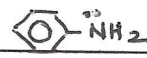
26- Organic Nitrogen Compounds.

Q-1) Compare basic character of NH_3, $R-NH_2$ and phenylamine

$R-\ddot{N}H_2 > \ddot{N}H_3 >$ 

Most basic Least basic

> The lone pair on the nitrogen can accept H^+ ∴ amines are basic.

> $R-NH_2$ is most basic because of the electron donating R group which makes the Nitrogen most electronegative.

> Phenylamine is least basic because the lone pair of electrons become part of the benzene ring ∴ reducing the charge density.

Q-2) Character of amides.

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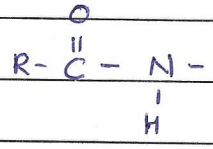

> Amides are neutral.

Q-3) Acid-base character of amino acids.

> Amino acids act as buffer.

- When acid is added, the $-COO^-$ part of the zwitter ion accepts H^+. This leaves a positively charged ion 
- When alkali is added, the $-\overset{+}{N}H_3$ part of the zwitter ion donates a H^+. This leaves a negative charged ion.