2 – CH_2 – \underset{|}{\overset{\displaystyle OH}{CH}} – CH_3$$

e) $CH_3 – CH_2 - CH_2 – OH$

f) $CH_3 – CH_2 – O – CH_3$

PART V

A. Answer any one question from 23&24 . Score 5 (1x5=5)

23. Match the following

Reactants	Products	Name of reactions
$CH_3{-}CH_3{+}Cl_2$	$CO_2 + H_2O$	Addition reaction
$CH_2{=}CH_2{+}H_2$	$CH_4{+}CH_2{=}\ CH_2$	combustion
$CH_2{=}CH_2{+}O_2$	$CH_3{-}CH_2{-}Cl{+}HCl$	Polymerisation
$CH_3{-}CH_2{-}CH_3$	$-[CH_2 - CH_2]_n-$	Substitution
n $[CH_2{=}CH_2]$	$CH_3 - CH_3$	Thermal cracking

24.Atomic number of an element X is 16.

a) Write the subshell electronic configuration of x

b) Find out its Group, Period and Block.

c) Write the molecular formula of the compound formed when an element Y with atomic number 11 combines with X