

2024 Bi H1 Q9

Section: Metabolism and Survival

Topic: Enzymes — Proteases and Bond Energy

Question Summary:

Protease enzymes catalyse the breakdown of proteins into amino acids. Which statement about the reaction is correct?

Worked Solution:

- Proteases catalyse the hydrolysis of peptide bonds (not hydrogen bonds).
- In chemical terms, breaking any bond requires an input of energy; the overall reaction can still release energy when new bonds form in the products.

Therefore, the correct description is that peptide bonds break and energy is required.

Final Answer: **B** (Peptide bonds break and energy is required).

Revision Tips:

- Breaking bonds requires energy; making bonds releases energy.
- Protease -> peptide bond hydrolysis -> amino acids.