

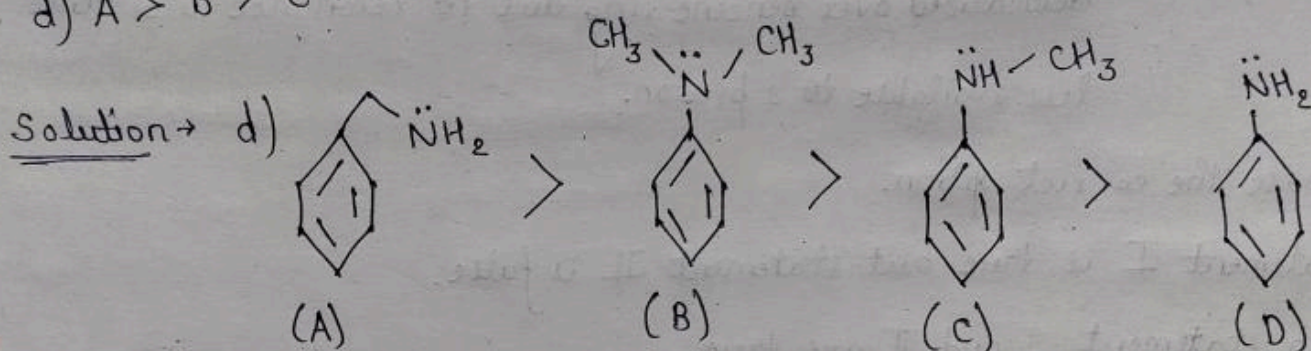
2. A. Phenyl methanamine
 B. N,N-Dimethylaniline
 C. N-Methylaniline
 D. Benzenamine

(Main - 2021, February 26th, Shift 2)

Choose the correct order of basic nature of the above amines.

- a) $D > C > B > A$
 b) $A > C > B > D$
 c) $D > B > C > A$
 d) $A > B > C > D$

Solution →



A is more basic than B because even though B has two electron donating methyl groups on it, it is directly attached to the phenyl group and is in resonance with it. Since phenyl is an electron withdrawing group, it makes B less basic due to the strong resonance effect.

B is more basic than C because it has two electron donating methyl groups on nitrogen, which increases the electron density on nitrogen by inductive effect. C only has one such group while D has none.

So, the correct order is $A > B > C > D$.