Eastern University, Sri Lanka

Second Year Examination in Science 1st Semester (Proper) – 2005 / 2006 (Sep.2007)

BT 203 – Plant Bio-chemistry

Answer all questions

Time: 02 hrs

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1. (a). Explain "Aerobic oxidation of D-Glucose yield more entry than anaerobic oxidation.

   (b). Briefly discuss the regulatory mechanism of the following:

   (i). glycolytic sequence

   (ii). Fatty acid biosynthesis

2. (a). Outline the catabolic pathway whereby the Palmitic acid ($C_{15}H_{31}COOH$) is converted to acetyl coenzyme A.

   (b). What would be the total number of ATP molecules generated from one molecule of palmitic acid if all the acetyl coenzyme A generated was oxidized via the tri carboxylic acid (TCA) cycle (explain all your calculations).

   (c). Briefly explain how the oxidation of unsaturated fatty acids differ from the oxidation of saturated fatty acids.

3. (a). Outline how the Pentose Phosphate Pathway can supply ribose-5-phosphate for the synthesis of RNA.

   (b). Giving examples, describe the synthesis of sugars from fatty acids.

4. Write notes on the followings:

   (a). Enzymes inhibitors in foods of plant origin?

   (b). Transamination reactions in the biosynthesis of amino acids.