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University Examinations 2024/2025

FOURTHYEAR FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN FOOD SCIENCE AND TECHNOLOGY

AFT 3404: SENSORY EVALUATION OF FOODS

DATE: JANUARY 2025   **TIME: 2 HOURS**

INSTRUCTIONS:
- *Answer Question one and any other two Questions*

QUESTION ONE (30 MARKS)

a) State four (4) reasons why is it important to use formalized sensory methodology in food evaluation.

(4 marks)

b) i) Highlight three (3) factors that introduce variability and also affect human perception and judgment during sensory evaluation. (3 marks)

ii) Describe two (2) measures commonly employed to minimize the influence of variability and bias, during sensory evaluation. (2 marks)

c) i) Distinguish between discrimination tests and descriptive analysis. (2 marks)

ii) Give one (1) example of each of the above tests and explain their purpose in sensory analysis.

(3 marks)

d) Compare and contrast two (2) types of scales used in sensory measurements. (5 marks)

e) Highlight five (5) key roles of sensory professionals in organizing and conducting sensory tests.

(5 marks)

f) Explain the order in which sensory attributes such as appearance, aroma, texture, and flavor are perceived when tasting a food product. (6 marks)

QUESTION TWO (20 MARKS)

The director of packaging of a confection company wishes to test the effectiveness of a new foil-lined packaging material against the paper wrap currently being used for candy bars. Preliminary observation shows that paper-wrapped bars begin to show harder texture after 3 months while foil-wrapped bars remain soft. The director feels that if he can show a significant difference at 3 months, he can justify a switch in wrap for the product.

    i.   While describing the appropriate sensory test to use, describe the recruitment of panelists, and how you would collect and analyze the data.   (20 marks)

Additional information:

- Test subjects available for the sensory study are 30-36 individuals
- Of the 30 subjects who showed up for the test, 17 correctly identified the odd sample

QUESTION THREE (20 MARKS)

a) Discuss how sensory data from consumer affective tests can be analyzed to provide insights for new product development.   (10 marks)

b) Describe five (5) types of bias that may be caused by the order of presentation of samples.   (5 marks)

c) Explain the importance of using scales in sensory measurement.   (5 marks)

QUESTION FOUR (20 MARKS)

a) Discuss three (3) major categories under which variables must be controlled to ensure that the results of a sensory test accurately measure the true product differences under investigation.   (15 marks)

b) Describe the procedure for designing a sensory experiment to compare two competing beverages, including considerations for data collection and analysis.   (5 marks)