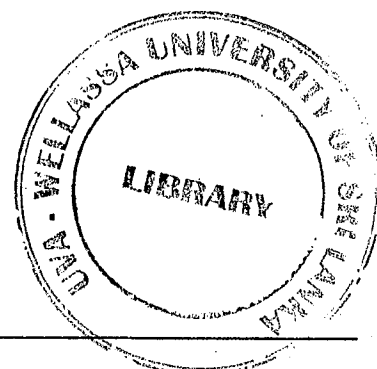




Uva Wellassa University, Sri Lanka
Btech. Science and Technology
End Semester Examination- Semester 1
December -2008



BIO 317 - 1 – Food Chemistry

Answer all the questions

Time: One (01) Hours

- (1) (I) Classify the carbohydrates by considering the individual sugar units. Support your answer by examples.
- (II) Briefly explain the optical isomerism (Enantiomerism, Epimerism and Anomerism) in Carbohydrates? (Use the structure of Glucose as a supportive molecule).
- (III) Briefly describe the structural similarity of D-Sorbitol and D-Manitol.
Why polyalcohol is an important agent in Food Industry?
- (25 Marks)
- (2) (I) What are the major kinds of water found in food. Briefly explain them.
Use a graph to support your answer.
- (II) Jells are usually made by cooling the hot aqueous mixture of sugar, acid and pectin. The high quality jells are translucent and firm enough to hold the shape. What are the factors affecting on firm jell formation?
- (25 Marks)
- (3) (I) What are the uses of fats and oils in industry? (4 Marks)
- (II) What is polyunsaturated fatty acid? Explain the term 'omega-3 fatty acid'. (7 Marks)
- (III) Compare and contrast the hydrolytic rancidity and oxidative rancidity. (14 Marks)
- (4) (I) What do you mean by protein denature?
- (II) What changes occur when proteins denature?
- (III) Name the physical and chemical agents that are responsible for protein denature and explain with examples how each of these agents acts to denature proteins.
- (25 Marks)