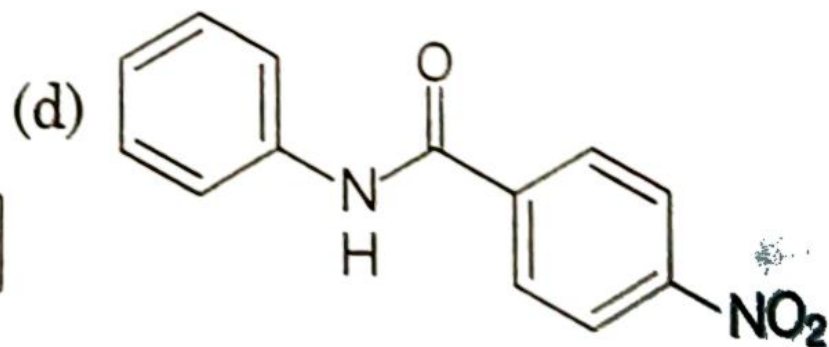
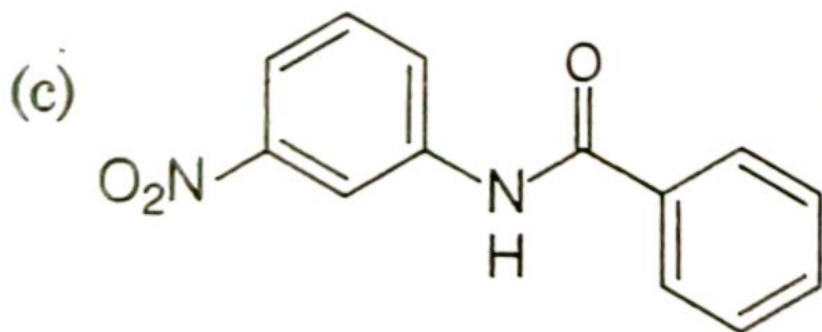
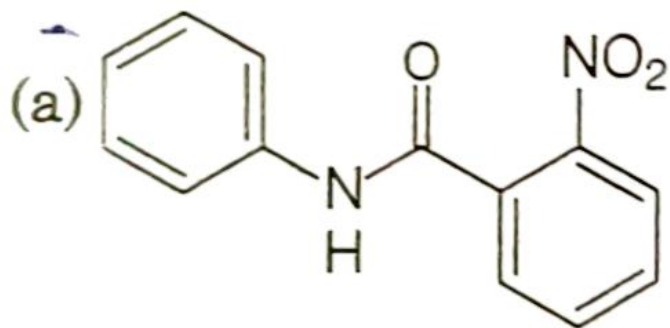
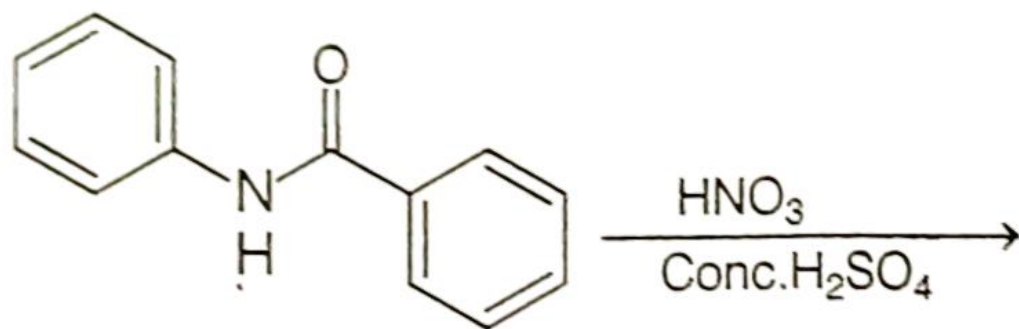
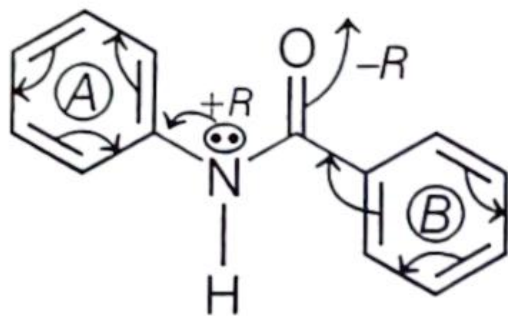


10. What will be the major product in the following mononitration reaction?  
(2019 Main, 10 Jan II)



10. Here, in mononitration the electrophile produced from mixed acid ( $\text{HNO}_3 + \text{conc. H}_2\text{SO}_4$ ) is  $\overset{+}{\text{N}}\text{O}_2$ .



Ring-(A) is activated, i.e. becomes more nucleophilic by the  $+R$  effect of the  $\overset{\cdot\cdot}{\text{N}}\text{H}$  group and it becomes *o/p*-directing towards the electrophile,  $\text{NO}_2^+$  in the  $\text{ArS}_E2$  reaction. For mononitration,  $\overset{\oplus}{\text{N}}\text{O}_2$  will preferably come at *p*-position,

whereas the ring-(B) gets deactivated by  $-R$ - effect of the

