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क्रय - 063

CHEMISTRY PAPER - II (NEW) (11136) CH-112
Organic & Inorganic Chemistry

P. Pages : 3

Time : Two Hours

Max. Marks : 40

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Answersheet should be written with blue ink only. Graph or diagram should be drawn with the same pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. Figures to the right indicates full marks.

1. Attempt **any eight** of the following.

8

- i) Who synthesized urea first time by heating an ammonium cyanate -----
a) Wohler b) Berzelius
c) Liebig d) Gay Lussac
- ii) The interorbital angle in 'sp' hybridization is -----
a) 120° b) 180°
c) 109.5° d) 160°
- iii) The mutual overlap of half filled 'P' orbitals of two atoms is known as ----- overlap.
a) S-P b) P-P
c) S-S d) d-d
- iv) The positively charged carbon atom is called as -----
a) Carbocation b) Carbanion
c) free radical d) None of these
- v) The reaction of alkanes with oxygen to form carbon dioxide, Water and heat is called as -----
a) Combustion b) Pyrolysis
c) Reduction d) None of these
- vi) Alkane shows ----- hybridization.
a) SP b) SP^2
c) SP^3 d) None of these
- vii) The substance which gives H^+ ions in aqueous solution is called as -----
a) base b) acid
c) Neutral d) None of these

viii) The solvent has tendency to donate as well as to accept the proton is called as ----- solvent.

- a) acidic b) basic
c) amphoteric d) none of these

ix) $\text{pH} = \text{-----}$

- a) $-\log [\text{H}^+]$ b) $-\log [\text{OH}^-]$
c) $-\log [\text{H}_2\text{O}]$ d) $\log [\text{H}^+]$

x) $\text{pH} + \text{pOH} = \text{-----}$

- a) 7 b) 14
c) -7 d) -14

2. Attempt **any four** of the following.

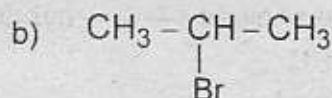
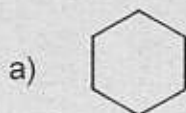
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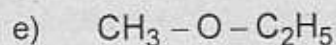
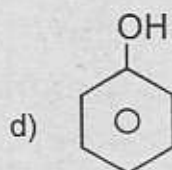
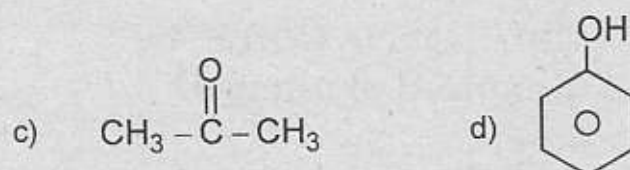
- i) Give two methods of preparation of alkanes.
- ii) What is covalent bond ?
- iii) What is hybridization ?
- iv) What is substitution reaction ?
- v) Define strong acid and strong base.
- vi) Define protic and aprotic solvent.

3. Attempt **any two** of the following.

8

- i) Explain inductive effect with suitable example.
- ii) Write a note on hyperconjugation.
- iii) Write the IUPAC names of any four of the following.





4. A) Attempt **any two** of the following.

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- i) Explain Arrhenius theory of acids and bases with suitable example ?
- ii) Give properties of solvent.
- iii) Draw the structure of the following **any four**.

- | | |
|--------------------|------------------|
| a) n-butyl alcohol | b) Diethyl ether |
| c) Benzoic acid | d) Acetic acid |
| e) cyclohexane. | |

B) Write Wurtz reaction.

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5. Attempt **any one** of the following.

8

- i) Explain SP^2 hybridization with suitable example.
- ii) Define the term buffer ? Give types of buffer ? Give the mechanism of acidic and basic buffer.
