

2025 Bi H1 Q13

Section: Metabolism and Survival

Topic: Conformers and Regulators

Question Summary:

You are asked which graph correctly shows how the body temperatures of **conformers** and **regulators** change with increasing external temperature.

Worked Solution:

- **Conformers** cannot regulate their internal temperature. Their body temperature changes directly with the external environment → a sloping line increasing with temperature.

- **Regulators** maintain a constant internal temperature using physiological mechanisms such as sweating, vasodilation and shivering → body temperature stays constant even as external temperature rises → a horizontal line.

Check the options:

- The correct graph must show:
- Conformer → increasing line
- Regulator → horizontal line

Only option **D** shows this pattern.

Final Answer: D

Revision Tips:

- Conformers depend on the environment → limited tolerance range.
- Regulators use metabolism and negative feedback to control internal conditions.
- Graph questions: look for a sloping line (conformer) vs flat line (regulator).