



NATIONAL OPEN UNIVERSITY OF NIGERIA

University Village, Nnamdi Azikiwe Expressway, Plot 91, Cadastral Zone, Jabi, Abuja

Faculty of Agricultural Sciences, Dept. of Agricultural Economics and Extension,

PoP Examination Questions, 2021 Academic Session

Course Title: Advance Food and Beverage Production

Course Code: HCM 431

Credit Unit: 2 Units

Total Score: 70 Marks

Time Allowed: 2hrs

Instruction: Answer 3 Questions Only.

Q1. (a) Enumerate the beneficial and harmful effects of microorganisms to man, plant or animal and their environment. (11 marks)

- (b) List the different types of light microscopes. (5 marks)
- (c) List the varieties of arrangement for cocci cells. (3 marks)
- (d) List the different staining techniques. (5 marks)

Q2 (a) Enumerate the conditions that influence the effectiveness of antimicrobial agents. (6marks)

- (b) Discuss the sources of contaminations in foods. (9 marks)
- (c) State 4 reasons for keeping food commodities from spoilage. (4 marks)
- (d) Outline 4 of the effects of spoilage on the various food commodities. (4marks)

Q3 (a) Outline the major categories of E. coli strains that cause enteric diseases in humans. (6 marks)

- (b) Discuss the importance of food sanitation. (9 marks)
- (c) Discuss the spoilage of fresh fish. (8 marks)

Q4 (a) What do you understand by food spoilage? (4 marks)

- (b) Comment on the following:
 - (i) Moisture loss (4 marks)
 - (ii) Enzyme action in the food (7 marks)
- (c) Enumerate the tips for keeping food spoilage in the restaurant kitchen to a minimum. (4marks)
- (d) Comment briefly on the spoilage of Fruits and Vegetables. (4 marks)