Amides are planar.

You can not move atoms when drawing resonance structures, so only one structure can be correct.

The oxygen is more basic.
\[ \Psi^2 = \text{probability of find } e^- \]

The quantum numbers
- \( n \) principal q.n. indexes energy
- \( l \) azimuthal q.n. indexes shape
- \( m_l \) magnetic q.n. indexes orientation
  - \( n = 1, 2, 3... \)
  - \( l = 0, 1, 2, ..., n-1 \)
  - \( m_l = -l, -l+1, ..., 0, ..., l \)

\[ \Psi \text{ is called the wave function} \]

Two or more energy levels with the same energies are degenerate

One dimensional box
\[ E = \frac{n^2 \hbar^2}{8mL^2} \]

Two dimensional box (a square hole)
\[ E = \frac{(n_x^2 + n_y^2) \hbar^2}{8mL^2} \]

What "energy" is next?
A 10  B 11  C 12 D 13  E 15  F 17  G 18

Electronic configurations
- Trends: Atom Size, IE, EA, Electronegativity