

## MDCAT Chemistry Chapter 14 Chemistry of Hydrocarbons Online Test

Sr	Questions	Answers Choice
1	In beta elimination reaction	A. carbon number changes B. <b>unsaturated compound is formed</b> C. hybridization. of C remains same D. pi bonds are decreased
2	Which one of the following is NOT a nucleophile	A. $\text{NH}_2^+$ B. <b><math>\text{BF}_3</math></b> C. $\text{H}_2\text{O}$ D. $\text{CH}_3^-$
3	Chloroform ( $\text{CHCl}_3$ ) is?	A. Primary alkyl halide B. Secondary alkyl halide C. Tertiary alkyl halide D. <b>a liquid</b>
4	Correct order for the reactivity of alkyl halide in $\text{S}_\text{N}2$ reactions	A. $\text{R-I} > \text{R-F} > \text{R-Cl}$ B. $\text{R-F} > \text{R-Cl} > \text{R-I}$ C. <b><math>\text{R-I} &gt; \text{R-Cl} &gt; \text{R-F}</math></b> D. $\text{R-Cl} > \text{R-I} > \text{R-F}$
5	Which of the following is primary alkyl halide	A. Isopropyl halide B. Sec-butyl halide C. Tert-butyl halide D. <b>Neo-pentyl halide</b>
6	Reaction of ethyl bromide with ammonia	A. <b>Completes in a single step</b> B. Completes in two steps C. <b>Continues till N is left with no lone pair</b> D. is reversible
7	When purely alcoholic solution of sodium/potassium hydroxide and halogenoalkanes are reacted an alkene is formed, what is the mechanism of reaction?	A. <b>Elimination</b> B. Debromination C. Dehydration D. Reduction
8	The carbon atom of an alkyl group attached with halogen atom is called	A. <b>Electrophile</b> B. Free radical C. Nucleophile D. Nucleophilic centre
9	Alkyl halides are considered to be very reactive compounds towards nucleophiles, because	A. They have an electrophilic carbon B. They have an electrophilic carbon and a bad leaving group C. <b>They have an electrophilic carbon and a good leaving group</b> D. They have a nucleophilic carbon and a good leaving group
10	The rate of $\text{E}_1$ reaction depends upon	A. <b>The concentration of substrate</b> B. The concentration of substrate as well as nucleophile C. The concentration of nucleophile D. Nature of Catalyst
11	To prepare ethane by Wurtz-Fittig synthesis the suitable alkyl halide is	A. Ethyl iodide B. any alkyl iodide C. Ethyl chloride D. <b>Methyl bromide</b>
12	In the transition state of $\text{S}_\text{N}2$ mechanism reaction with alkyl halides, which of the following orbital hybridization is involved	A. $\text{sp}^3$ B. sp C. <b><math>\text{sp}^2</math></b> D. $\text{dsp}^3$
13	Correct statement about Nucleophilic substitution bimolecular is	A. Transition state is formed B. Inversion takes place C. It is two step reaction D. <b>Both a &amp; c</b>
14	Which isomer of $\text{C}_4\text{H}_9\text{Br}$ will produce 2-methyl propan-2-ol on treatment with aqueous KOH	A. n-butyl bromide B. Sec-butyl bromide C. Isobutyl bromide D. <b>Tert-butyl bromide</b>

D. Tertiary butyl chloride

15	Out of monochloro, monobromo and moniodo derivatives of ethane, the most reactive compound towards nucleophilic substitution will be	A. C <sub>2</sub> H <sub>5</sub> Br B. C <sub>2</sub> H <sub>5</sub> Cl C. C <sub>2</sub> H <sub>5</sub> I D. All are equally reactive
16	Which of the following alkyl halides undergoes S <sub>N</sub> 1 reaction fastest	A. Methyl chloride B. Isobutyl chloride C. Ethyl chloride D. Tertiary butyl chloride
17	An amine is produced in the following reaction C <sub>2</sub> H <sub>5</sub> I + 2NH <sub>3</sub> → C <sub>2</sub> H <sub>5</sub> NH <sub>2</sub> + NH <sub>4</sub> I. What is mechanism?	A. Electrophilic addition B. Electrophilic substitution C. Nucleophilic addition D. Nucleophilic substitution
18	Which one of the following is not associated with S <sub>N</sub> 2 mechanism	A. 100% inversion of configuration B. Tertiary alkyl halides C. 2nd order kinetics D. Change of hybridization from sp <sup>3</sup> to sp <sup>2</sup> in transition state
19	The order of reactivity of alkyl halides towards nucleophile is	A. RI > RBr > RF > RCl B. RF > RCl > RBr > RI C. RI > RBr > RCl > RE D. RF > RBr > RCl > RI
20	The alkaline hydrolysis of bromoethane shown below gives alcohol as the product: H <sub>3</sub> C-CH <sub>2</sub> -Br → H <sub>3</sub> C-CH <sub>2</sub> -OH The reagent and the condition used in this reaction may be:	A. H <sub>2</sub> O at room temperature B. KOH in alcohol C. Ethanol, heat D. Dilute NaOH(aq) warm