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School of Biological and Life sciences

**Bachelor of Science in Biochemistry
Semester End Examination - Jun 2024**

Duration : 180 Minutes

Max Marks : 100

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) What is the precursor for the de novo purine synthesis? K1 (2)
- 2) Interpret the starting molecules for the Krebs cycle, and how do they enter the cycle? K2 (4)
- 3) Explain the significance of glycolipids in cell recognition and signaling. K2 (6)
- 4) Explain how the availability of substrates such as ammonia and bicarbonate influences the regulation of the urea cycle. K3 (9)
- 5) Explain the role of xanthine oxidase in the degradation of hypoxanthine and xanthine to uric acid. K3 (9)
- 6) Explain the role of organelles such as mitochondria and chloroplasts in the storage and release of high energy phosphate compounds. K5 (10)
- 7) Examine the sequence of reactions involved in the beta-oxidation pathway. K4 (12)
- 8) Explain the biochemical abnormalities observed in individuals with gout, another purine metabolism disorder. K5 (15)
- 9) Explain the biosynthesis pathway of purines, starting from precursor molecules. K5 (15)
- 10) Discuss the pathways involved in the synthesis of glycolipids, including sphingolipid biosynthesis. K6 (18)