



MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY

P.O. Box 972-60200 – Meru-Kenya.

Tel: 020-2069349, 061-2309217. 064-30320 Cell phone: +254 712524293,

+254 789151411

Fax: 064-30321

Website: www.must.ac.ke Email: info@must.ac.ke

University Examinations 2013/2014

THIRD YEAR, FIRST SEMESTER EXAMINATIONS FOR DEGREE OF BACHELOR OF
SCIENCE IN FOOD TECHNOLOGY

AND

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

AFS 2307: SUGAR AND CONFECTIONERY TECHNOLOGY

DATE: APRIL 2014

TIME: 2 HOURS

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

QUESTION ONE – (30 MARKS)

(a) Define the following terms as used in the sugar and confectionery industry.

(5 Marks)

- (i) Bagasse
- (ii) Imbibition
- (iii) Absolute juice
- (iv) Mixed juice
- (v) Milk chocolate

(b) Differentiate the following.

(10 Marks)

- (i) Primary and secondary juice
- (ii) Imbibition and dilution
- (iii) Pol, brix and purity
- (iv) Dark chocolate and white chocolate
- (v) Gravity purity and true purity

- (c) Chocolate is almost unique as a food in that it is solid at normal room temperatures yet melts easily within the mouth. Explain this statement. (5 Marks)
- (d) With the aid of a diagram briefly describe the two forms of imbibitions in sugar manufacture. (6 Marks)
- (e) In modern tandem, theoretical sucrose extraction is 97% for sugar cane with fiber content of up to 10% but each additional percentage fiber in the sugar cane will retain approximately 0.6% of sucrose. Calculate the percentage theoretical sucrose extraction if the fiber content of the harvested sugarcane is 19%. (4 Marks)

QUESTION TWO – (20 MARKS)

- (a) Discuss the factors affecting mill capacity in a sugar cane factory. (10 Marks)
- (b) With the aid of a flow diagram outline the three stage sugar boiling process. (10 Marks)

QUESTION THREE – (20 MARKS)

- (a) Write short notes on the following: (10 Marks)
- (i) Chocolate milling
 - (ii) Chocolate crumb
- (b) Discuss the chocolate conching process. (10 Marks)

QUESTION FOUR – (20 MARKS)

Discuss the various methods used in sugar cane juice clarification. (20 Marks)