KERALA AGRICULTURAL UNIVERSITY

B.Tech (Food Engg.) 2011 Admission

II[nd] Semester Final Examination, July/August 2012

Cat. No Fdqu.1201 **Marks: 80**

Title: Fundamentals of Biochemistry (2+1) **Time: 3hours**

I a. Fill up the blanks **5x1.0 = 5**

1. The monosaccharides are linked by _____ bonds in starch.
2. Amino acids react with _____ to give violet colour.
3. _____ is a saturated fatty acid.
4. Substrates bind to the _____ on the enzyme molecule.
5. The enzyme used in the hydrolysis of triglycerides is _____.

I b. State whether True or False 5 x 1.0 = 5

6. Sucrose has reducing property.
7. Prolamines are soluble in alcohol.
8. Proteins with multiple subunits exhibit quaternary structure.
9. Enzymes enhance the rate of biochemical reactions.
10. TCA cycle takes place in cytoplasm.

II. Write short notes on **any 10** of the following 10 x 3 = 30

1. Effect of temperature on enzyme action
2. Reaction of carbohydrates with acid
3. Cofactors and coenzymes
4. Triglycerides
5. 3 industrial applications of enzymes
6. Phospholipases
7. Proteolytic enzymes
8. Nutritional quality of egg
9. Algal polysaccharides
10. Classification of fatty acids
11. Properties of monosaccharides
12. Biological importance of enzymes

III. Write short essays on **any 6** of the following 6 x 5 =30

1. Give the classification of carbohydrates with examples.
2. Explain the mechanism of enzyme action.
3. Describe the sequence of reactions of β oxidation of fatty acids.
4. Describe the properties of amino acids.
5. Classify lipids and furnish examples.
6. Outline the reactions of glycolysis.
7. Describe the methods of enzyme immobilization.
8. Describe the tertiary structure of proteins.

IV. Write an essay on **any ONE** of the following 1 x 10 = 10

1. Explain the structure and function of Electron Transport Chain. What is oxidative phosphorylation.
2. Classify proteins based on solubility and functional properties.