1. a) $\psi = 180°$, $\phi = 0°$
   b) $\psi = 0°$, $\phi = 180°$

2. a) alpha, b) alpha and beta c) beta

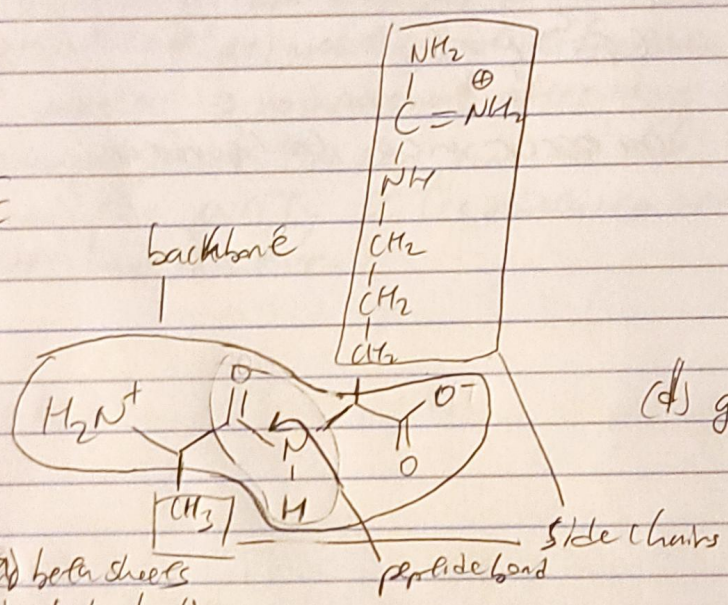
3. A

4. D

5. A

6. E

7. A



8. (b) due to the increased presence of α-helix disrupting proline and glycine, (b) is less likely to form an α helix

9. (a) beta sheets
   (b) alpha helixes

10. 60 Å, 5.4 Å per turn.
$\frac{60\text{Å}}{5.4\text{Å}} = 11.11 \text{ turns} \times \frac{3.6 \text{ residues}}{\text{turn}} = 40$ residues/amino acids required.

11. $\phi = 0°$ $\psi = 0°$
this conformation will not be possible.

12. pH extremes, high temperatures, or organic solvents like acetone.