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Time : 1.30 Hrs.

Second Mid-Term Test - 2024
CHEMISTRY

Register No.

Marks : 50

PART - I

10 x 1 = 10

Choose the correct answer

- Which of the following has highest hydration energy
a) $MgCl_2$ b) $CaCl_2$ c) $BaCl_2$ d) $SrCl_2$
- The suspension of slaked lime in water is known as
a) lime water b) quick lime c) milk of lime d) aqueous solution of slaked lime
- The product obtained as a result of a reaction of Nitrogen with CaC_2 is
a) $Ca(CN)_2$ b) $CaNCN$ c) CaC_2N_2 d) Ca_3N_2
- Among the following the least thermally stable is
a) K_2CO_3 b) Na_2CO_3 c) $BaCO_3$ d) Li_2CO_3
- Which one of the following gases has the lowest value of Henry's law constant?
a) N_2 b) He c) CO_2 d) H_2
- Which of the following aqueous solutions has the highest boiling point?
a) 0.1m KNO_3 b) 0.1m Na_3PO_4 c) 0.1m $BaCl_2$ d) 0.1m K_2SO_4
- Which of the following is optically active?
a) 2-methyl pentane b) citric acid c) glycerol d) none of these
- Cis-2 butene and trans 2 - butene are
a) conformational isomers b) structural isomers c) configuration isomers d) optical isomers
- The compound that will react most readily with gaseous bromine has the formula
a) C_3H_6 b) CaH_2 c) C_4H_{10} d) C_2H_4
- $CH_2(Br) - CH_2(Br) \xrightarrow{A} CH \equiv CH$, where A is
a) Zn b) Con. H_2SO_4 c) alc. KOH d) dil. H_2SO_4

PART - II

Answer any five questions. Q.No.16 compulsory.

5 x 2 = 10

- How is plaster of paris prepared?
- Beryllium halides are covalent whereas magnesium halides are ionic why?
- Give any two uses of Gypsum?
- What is relative lowering of vapour pressure?
- Define the term isotonic solution.
- Write Markovnikoff's Rule?
- Suggest a simple chemical test to distinguish propane and propene.

PART - III

Answer any five questions. Q.No.21 compulsory.

5 x 3 = 15

18. Why alkaline earth metals are harder than alkali metals.
19. Write balanced chemical equation.
 - (i) Lithium metal with nitrogen gas.
 - (ii) heating calcium carbonate
20. State Henry's law.
21. Define colligative properties? Write colligative property.
22. Hexane \rightarrow Benzene. Complete the chemical reaction.
23. Write Wurtz reaction.
24. Write BHC preparation and its uses.

PART - IV

Answer all questions.

3 x 5 = 15

25. a) Explain any five factors which are responsible for the deviation of solution from Raoult's law.

(OR)

b) (i) What is Osmosis?

(2m)

(ii) Define - Normality

(3)

26. a) (i) Write Ozonolysis reaction for ethene ($\text{CH}_2 = \text{CH}_2$)

(ii) What is polymerisation? Give example.

(3m)

(OR)

b) Describe the conformers of n-butane.

27. a) Discuss briefly the similarities between beryllium and Aluminium.

(OR)

b) Describe briefly the biological importance of calcium and magnesium.