

CHUKA UNIVERSITY
UNIVERSITY EXAMINATIONS 2020/2021
SECOND SEMESTER EXAMINATION
BIOC 315: BIOCHEMISTRY OF FOOD PROCESSING

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

Questions

1. Question 1 (Compulsory) (30 marks)

- a). (i) Define humectancy and its significance in food processing. (3 marks)
- (ii) Describe the link between connective tissue and meat tenderness (3 marks)
- b) Describe the cause of non- bacterial food contamination. (5 marks)
- c). Describe the interaction between food and food packaging materials. (5 marks)
- d) Define the following terms
 - (i) Blanching. (1 marks)
 - (ii). Hurdle technology. (1 mark)
 - (iii). caramelization. (1 mark)
 - (iv). Maillard reaction. (1 mark)
- e). Explain the effects of anti-nutritive components in food. (5 marks)
- f). Explain the importance of food additives. (5 marks)

2. Question 2 (20 marks)

- a) Describe four major bacteria which cause food-borne illness and the associated symptoms and prevention measures (12 marks)
- b) Explain the health concerns associated with fibre in diet (4 marks)
- c) Despite their health concerns, give the rationale why plastic are still used as packaging material. (4 marks)

3. Question 3 (20 marks)

- a) Describe in details the biochemical changes which occurs during milk processing and their significance. (10 Marks)
- b) Describe biochemical changes on meat after the animal is slaughtered. (6 marks)
- c) Describe the functional characteristics of eggs (4 marks)

4. Question 4 (20 marks)

- a) Explain the effects of enzymes on food quality and their applications in food processing. (10 marks)

b) Describe in details toxic constituents found in food and their effects. (10 marks)