

Section B Self-Test

Question 1

What is the difference between catabolism and anabolism in cells?

Question 2

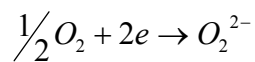
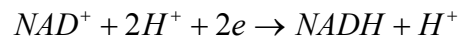
What is activation energy and what is the effect of enzymes on chemical reactions in living organisms?

Question 3

Define the following terms: reduction potential; redox coupled reactions and electron carriers

Question 4

Calculate the energy yield from the electron transfer of NAD to oxygen using the equations and supporting information below.



Nernst Equation $\Delta G = -nF\Delta E$

Where F is the Faraday constant and is 23,000 calories/volt

Data sheet oxidation reduction potentials

Redox pairs	E in volts
CO ₂ /acetate	- 0.432
H ⁺ /H ₂	- 0.420
NAD ⁺ /NADH ₂	- 0.320
FAD/FADH	- 0.280
S/HS ⁻	- 0.220
SO ₃ /S	- 0.110
Fumerate/Succinate	+ 0.030
NO ₃ /NO ₂	+ 0.430
Fe ³⁺ /Fe ²⁺	+ 0.770
O ₂ /H ₂ O	+ 0.820

Question 5

What is adenosine triphosphate and why is it important in cells?

Check Answers