Daily Tutorial Sheet-1	JEE Main (Archive)

1.(B) Number of OH groups = $\frac{M_F - M_0}{42}$; M_F = mol mass of acetylated product

M_0 = mol mass of given compound

$\Rightarrow$ Number of OH groups = $\frac{390 - 180}{42} = 5$

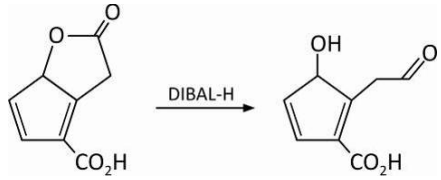
2.(D) $RCOOH \xrightarrow{NH_3} RCOONH_4 \xrightarrow[-H_2O]{\Delta} RCONH_2 \xrightarrow[Br_2]{KOH} RNH_2$

3.(C) $RCH_2COOH + Br_2 \xrightarrow[P]{Red} R-\underset{\underset{Br}{|}}{CH}-COOH + HBr$ (HVZ reaction)

4.(B) Reduction of ester by using Na / C_2H_5OH

5.(C) Reactivity of carboxylic acid is more than that of amide towards alcohol because H_2O is good leaving group and NH_3 is poor leaving group. Visualise lactone formation.

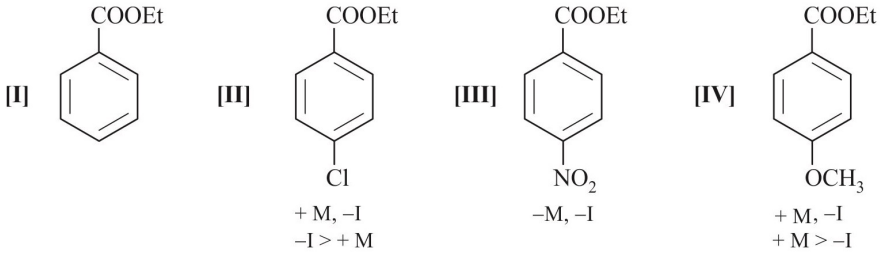
6.(B) DIBAL-H reduces only ester group to an aldehyde and alcohol.



7.(A) A good leaving group increase the reactivity of acid derivative

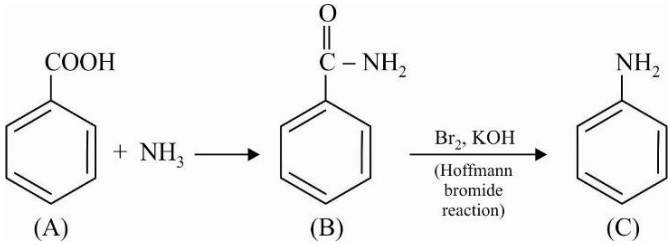
Order of leaving group is $-Cl > -O-\underset{\underset{O}{||}}{C}-CH_3 > -OCH_3 > -NH_2$

8.(D) More is the electrophilic character on ester carbon easier will be the alkaline hydrolysis :

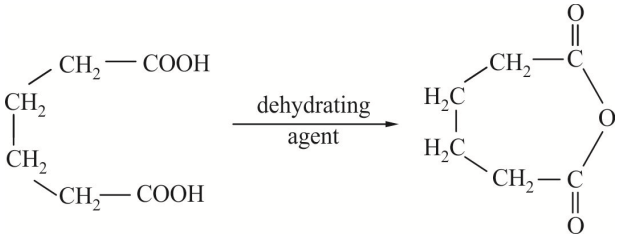


III > II > I > IV

9.(C)

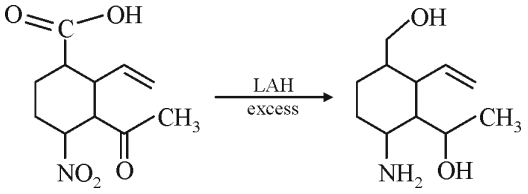


10.(D)

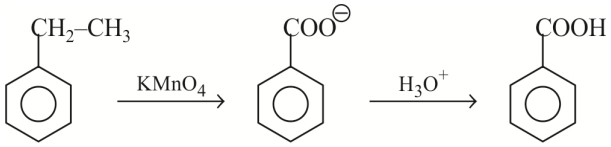


Less feasible formation of 7 membered ring.

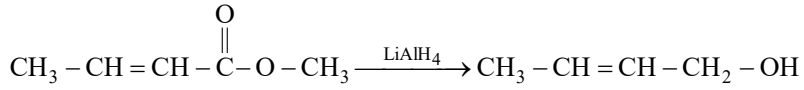
11.(D)



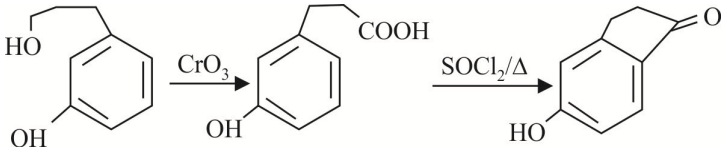
12.(D)



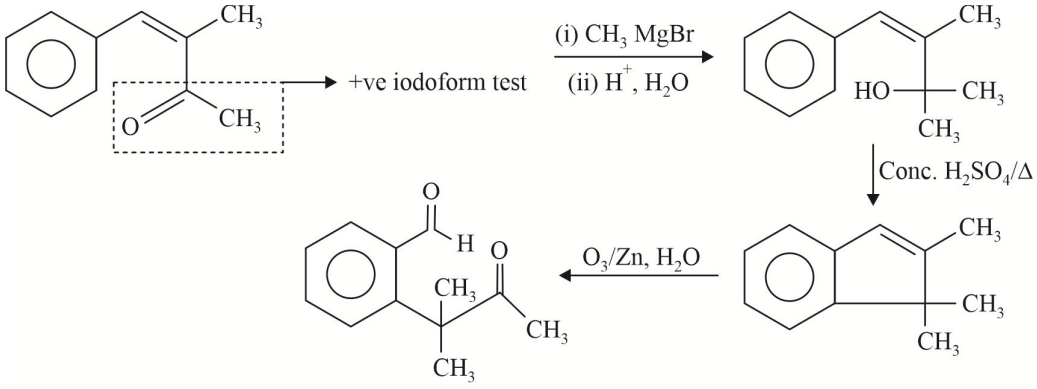
13.(D)



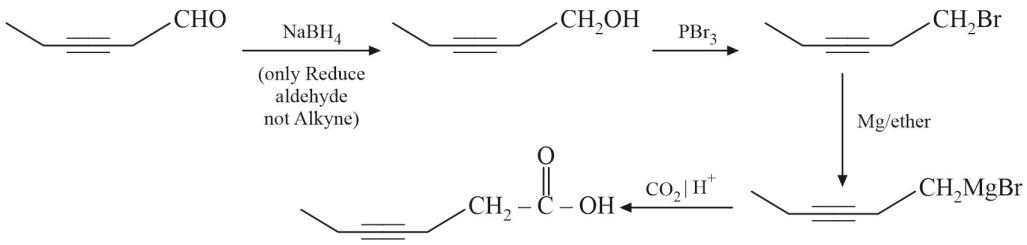
14.(A)



15.(A)



16.(B)



17.(A) Diborane reduces carboxylic acid to 1°-alcohols.