

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS.

THIRD YEAR EXAMINATION FOR THE AWARD OF DEGREE
OF BACHELOR OF SCIENCE IN BIOCHEMISTRY

BIOC 315: BIOCHEMISTRY OF FOOD PROCESSING

STREAMS: BS.c (BIOCHEMISTRY)

TIME: 2 HOURS

DAY/DATE: WEDNESDAY 10/04/2019

2.30 P.M - 4.30 P.M.

INSTRUCTIONS:

- Answer Question ONE and any other TWO Questions
- Do not write anything on the question paper

QUESTION ONE: [30 MARKS]

- (a) Discuss the significance of food processing in food industries. [5 Marks]
- (b) Define the following terminologies in food processing. [5 Marks]
- (i) Rancidity
 - (ii) Food additives
- (c) Differentiate between *Ultra filtration* and *ultrasonication*. [5 Marks]
- (d) Describe the possible causes of declined consumption of beef in the recent years and an increased demand for pork and chicken. [5 Marks]
- (e) Describe how refrigeration and freezing are used differently in food processing. [5 Marks]
- (f) Describe the methods used in starch modification processes. [5 Marks]

QUESTION TWO: [20 MARKS]

- (a) Differentiate between maillard reaction and caramelization as applied in food processing. [10 Marks]
- (b) Describe the significance (if any) of microorganisms in the food industry. [10 Marks]

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QUESTION THREE: [20 MARKS]

(a) Describe the possible causes of food spoilage during food handling, storage and processing. [10 Marks]

(b) Describe the various types of pectins as used in food biochemistry. [10 Marks]

QUESTION FOUR: [20 MARKS]

(a) Using suitable examples, explain the importance of micro-organisms in foods and food products. [10 Marks]

(b) Using relevant examples, describe the various changes that occur during food processing. [10 Marks]

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