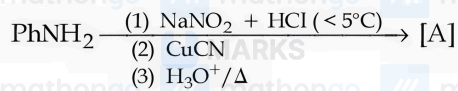
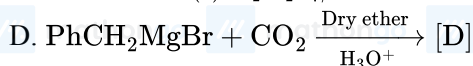
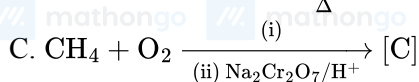
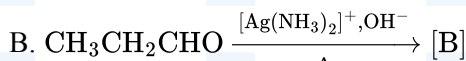


Q1. JEE Main 2026 (28 January Shift 2)

The correct order of acidic strength of the major products formed in the given reactions, is :



A.



Choose the correct answer from the options given below :

(1) $A > D > B > C$

(2) $C > A > D > B$

(3) $C > B > A > D$

(4) $A > D > C > B$

ANSWERS AND SOLUTIONS

1. (2)

1. (2) Product [A]: From PhNH_2 , steps (1) $\text{NaNO}_2 + \text{HCl}$ forms diazonium salt, (2) CuCN gives benzonitrile, (3) $\text{H}_3\text{O}^+/\Delta$ hydrolyzes to benzoic acid (PhCOOH), $\text{pK}_a \approx 4.2$.

Product [B]: From $\text{CH}_3\text{CH}_2\text{CHO}$, Tollens' oxidation with $[\text{Ag}(\text{NH}_3)_2]^+$ produces acetic acid (CH_3COOH), $\text{pK}_a \approx 4.8$.

Product [C]: From $\text{CH}_4 + \text{O}_2$ with heat and $\text{Na}_2\text{Cr}_2\text{O}_7/\text{H}^+$ produces formic acid (HCOOH), $\text{pK}_a \approx 3.8$ (strongest acid).

Product [D]: From $\text{PhCH}_2\text{MgBr} + \text{CO}_2$, the Grignard reaction produces phenylacetic acid (PhCH_2COOH), $\text{pK}_a \approx 4.3$.

Acidic strength order (lower pK_a = stronger): $\text{C} (3.8) > \text{A} (4.2) > \text{D} (4.3) > \text{B} (4.8)$.