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**School of Biological and Life sciences**

Bachelor of Science in Biochemistry  
Mid Term Examination - May 2024

Duration : 90 Minutes

Max Marks : 50

**Sem II - C1UH201T - Biochemistry of Metabolism***General Instructions*

*Answer to the specific question asked*

*Draw neat, labelled diagrams wherever necessary*

*Approved data hand books are allowed subject to verification by the Invigilator*

- 1) Provide example of coupled reactions in cellular metabolism. K2 (2)
- 2) Define high energy compounds and provide examples. K1 (3)
- 3) Illustrate the Zeroth law of thermodynamics. K2 (4)
- 4) State Gibbs free energy and explain its significance in chemical thermodynamics. K2 (6)
- 5) Explain Hess's Law and how it relates to enthalpy changes. K3 (6)
- 6) Compare and contrast the entropy of solids, liquids, and gases. K3 (9)
- 7) Examine the difference between exothermic and endothermic reactions in terms of enthalpy change. K4 (8)
- 8) Describe the interplay between Gibbs free energy, entropy, and enthalpy in determining the spontaneity and feasibility of chemical reactions. K4 (12)

**OR**

- Analyze the two distinct phases of the pentose phosphate pathway and the reactions that occur in each phase. K4 (12)