



KENYATTA UNIVERSITY
UNIVERSITY EXAMINATIONS 2011/2012

**FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE AND
BACHELOR OF EDUCATION**

SCH 319: FOOD-BASED INDUSTRIES

DATE: Monday 5th December 2011

TIME: 11.00 a.m -1.00 a.m

INSTRUCTIONS:

Answer ALL questions.

1. (a) Give five uses of furfural and five different chemicals which could be produced from it. [5 Marks]
(b) Describe Westpro modified Huaxia technology for production of furfural. What are main steps involved in its production? Describe these by giving an outline for the industrial continuous production of furfural. [10 Marks]
2. (a) Give a flowchart for the production of starch from cassava and discuss each step involved in its production. [10 Marks]
(b) Give at least five industrial uses of starch. [5 Marks]
3. (a) Write open chain (Fischer projection) and cyclic (Haworth projection) structures for the monosaccharaides sugar is composed of. [4 Marks]
(b) Describe in brief the production of sugar from cane sugar explaining each step involved in its production. [10 Marks]
4. (a) What is corn syrup? State the chemical process involved in its production from starch. Is starch a monosaccharide? Give the composition of constituents of starch with their structures. [10 Marks]
(b) Write the major industries producing corn syrup in East African region. [5 Marks]
5. (a) What is the approximate amount of glucose produced in the world annually? [2 Marks]
(b) What are other common names for glucose? Give four raw materials from which glucose could be produced commercially. [4 Marks]

- (c) Name the enzymes with their function used in the production of glucose. [4 Marks]
6. (a) Give the composition of milk and list at least its ten products. [8 Marks]
- (b) Describe the main steps involved in the processing of milk. [10 Marks]
7. (a) Name a vegetable and provide its botanical name. Give at least four of its products. [6 Marks]
- (b) What are the major enzymes present in tea leaves? Give the function of these during the processing of (i) black tea (ii) green tea. [9 Marks]
- (c) Write a short description of coffee harvesting and processing. [5 Marks]
8. (a) What are alcoholic beverages? How these are classified? Describe each class with suitable examples. [10 Marks]
- (b) Describe with a flow diagram the main steps involved in the manufacture of wines. [8 Marks]