



End-Term Examination (December 2018)

Program: B.Tech (Biotechnology & Biomedical Engineering)

School: School of Engineering **Course:** Biochemistry **Course code:** BME 205

Semester: III

Marks: 50

Time: 2 Hours

Note

A. Figures to the right indicate full marks.

B. Explain with diagrams and cite relevant examples where required.

- Q.1 Describe in detail the Anaplerotic reactions of the citric acid cycle [10]
and the three exergonic steps at which the cycle is regulated.
OR
Short Notes: (a) Role of Acetyl-CoA in metabolism
(b) The Cori cycle
(c) Feeder pathways of glycolysis
(d) High energy compounds
- Q.2 Describe the regulation of the glycolysis pathway and the energy [10]
yield in the conversion of glucose into pyruvate?
OR
Short Note: (a) Purines & Pyrimidines
(b) Action of Methotrexate
(c) Role of PRPP
(d) ATP synthase complex
- Q.3 What is Oxidative Phosphorylation? Explain the role of various [10]
inhibitors in the electron transport chain.
OR
Short Note: (a) Michaelis-Menten equation
(b) Allosteric enzymes
(c) Non-Competitive inhibition of enzymes
(d) Lock and Key hypothesis
- Q.4 Describe in detail the Urea cycle and its significance? [10]
OR
Short Note: (a) Amino acid transamination
(b) Aspartate-argininosuccinate shunt
(c) Phenylketonuria
(d) Branched-chain amino acids
- Q.5 Describe the mechanism of Ketone Body formation and its [10]
significance?
OR
Short Notes: (a) Carnitine transporter
(b) Beta(β)-Oxidation of saturated fatty acids
(c) Cholesterol
(d) Glyoxysomes