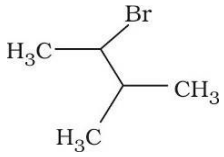
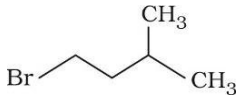
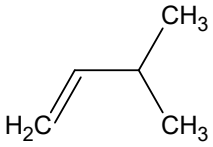
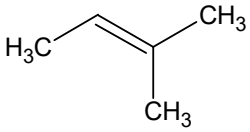
Daily Tutorial Sheet-14	Level - 3

153.

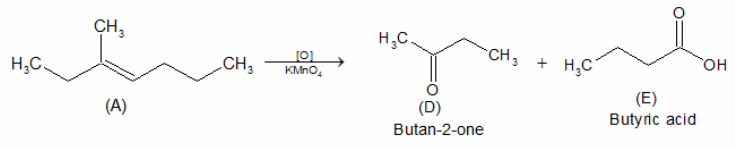
A = 

B = 

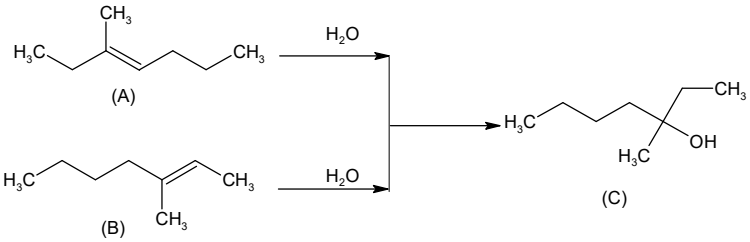
C = 

D = 

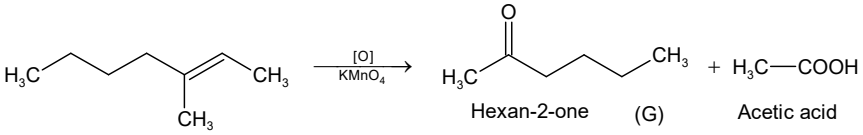
154. **(i)** Since alkene (A) on oxidation gives a carbonyl compound (D) and an acid (E) of four carbon atoms each.



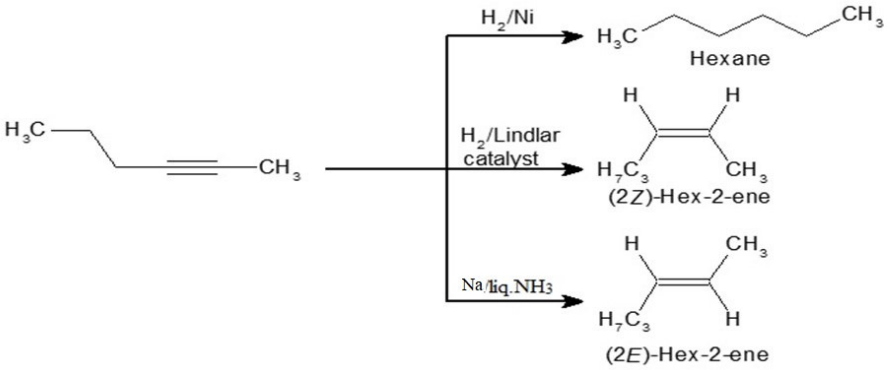
(ii) Hydration of (A) and (B) give the same alcohol.



(iii) Alkene (A) and (B) give same alcohol on hydration and thus compound (B) can only be

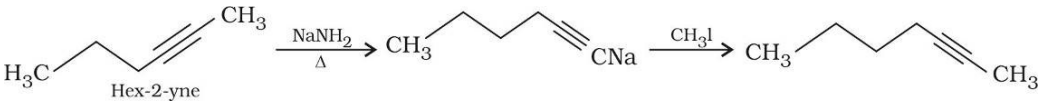


155. The given compound (A) is $CH_3–CH_2–CH_2–C\equiv C–CH_3$ which can be confirmed by the following reactions.

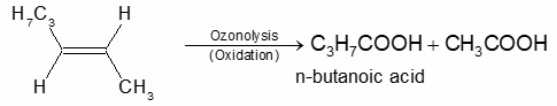


(ii) (A) is non-terminal alkyne as it does not form salt with ammonical silver nitrate.

(iii) (A) forms (E) with $NaNH_2$ which reacts with CH_3I to give (F).



(iv)



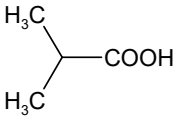
156. **(i)** (A) reacts with sodium in liquid ammonia and thus it is terminal alkyne i.e. $C_3H_7C \equiv C - H$.

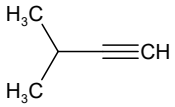
(ii) $C_3H_7C \equiv CH \xrightarrow{Na} C_3H_7C \equiv C - Na \xrightarrow{CH_3-CH_2-CH_2-Br} \underset{(B)}{C_3H_7C \equiv C - CH_2 - CH_2 - CH_3}$

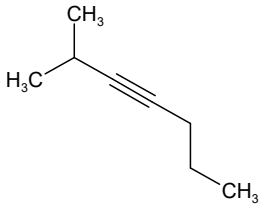
(iii) $C_3H_7C \equiv CH \xrightarrow[H_2SO_4]{HgSO_4} C_3H_7CO - CH_3$

(iv) $C_3H_7C \equiv C - CH_2 - CH_2 - CH_3 \xrightarrow[KMnO_4]{[O]} \underset{(D)}{CH_3 - CH_2 - CH_2 - COOH} + \underset{(E)}{C_3H_7COOH}$

Since (D) and (E) are isomers, thus the structure of (E) is

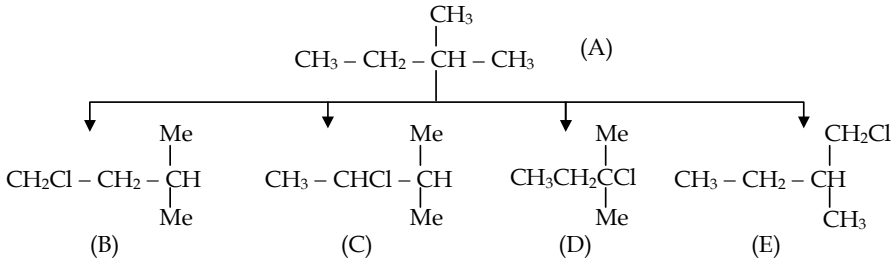


Thus (A) is 

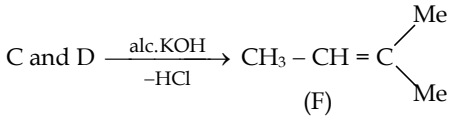
and (B) is 

(c) $CH_3 - CH_2 - CH_2 - \underset{\|}{\overset{O}{C}} - CH_3$

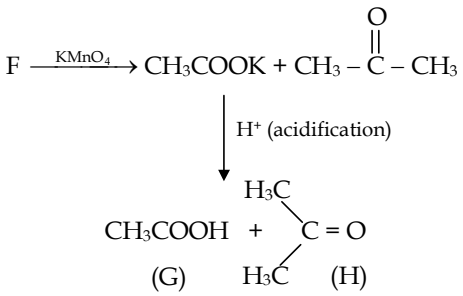
157. As alkane (A), C_5H_{12}, on chlorination gives four monochloro product and thus (A) is isopentane.



(C) & (D) give same stable product on dehydrohalogenation.



Stable, saytzeff product



158. Reaction of A with ammonical $AgNO_3$ indicate presence of terminal alkyne. Hence structure of A is $HC \equiv C - CH = CH_2$.