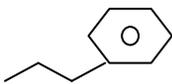
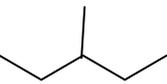
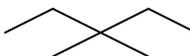
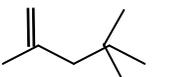
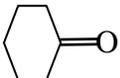


INDIAN SCHOOL MUSCAT

CLASS – XI

CHEMISTRY WORKSHEET

SOME BASIC PRINCIPLES AND TECHNIQUES

1	Write the bond line formula for a) Propan-2-ol b) Pentan-2-one c) 3-Formyl hexane-1,6-dioic acid d) 2,3-dimethyl butanal.
2	Write the structural formula of the following a. 2,3-Dibromo-1-phenylpentane b. 6-Hydroxyheptanal c. p-Nitroaniline d. Cyclohex-2-en-1-ol e. 4-Ethyl-1-fluoro-2-nitrobenzene f. Pent-4-en-2-ol g. 3,4-Dimethylphenol h. 3-Nitrocyclohexene i. m-Nitrophenol
3	Are the following IUPAC names correct? If not write the correct names. a) 2,2-dimethyl pentane b) 2,5,7-trimethyloctane c) 4-chloro-2-methylpentane d) but-4-ol-1-yne e) 1-hydroxyethanoic acid f) Propan-2-ol g) 2-Ethylpent-2-ene h) Hexa-1,6-diene i) 4-ethyl-3-methylhexane j) Pent-4-ene
4	Write IUPAC names for a)  b)  c)  d)  e)  f) $(\text{CH}_3)_3\text{C}-\text{CH}_2-\text{CHO}$ g) $\text{HO}-\text{CH}_2-\text{CH}_2-\text{COOH}$ h) $\text{CH}_3 \text{ CO CH}_2 \text{ CHO}$ i) $(\text{CH}_3)_3\text{C CH} (\text{C}_2\text{H}_5) \text{ CH}_3$ j) $\text{CH}_2 = \text{CH CH}_2 \text{ CH} = \text{CH}_2$ k) $\text{HOOC CH} (\text{CH}_3) \text{ CH}_2 \text{ CH}_2 \text{ CH}_3$ l) $\text{CH}_3 \text{ CH}_2 \text{ CH}_2 \text{ NO}_2$ m) $\text{HO CH} (\text{CH}_3) \text{ CH}_2 \text{ CHO}$ n) $\text{H}_2\text{N CH}=\text{CH}-\text{COOH}$ o) $\text{CH}_3 \text{ CO CO C}_2\text{H}_5$ p) $\text{CH}_3 \text{ CH}_2 \text{ CH}_2 \text{ COO C}_2\text{H}_5$ q) $\text{CH}_3 \text{ CH Cl}_2$ r) $\text{HOOC}-\text{COOH}$ s) $\text{CH}_2 = \text{CH CH}_2 \text{ C}\equiv\text{C CH}_3$ t) $\text{I}-(\text{CH}_2)_3 \text{ COOH}$ u) $\text{CH}_3 \text{ CO COOH}$ v)  w) $(\text{CH}_3)_2 \text{ CH CH} (\text{C}_2\text{H}_5) \text{ CH}_3$ x) $\text{CH}_3\text{CH}(\text{CH}_3)\text{CH}_2\text{CH}_2\text{CH}=\text{CH}_2$ y) $\text{CH}_3\text{C}(\text{CH}_3)_2\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}(\text{C}_2\text{H}_5)\text{CH}_3$
5	Which is more stable and why? a) $\text{NO}_2 \text{ CH}_2 \text{ CH}_2 \text{ O}^-$ or $\text{CH}_3 \text{ CH}_2 \text{ CH}_2 \text{ O}^-$ b) 3,3-dimethyl-1-butene or 3-methyl-1-pentene c) CH_3CH_2^+ or $(\text{CH}_3)_2 \text{ CH}^+$
6	Explain with examples a) Resonance effect b) Inductive effect c) Electromeric effect d) Hyperconjugation
7	Distinguish between the following with examples

	a) Nucleophile and Electrophile b) Heterolytic and Homolytic fissions
8	What is the difference between distillation, distillation under reduced pressure and steam distillation?
9	Discuss the principle behind the following techniques taking an example in each case. a) Crystallization b) Chromatography c) Sublimation d) Differential Extraction
10	Give reason: a) Metallic sodium is used to prepare Lassaigne's extract. b) Lassaigne's extract is boiled with dil HNO ₃ before testing for halogens.
11	Arrange the following in the increasing order of their stabilities: a) (CH ₃) ₃ CCH ₂ ⁺ , (CH ₃) ₃ C ⁺ , CH ₃ CH ₂ CH ₂ ⁺ , CH ₃ CH ⁺ CH ₂ CH ₃ b) (CH ₃) ₂ CH ⁻ , (CH ₃) ₃ C ⁻ , CH ₃ CH ₂ ⁻ , CH ₃ ⁻
12	Write one chemical test to detect the presence of the following elements in a given organic compound. a) Nitrogen b) Sulphur c) Phosphorous d) Chlorine e) Bromine f) Iodine
13	Explain the principle behind a) Carius method of estimation of halogens b) Kjeldahl's method of estimation of nitrogen c) Liebig's method of estimation of carbon and hydrogen
14	Define isomerism. Draw the structural isomers of C ₅ H ₁₂ and C ₄ H ₁₀
15	Give a pair of functional isomers of a) C ₂ H ₄ O ₂ b) C ₃ H ₆ O
16	Write short note on the following with the help of an example: a) Metamerism b) Position isomerism c) functional isomerism d) Chain isomerism
17	Draw the resonating structures of a. Aniline (C ₆ H ₅ NH ₂) c. Nitrobenzene(C ₆ H ₅ NO ₂) b. Nitromethane d. Prop-2-enal