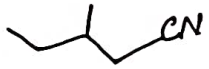
INDIAN SCHOOL NIZWA - WORKSHEET

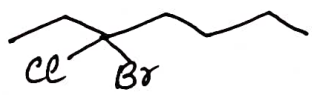
CHEMISTRY
CH 8: ORGANIC CHEMISTRY:SOME BASIC PRINCIPLES & TECHNIQUES

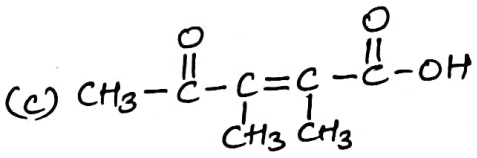
Name: Date: 01.05.2024 Class:XI Sec:A

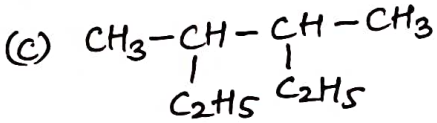
Answer the following questions

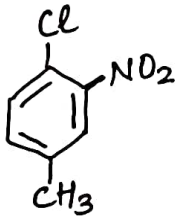
1. Give the IUPAC name of the following compounds:

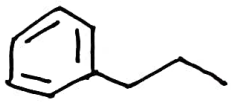
(a) 

(b) 

(c) 

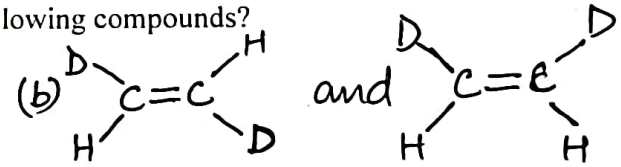
(c) 

(d) 

(e) 

2. Give bond-line structural formulae and identify the functional group(s) present, if any, for:
   (a) 2,2,4-trimethylpentane (b) 2-hydroxy-1,2,3-prapanetricarboxylic acid (c) hexane-1,6-dial
3. What are nucleophiles and electrophiles? Explain with examples.
4. What type of isomerism is shown by the following compounds?

(a) 

(b) 

5. Calculate the number of sigma and pi bonds in 1,3-butadiene and $HCONHCH_3$ compounds.
6. How will you separate a mixture of camphor and sodium chloride?
7. How will you separate a mixture of o-nitrophenol and p-nitrophenol?
8. $(CH_3)_3C^+$ is more stable than $(CH_3)_2CH^+$. Explain why?
9. Draw the structure of the following compounds:
   (a) 3,3-dimethylbut-1-ene
   (b) 2-methylbutanal
   (c) 4-phenylbut-1-ene
   (d) 5,5-dimethylhex-3-enoic acid
   (e) o-ethylanisole
   (f) 4-ethyl-1-fluoro-2-nitrobenzene

10. What is the basic principle of chromatography?
11. Draw cis and trans- structures of hex-2-ene.
12. Write two important differences between inductive effect and resonance effect.
13. Name the suitable method for purification of following:
    (a) Two solids which have different solubilities in a solvent and which do not react when dissolved in it.
    (b) Liquid that decompose at its boiling point
    (c) Steam volatile liquid and immiscible with water
    (d) Two liquids which have boiling points close to each other
    (e) Two liquids with large difference in their boiling point
14. Write short notes on: (i) Crystallisation (ii) Fractional crystallisation (iii) Sublimation (iv) Differential extraction (v) Simple Distillation, Fractional distillation, Distillation under reduced pressure and Steam distillation. (vi) Chromatography (Note: Study the above from the softcopy notes).
15. In the organic compouns CH_2=CH-CH_2-CH_2-C≡CH, the pair of hybridized orbitals involved in the formation of C_2-C_3 bond is?
16. Assertion-Reason questions

(a) Both A & B are true and R is the correct explanation of A
(b) Both A & B are true and R is not the correct explanation of A
(c) A is true, but R is false
(d) A is false, but R is true

1) Assertion: But-1-ene & 2-methylpropene are chain isomers
   Reason: Chain isomers have same molecular formula but different functional group
2) Assertion: All the carbon atoms of but-2-ene are sp^2 hybridized.
   Reason: All the carbon atoms of but-2-ene lie in the same plane.
3) Assertion: Simple distillation can help in separating a mixture of propan-1-ol (boiling point 97°C) and propanone (boiling point 56°C)
   Reason (R): Liquids with a difference of more than 20°C in their boiling points can be separated by simple distillation.
4) Assertion: Melting & boiling points are significant criteria of purity of organic compounds.
   Reason: Homologues have same boiling points.

17. Classify the following reactions in one of the reactions type studied:

(a) $CH_3CH_2Br + HS^- \rightarrow CH_3CH_2SH + Br^-$

(b) $(CH_3)_2C=CH_2 + HCl \rightarrow (CH_3)_2CCl\text{-}CH_3$

(c) $CH_3CH_2Br + HO^- \rightarrow CH_2=CH_2 + H_2O + Br^-$

(d) $NH_4CNO \xrightarrow{heat} NH_2CONH_2$
