

CHUKA



UNIVERSITY

## UNIVERSITY EXAMINATIONS

**SECOND YEAR EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE IN BIOCHEMISTRY**

**BIOC 312: BIOCHEMISTRY OF FOOD PROCESSING**

**STREAMS: BSC BIOCHEM Y3S2**

**TIME: 2 HOURS**

**DAY/DATE: TUESDAY 10/04/2018**

**11.30 A.M - 1.30 P.M**

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**INSTRUCTION:**

- **Answer question one and any other two questions**
- **Do not write on the question paper**

1. (a) Briefly describe the changes that occur during food processing. [5marks]  
(b) Differentiate between the following terminologies in food processing. [5marks]
  - (i) Rancidity
  - (ii) Food additives
  - (iii) Rheology
  - (iv) Caramelization
  - (v) Flavor(c) Differentiate between: Humectancy and hygroscopy. [5marks]  
(d) Differentiate the following terminologies: [5marks]
  - (i) *Ultra filtration*
  - (ii) *Ultrasonication*(e) Write short notes on the types of protein in foods. [5marks]

(f) In recent years has been a decline in consumption of beef, accompanied by slight increase in pork and an increased demand for chicken. State the reason for this.

[5marks]

2. (a) Describe the process of caramelization in browning reactions during food processing.

[10marks]

(b) Elucidate the industrial uses of pectins in food processing.

[10marks]

3. (a) Describe the chemistry of deterioration of flavors if lipids food. Give an example and reason for such associations.

[10marks]

(b) With examples, describe the major cause of food spoilage.

[10marks]

4. Using suitable examples, explain the importance of micro-organisms in foods and food products.

[10marks]

(b) Starch cannot be modified.

[10marks]

(i) True or false? Explain your answer.

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