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University Examinations 2012/2013

THIRD YEAR, FIRST SEMSTER, EXAMINATIONS FOR DEGREE OF BACHELOR
OF SCIENCE IN FOOD SCIENCE AND TECHNOLOGY AND FOOD SCIENCE AND
NUTRITION

AFS 2306: BEVERAGE TECHNOLOGY

DATE: AUGUST 2013

TIME: 2 HOURS

INSTRUCTIONS: Answer *one* question and any other *two* questions

QUESTION ONE – (30 MARKS)

- a) (i) Based on appearance give two types of soft drinks (2 Marks)
- (ii) Briefly describe emulsion as used in beverage technology (3 Marks)

- b) Why should water to be used for soda processing be of very high quality (5 Marks)

- c) Why is brix measurement useful in soft drinks and soda industries? (7 Marks)
- d) Explain what you understand by “syrup shrinkage” (3 Marks)
- e) Based on solubility, what are the different types of flavours used in sodas. (4 Marks)

- f) Use a well labeled diagram to show the main steps in manufacture of concentrated juice. (6 Marks)

QUESTION TWO– (20 MARKS)

- a) Define the following: (10 Marks)
 - i. Natural mineral water
 - ii. Spring water
 - iii. Flavoured water
 - iv. Adsorbent regeneration
 - v. Functional drinks

- b) Using examples, what is the difference between filtration and adsorption as used in water treatment? (4 Marks)

- c) Using diagrams differentiate dead-end filtration and cross-flow filtration (6 Marks)

QUESTION THREE – (20 MARKS)

- a) Briefly explain the following as used in lager beers;
 - i. The basis of weight loss during malting
 - ii. Basis of stack fermentation in manufacture of wines.
 - iii. Basis of spoilage of large beers and wines

(9 Marks)
- b) Differentiate the following;
 - i. Rindling and disgorging
 - ii. Gushing and head of beer

(4 Marks)
- c) Differentiate between Pasteur effect and crab tree effect in fermented beverages.

(4 Marks)
- d) Why would it be necessary to regenerate adsorbent used in wine processing?

(3 Marks)

QUESTION FOUR– (20 MARKS)

- a) Explain how tea leaves harvesting and transportation may affect quality of final made black tea

(6 Marks)
- b) With aid of diagrams. Discuss sorting and grading of black CTC teas .

(6 Marks)
- c) Give benefits of drying fermented tea leaves.

(8 Marks)

QUESTION FIVE – (20 MARKS)

- a) Describe how fermentation is done and its significance in coffee processing.

(5 Marks)
- b) Describe washing and soaking as used in coffee processing.

(4 Marks)
- c) Describe the six stages in drying wet parchment in coffee technology.

(6 Marks)
- d) Describe coffee beans roasting as unit operations

(5 Marks)