



1ST SEM. 2010/2011

PAGE 1 OF 3

UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER

**PROGRAMME : FOOD SCIENCE, NUTRITION AND
TECHNOLOGY YEAR II**

COURSE CODE : FSNT 202

TITLE OF PAPER : SENSORY EVALUATION

TIME ALLOWED : TWO (2) HOURS

**INSTRUCTIONS : ANSWER QUESTION ONE (1)
AND ANY OTHER (2) QUESTIONS**

**DO NOT OPEN THIS PAPER UNTIL PERMISSION HAS BEEN
GRANTED BY THE CHIEF INVIGILATOR**

QUESTION 1 [COMPULSORY]

- a) What roles does each of the following senses play in sensory analysis?
- i. Taste
 - ii. Smell
 - iii. Sight

[15 marks]

- b) Define each of the following terms:
- i. Sensory analysis
 - ii. Texture
 - iii. Flavour

[7 marks]

- c) Explain the factors that might affect each of the following:
- i. Odour assessment
 - ii. Tasting ability
 - iii. Colour vision/assessment

[18 marks]

[Total = 40 marks]

QUESTION 2

- a) Discuss **four** appliances that are required in a sensory evaluation preparation area.
- b) Explain why climate control is important in a sensory evaluation area.
- c) Discuss the sensory test protocol considerations under the following headings:
- i. Sample serving temperatures
 - ii. Serving containers
 - iii. Instruction to panelists

[12 marks]

- d) A panel of 40 assessors is offered two drinks samples: A (753) and B (934) in a one sided Directional Difference test. 19 Panelists preferred A and 21 Panelists preferred B. State the null and the alternative hypothesis for this test and give the appropriate conclusion. Use statistical table, $\alpha = 0.05$.

[6 marks]

[Total = 30 marks]

QUESTION 3

- a) Randomization and blind labeling are important during preparation of sensory tests. Answer the following questions with regard to randomization and blind labeling:
- i. Why is randomization and blind labeling important? [5 Marks]
 - ii. Explain each of the following terms:
 - Donkey's vote
 - Position bias
 - Contrast effect[6 Marks]
 - iii. Indicate how you can balance a presentation of three samples [4 Marks]
 - iv. Explain ways in which you can present samples to 24 panelists using a difference paired comparison test [5 marks]
- b) Discuss **two** errors that may occur during sensory evaluation of food samples. [5 marks]
- c) Discuss **two** types of statistical tools that can be used to analyze sensory data. [5 Marks]

[Total = 30 marks]

QUESTION 4

- a) Describe how a quantitative descriptive analysis is performed. [8 marks]
- b) Discuss the importance of conducting sensory tests during:
- i. New product development [3 Marks]
 - ii. Product improvement [5 Marks]
 - iii. Assessment of market potential [4 Marks]
 - iv. Product maintenance [4 Marks]
- c) Prepare a questionnaire for a triangle test using products of your choice. [6 marks]

[Total = 30 marks]

Statistical Tables for Sensory Tests

Table A

Critical Values for difference tests

n α	Directional difference or Duo-trio				Triangle test	
	One-sided		Two-sided		0.05	0.01
	0.05	0.01	0.05	0.01		
1	-	-	-	-	-	-
2	-	-	-	-	-	-
3	-	-	-	-	-	-
4	-	-	-	-	-	-
5	5	-	-	-	4	-
6	6	-	6	-	5	-
7	7	7	7	-	5	6
8	7	8	8	8	6	7
9	8	9	8	9	6	7
10	9	10	9	10	7	8
11	9	10	10	11	7	8
12	10	11	10	11	8	9
13	10	12	11	12	8	9
14	11	12	12	13	9	10
15	12	13	12	13	9	10
16	12	14	13	14	9	11
17	13	14	13	15	10	11
18	13	15	14	15	10	12
19	14	15	15	16	11	12
20	15	16	15	17	11	13
25	18	19	18	20	13	15
30	20	22	21	23	15	17
35	23	25	24	26	17	19
40	26	28	27	29	19	21
45	29	31	30	32	21	23
50	32	34	33	35	23	25
60	37	40	39	41	27	29
70	43	46	44	47	31	33
80	48	51	50	52	34	37
90	54	57	55	58	38	41
100	59	63	61	64	42	45