

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
BE SEM-III Examination-Dec.-2011

Subject code: 130403

Date: 17/12/2011

Subject Name: Basic Biochemistry

Time: 2.30 pm -5.00 pm

Total marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Draw the TCA cycle with all necessary structures. **07**
(b) Draw Urea Cycle with all necessary structures. **07**
- Q.2** (a) Write a short on glycolysis with structural presentation. **07**
(b) Write a short note on classification of Polysaccharide. **07**
- OR**
- (b) Write a short note on classification of amino acids. **07**
- Q.3** (a) Draw pathway of even chain of fatty acid oxidation. **10**
(b) Calculate the total ATP produced when the 200 molecules of Fructose 1,6- bis phosphate enters into the Glycolysis till the end of TCA cycle. [1 NADH = 3 ATP, 1 FADH₂ = 2 ATP] **04**
- OR**
- Q.3** (a) Explain Pentose Phosphate Pathway with all necessary structures. **10**
(b) Calculate the total ATP produced when the 500 molecules of Glucose-6-phosphate enters into the Glycolysis till the end of TCA cycle. [1 NADH = 3 ATP, 1 FADH₂ = 2 ATP] **04**
- Q.4** (a) Describe the process of purine degradation with end product excretion by various organisms with structural representation. **10**
(b) What is the chemistry of nucleic acid? **04**
- OR**
- Q.4** (a) Define the term hormone. Explain the general mechanism of hormone action. **10**
(b) Enlist the hormone of pituitary glands. Explain the chemistry and physiological significances of any one in detail. **04**
- Q.5** (a) Discuss the regulation of pyrimidine biosynthesis in eukaryotic and prokaryotic system. **07**
(b) Write down the physiological significances of vitamins. **07**
- OR**
- Q.5** (a) Define the term trace element of living system. Explain the physiological significances of them. **10**
(b) Write down the chemistry, physiological significances, and daily recommended allowances of fat soluble vitamins. **04**
