



Identify product D in the following reaction sequence:

$$\text{CH}_3 - \underset{\text{CH}_3}{\overset{\text{CH}_3}{\text{C}}} - \text{CH}_2\text{CH}_2\text{OH} \xrightarrow[\text{H}_2\text{O, heat}]{\text{K}_2\text{Cr}_2\text{O}_7 - \text{H}_2\text{SO}_4} \text{A} \xrightarrow{\text{SOCl}_2} \text{B} \xrightarrow[(2 \text{ mole})]{(\text{CH}_3)_2\text{NH}} \text{C} \xrightarrow[\text{(ii) H}_2\text{O}]{\text{(i) LiAlH}_4, \text{ diethyl ether}} \text{D}$$

- A) $\text{CH}_3 - \underset{\text{CH}_3}{\text{C}} - \text{CH}_2\text{C} \equiv \text{N}$
- B) $\text{CH}_3 - \underset{\text{CH}_3}{\text{C}} - \text{CH}_2\text{CH}_2\text{N}(\text{CH}_3)_2$
- C) $\text{CH}_3 - \underset{\text{CH}_3}{\text{C}} - \text{CH}_2\text{CHN}(\text{CH}_3)_2$
- D) $\text{CH}_3 - \underset{\text{CH}_3}{\text{C}} - \text{CH}_2\text{CHN}(\text{CH}_3)_2$
 OH

Correct Answer: B

Solution :

