Eastern University, Sri Lanka

Third Year First Semester Examination in Science-2004/2005 (Jan/Feb 2006)

BT 303, Plant Biochemistry (Proper / Repeat)

Answer all questions   Time- 02 hours

1. (a) Define the term "Enzyme".   *(20 marks)*
   (b) Explain the Enzyme kinetics using Michaelis-Menten model.   *(40 marks)*
   (c) Explain the effect of competitive and non competitive inhibitors on Km and Vmax using the Line Weaver Burk plot.
                                                                     (40 marks)

2. Explain the following,
   (a) Storage forms of polysaccharides.   *(33 marks)*
   (b) Fate of Iso-citrate in Bacteria and higher plants.   *(33 marks)*
   (c) Glycolytic end product pyruvate have different fates in living cells.   *(34 marks)*

3. (a) Out line the catabolic pathway from Stearic acid(C18 : 0) to acetyl co-enzyme A.
                                                                     (70 marks)
   (b) How many ATP molecules will be generated when one molecule of Stearic acid is completely broken down to Carbon-dioxide.
                                                                     (30 marks)

4. (a) Out line the Citric Acid (TCA) cycle.   *(38 marks)*
   (b) What are the main regulatory steps at which this cycle is regulated? Explain briefly how this regulation is carried out at these steps.
                                                                     (12 marks)
   (c) Explain how TCA cycle is linked to the catabolism of proteins.   *(50 marks)*