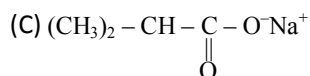
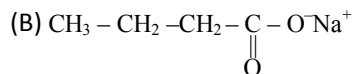
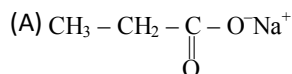


HYDROCARBON

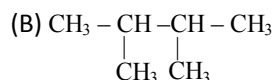
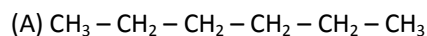
Q.1 Which sodium salt will be heated with sodalime to obtain propane -



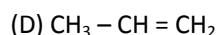
(D) B & C both

Q.2 $\text{CH}_3 - \overset{\text{Cl}}{\underset{|}{\text{CH}}} - \text{CH}_3 \xrightarrow{\text{Na/Ether}} \text{A}$

(major product). A is -



(C) No reaction



Q.3 The reduction of 4-octyne with H_2 in the presence of Pd/CaCO_3 - quinoline gives (as a major product) -

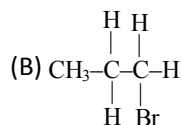
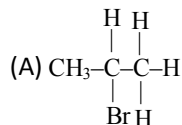
(A) trans-4-octene

(B) cis-4-octene

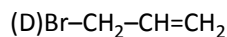
(C) a mixture of cis and trans-4-octene

(D) a completely reduced product C_8H_{18}

Q.4 What would be the main product when propene reacts with HBr in presence of benzoyl peroxide -



(C) Both A and B



Q.5 Ethene reacts with HOCl to form -

(A) Hydroxy ethene

(B) Chloro ethene

(C) Ethylene chlorohydrin

(D) None

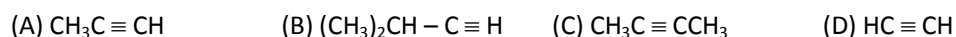
Q.6 What would be the product when ethene is oxidised with cold dil. KMnO_4 solution -



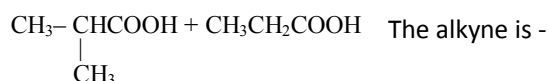
Q.7 What would be the product when ethene is oxidised with ozone and forms ozonide which is hydrolysed in presence of zinc dust -



Q.8 Which of the following will not react with an ammoniacal silver nitrate solution :



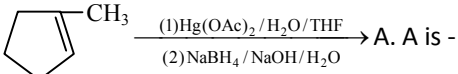
Q.9 An alkyne C_7H_{12} on reaction with hot alk. KMnO_4 and subsequent acidification with HCl yields a mixture of

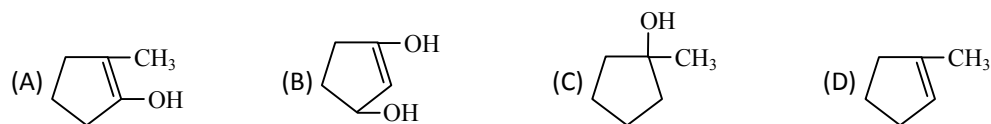


- (A) 3-Hexyne (B) 2-Methyl-3-hexyne
(C) 2-Methyl-2-hexyne (D) 2-Methyl-2-hexene

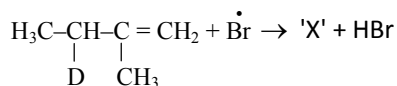
Q.10 Reactivity of alkenes towards HX decreases in the order -

- (A) Butene > Propene > Ethene (B) Butene > Ethene > Propene
(C) Ethene > Propene > Butene (D) None of these

Q.11  A is -



Q.12 Consider the following reactions -



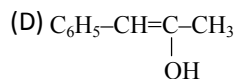
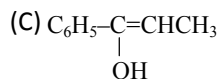
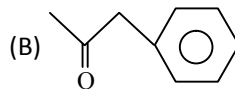
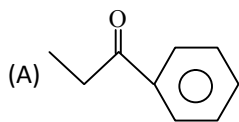
Identify the structure of the major product 'X'



Q.13 Identify a reagent from the following list which can easily distinguish between 1-butyne and 2-butyne

- (A) bromine, CCl_4 (B) H_2 , Lindlar catalyst
 (C) $\text{HgSO}_4/\text{dil. H}_2\text{SO}_4$ (D) ammoniacal Cu_2Cl_2 solution

Q.14 $\text{C}_6\text{H}_5-\text{C}\equiv\text{C}-\text{CH}_3 \xrightarrow[\text{H}_2\text{SO}_4]{\text{HgSO}_4} \text{A}$



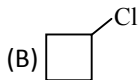
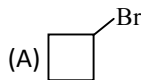
Q.15 2-hexyne can be converted into trans-2-hexene by the action of :

- (A) $\text{H}_2 - \text{Pd}-\text{BaSO}_4$ (B) Li in liq. NH_3 (C) $\text{H}_2 - \text{PtO}_2$ (D) NaBH_4

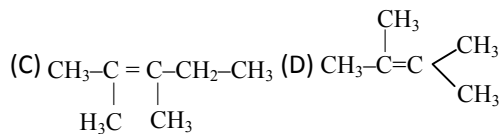
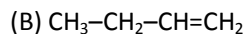
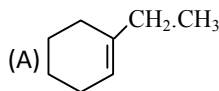
Q.16 On monochlorination 2-methyl butane, how many chiral compound are formed-

- (A) 2 (B) 4 (C) 6 (D) 8

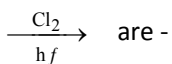
Q.17 1-Bromo-3-chloro cyclobutene on reaction with 2-equivalent of sodium in ether gives



Q.18 Which of the following alkenes is the most reactive towards the addition of bromine ?



Q.19 The number of dichloro products in the reaction

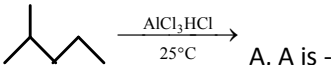
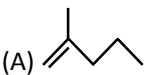
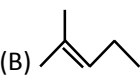
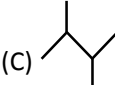



- (A) 5 (B) 6 (C) 7 (D) 9

Q.20 A mixture of ethyl iodide and n-propyl iodide is subjected to Wurtz reaction. The hydrocarbon that will not be formed is-
 (A) n-Butane (B) Propyne (C) n-Pentane (D) n-Hexane

Q.21 Decarboxylation of isobutyric acid leads to -
 (A) Isobutane (B) Propane (C) Butane (D) None

Q.22 Alkanes have almost no solubility in water because of the following except -
 (A) Nonpolarity (B) Inability to form H-bonds
 (C) Zig-zag structure (D) No H-bonding and nonpolarity

Q.23  A, A is -
 (A)  (B)  (C)  (D) 

Q.24 The reactivity of the halogens towards methane decreases in the order -
 (A) $F_2 > Cl_2 > Br_2 > I_2$ (B) $I_2 > Br_2 > Cl_2 > F_2$
 (C) $F_2 > Cl_2 > I_2 > Br_2$ (D) $Cl_2 > F_2 > Br_2 > I_2$

Q.25 Which one of the following compound will react with $NBS/CCl_4/h\nu$?
 (A) $CH_3-C(CH_3)_2-CH=CH_2$ (B) $C_6H_5-C(CH_3)_2CH_2-CH_3$
 (C) $C_6H_5-CH_2-CH=CH_2$ (D) $CH_3-\underset{\substack{| \\ CH_3}}{CH}-CH_3$

Q.26 The most common reactions of alkenes are-
 (A) Nucleophilic substitution (B) Electrophilic substitution
 (C) Electrophilic addition (D) Nucleophilic addition

Q.27 $CH_3-\underset{\substack{| \\ CH_3}}{CH}-CH=CH_2 + HBr$ (product) which is predominate; X is -

(A) $CH_3-\underset{\substack{| \\ CH_3}}{CH}-CH=CH_2 + HBr$ (B) $CH_3-\overset{\substack{Br \\ |}}{C}-CH_2-CH_3$
 (C) $CH_3-\underset{\substack{| \\ CH_3}}{CH}-\underset{\substack{| \\ Br}}{CH}-CH_3$ (D) None is correct

Q.28 The catalyst used in kharash reaction, is -

- (A) Only halogenated compound (B) Any peroxide
(C) $\text{Al}_2(\text{SO}_4)_3$ (D) TiCl_4

Q.29 3-Methyl-2-pentene on reaction with HOCl gives -

- (A) $\text{CH}_3-\text{CH}_2-\overset{\text{Br}}{\underset{\text{CH}_3}{\text{C}}}-\overset{\text{OH}}{\text{CH}}-\text{CH}_3$ (B) $\text{CH}_3-\overset{\text{CH}_3}{\underset{\text{CH}_3}{\text{C}}}-\overset{\text{OH}}{\text{CH}}-\text{CH}_3$
(C) $\text{CH}_3-\text{CH}_2-\overset{\text{Cl}}{\underset{\text{CH}_3}{\text{C}}}-\overset{\text{Cl}}{\text{C}}-\text{CH}_3$ (D) $\text{CH}_3-\text{CH}_2-\overset{\text{OH}}{\underset{\text{CH}_3}{\text{C}}}-\overset{\text{H}}{\text{CH}}-\text{CH}_3$

Q.30 Which set of products is expected on reductive ozonolysis of the following diolefin ?

- CH_3
|
 $\text{CH}_3\text{CH}=\text{C}-\text{CH}=\text{CH}_2$
- (A) $\text{CH}_3\text{CHO}; \text{CH}_3\text{COCH}=\text{CH}_2$ (B) $\text{CH}_3\text{CH}=\text{C}(\text{CH}_3)\text{CHO}; \text{CH}_2\text{O}$
(C) $\text{CH}_3\text{CHO}; \text{CH}_3\text{COCHO}; \text{CH}_2\text{O}$ (D) $\text{CH}_3\text{CHO}; \text{CH}_3\text{COCH}_3; \text{CH}_2\text{O}$

Q.31 Unbranched alkenes on ozonolysis give -

- (A) Only ketone (B) Only aldehydes
(C) Aldehydes & ketone (D) All of the above

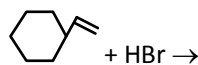
Q.32 The compound formed when 2-butene is treated with hot alk KMnO_4 is -

- (A) Acetaldehyde (B) Acetic acid
(C) $\text{CH}_2\text{OH}.\text{CH}_2\text{OH}$ (D) $\text{CH}_3.\text{CH}_2.\text{CO}.\text{CH}_3$

Q.33 2-Phenylpropene on acidic hydration gives -

- (A) 2-Phenyl-2-propanol (B) 2-Phenyl-1-propanol
(C) 3-Phenyl-1-propanol (D) 1-Phenyl-2-propanol

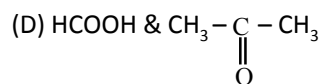
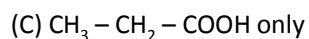
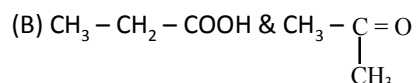
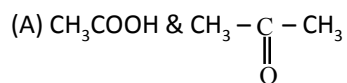
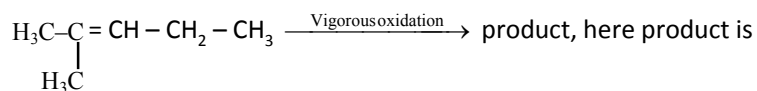
Q.34 In the reaction -

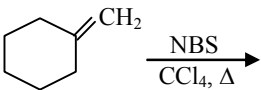


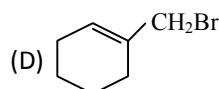
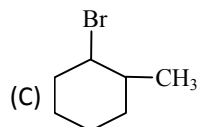
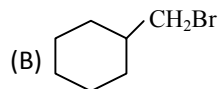
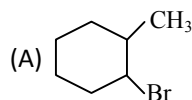
the bromoderivative that may be formed (irrespective of yield) is

- (A)  (B) 
(C)  (D) All of these.

Q.35 The compound



Q.36 The Major product formed in the reaction  is-



Q.37 An alkene on treating with hot acidified KMnO_4 gives hexane-2, 5-dione. The alkene is -

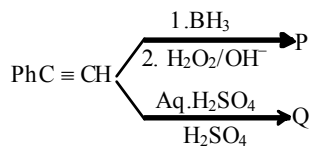
(A) hexane

(B) 2-hexene

(C) 1-methylcyclopentene

(D) 1, 2-dimethylcyclobutene

Q.38 Consider the following two reaction sequences.



The two products (P) and (Q) are, respectively,

(A) PhCOCH_3 and PhCH_2CHO

(B) PhCH_2CHO and PhCH_2CHO

(C) PhCH_2CHO and PhCOCH_3

(D) PhCOCH_3 and PhCOCH_3

SOLUTION

Q.1 (D)	Q.2 (B)	Q.3 (B)	Q.4 (B)	Q.5 (C)
Q.6 (A)	Q.7 (B)	Q.8 (C)	Q.9 (B)	Q.10 (A)
Q.11 (C)	Q.12 (B)	Q.13 (D)	Q.14 (A)	Q.15 (B)
Q.16 (B)	Q.17 (C)			
Q.18 (D)				

Sol. Greater the stabilisation of carbocation, greater is its reactivity. The number of hyper conjugative structure possible for carbocations obtained from (A), (B), (C) and (D) are 5, 2, 5, and 6 respectively.

Q.19 (B)	Q.20 (B)	Q.21 (B)	Q.22 (C)	Q.23 (C)
Q.24 (A)	Q.25 (C)	Q.26 (C)	Q.27 (B)	Q.28 (B)
Q.29 (D)	Q.30 (C)	Q.31 (B)	Q.32 (B)	Q.33 (A)
Q.34 (D)	Q.35 (B)	Q.36 (D)	Q.37 (D)	Q.38 (C)