

MODELEVALUATION TEST 2021

CHEMISTRY

SET II

TIME : 1.30 Hrs

Max. Score : 40

INSTRUCTIONS

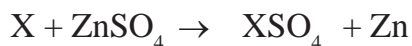
- 20 minutes is given as cool off time.
 - Use cool-off time- to read the questions and plan your answers.
 - Attempt the questions according to the instructions.
 - Keep in mind the score and the time while answering the questions.
 - The maximum score for questions from 1 to 32 will be 40.
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Questions 1- 8 Carries 1 score each.

(1x8=8)

1. What is the oxidation state of Mn in MnO_2 ? [Hint : Oxidation state of oxygen is - 2]
2. The substance used to remove impurities present in ore is known as
3. 5 - 8 % ethanoic acid is known as
4. Which property of Sulphuric acid is used in the preparation of SO_2 ?
5. Which is the Subshell common to all shells?
(s, p, d, f)
6. Find the number of gram molecular mass present in 64g Oxygen.
[Hint : Molecular mass of oxygen is 32]
7. The method used to separate iron tungstate from tinstone is
8. Identify the possible metal 'X' of the displacement reaction given below.

[Fe, Mg, Cu, Zn]



Questions 9-16 carries 2 scores each.

(2x8=16)

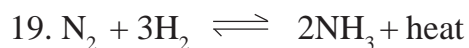
9. Distinguish Liquor ammonia and liquid ammonia. (2)
10. The gas in a cylinder A of volume 3L is completely transferred into cylinder B of volume 6L without changing the temperature.
a) What is the new volume of the gas? (1)

- b) In which cylinder the gas experiences more pressure? (1)
11. Write any two practical applications of electrolysis. (2)
12. The subshell electronic configuration of ${}_{24}\text{Cr}$ is given in two different ways.
- i) $1s^2 2s^2 2p^6 3s^2 3p^6 3d^4 4s^2$
- ii) $1s^2 2s^2 2p^6 3s^2 3p^6 3d^5 4s^1$
- Which among these is the correct configuration. Give reason. (2)
13. Write any two characteristics of chemical equilibrium. (2)
14. The size of the air bubbles rising from the bottom of an aquarium increases. Give reason. (2)
15. Metals are refined from ores.
- a) Name the sulphide ore of zinc. (1)
- b) Which is the method used to concentrate sulphide ores? (1)
16. Construct Mg-Fe galvanic cell. (2)

Questions 17-24 carries 3 scores each. (3x8=24)

17. Molecular mass of Ammonia is 17.
- a) How much is the GMM of ammonia? (1)
- b) Find out the number of moles present in 85g ammonia. (1)
- c) Calculate the number of molecules present in 85g ammonia. (1)
18. Match the following. (3)

Reactants	Products	Name of reaction
a) $\text{CH}\equiv\text{CH} + \text{H}_2$	$\text{CO}_2 + \text{H}_2\text{O}$	Substitution reaction
b) $\text{C}_2\text{H}_6 + \text{O}_2$	$\text{CH}_3\text{-CH}_2\text{Cl} + \text{HCl}$	Addition reaction
c) $\text{CH}_3\text{-CH}_3 + \text{Cl}_2$	$\text{CH}_2 = \text{CH}_2$	Combustion



a) Name the industrial preparation of ammonia. (1)

b) What is the influence of pressure in this reaction. Justify your answer. (2)

20. During the electrolysis of molten sodium chloride -

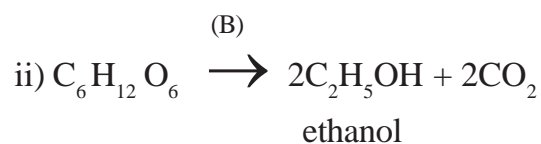
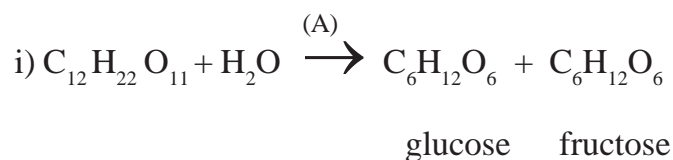
a) Which are the products formed at anode and cathode? (2)

b) Write the chemical equation occurs at cathode. (1)

21. Complete the table. (3)

ore	Concentration method
Magnetite
Bauxite
Zinc blende

22. The following is the chemical equation represent the industrial preparation of ethanol.



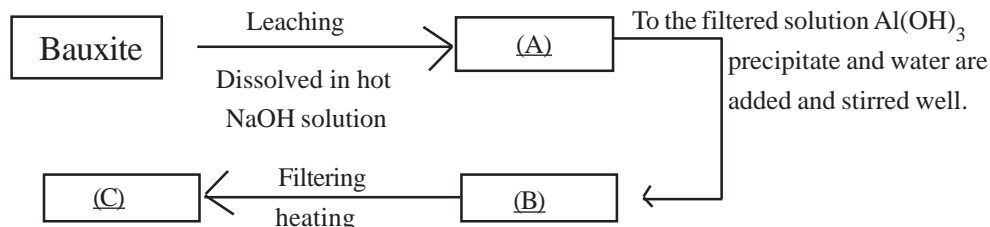
a) Identify the enzymes A and B. (1)

b) What is rectified spirit? (1)

c) What is power alcohol? (1)

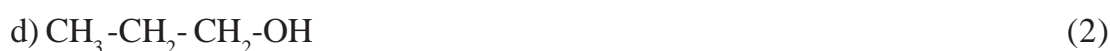
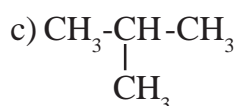
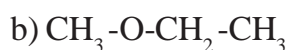
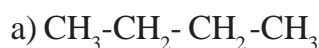
23. Differentiate between calcination and roasting with examples. (3)

24. Complete the flow diagram related with the concentration of Bauxite. (3)



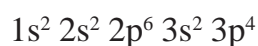
Questions 25-32 carries 4 score each (4x8=32)

25. (i) Find out the isomeric pair from those given below.



(ii) Mention the type of isomerism in each pair. (2)

26. Subshell electronic configuration of an elements is given below.



a) Write the atomic number of this elements. (1)

b) How many shells are present? (1)

c) Which is the outer most Subshell? (1)

d) Find the block and group in which this elements belongs? (1)

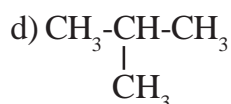
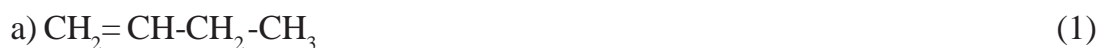
27. Ions are current carriers in electrolytes.

a) Sodium chloride in solid state is not an electrical conductor why? (1)

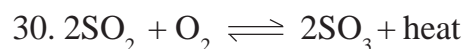
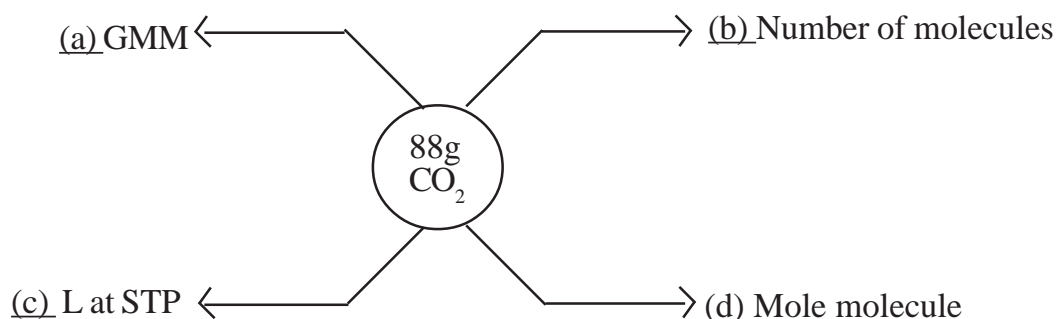
b) If the aqueous solution of sodiumchloride is subjected to electrolysis which are the products obtained at each electrodes? (2)

c) Write the chemical equation at anode during the electrolysis of molten sodium chloride. (1)

28. Write the IUPAC names of those given below.



29. Find (a), (b), (c) and (d) (4)



a) Write any two factors increases the rate of forward reaction. (2)

b) Which is the catalyst used in the industrial production of Sulphuric acid? (1)

c) What is the name of industrial production of sulphuric acid?

31. Atomic number of manganese is 25.

a) Find the oxidation state of Mn in Mn_2O_3 [oxidation state of oxygen is - 2] (1)

b) Write the subshell electronic configuration of Mn ion in Mn_2O_3 (1)

c) Give reason for the variable oxidation states of 'd' block elements. (2)

32. Write the structural formula of the compound given below.

a) 2,3 - dimethyl hexane (1)

b) 2,2 - dimethyl propane (1)

c) 3 - ethyl pentane (1)

d) 3 - methyl heptane (1)