

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION (ONLINE) SEMESTER I SESSION 2020/2021

COURSE NAME

SENSORY EVALUATION OF

FOOD

COURSE CODE

BWD 30803

PROGRAMME CODE

BWD

EXAMINATION DATE

JANUARY / FEBRUARY 2021

DURATION

3 HOURS

INSTRUCTION

ANSWER ALL QUESTIONS

OPEN BOOK EXAMINATION

THIS QUESTION PAPER CONSISTS OF EIGHT (8) PAGES

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Q1 a) Human uses sight, smell, touch, taste and hearing senses when tasting food and drink. Daisy baked a pizza as shown in Flgure Q1(a) for a birthday party. However, she founds out her pizza was not a crowd favourite. Analyze elements that can be changed and controlled to improve the sensory perception of Daisy's pizza

(5 marks)

b) In sensory testing, psychological factors can easily affect human decisions. As a food technologist of a beverage company, you have been assigned to conduct discriminative test on carbonated fruit juice. What will be your plan in sample presentation to avoid psychological error in the sensory test? You may include illustration in your plan.

(15 marks)

Q2 a) Percentage of sugar in muffin produced by ABC Sdn Bhd is 70% based on the weight of flour used. ABC Sdn Bhd has decided to reduce the percentage to 60% due to demand from customer on less sugar products. Elaborate an appropriate sensory test that can be conducted by the company before introducing the product to the market.

(10 marks)

b) Results of the sensory test conducted in Q2(a) shows that the tastes are not significantly different from each other. Therefore, ABC Sdn Bhd plans to further reduce the sugar concentration in the product by 30%. The concentration of sugar in the new product is ranged between 40% and 60%. The company is looking for a formulation that has similar taste as the original product. Plan a suitable sensory test for the company to achieve their objective.

(10 marks)

Q3 a) Company A decided to carry out a market assessment of crispiness of potato chips. They decided to carry out a ranking test on four leading brands R, S, T, and U. A panel of 15 panelists participated in the test. **Table Q3(a)** summarizes the results. Assume $t_{\alpha/2\infty}$ is 1.96 at significance level of 5%. Examine the ranking of the products by presenting the significant different from each other.

(5 marks)

b) The quality control department of C'manis Enterprise usually employs triangle test to ensure consistency of their product. Recently, they decided to have a routine sensory evaluation for every batch of cookies produced. Due to the high demand of their product, they need the outcome off the evaluation to be quickly available to ensure continuous production. Propose an alternative sensory test for this company.

(15 marks)

A research and development division in bread manufacturing industry evaluated their new product of gluten-free seeded and unseeded breads. Colour, taste, flavour and texture are the attributes that affected the overall acceptability of the new product.

a) Sensory scores collected is shown in **Table Q4(a)**. Assume the formulation are similar for all four types of seeded and unseeded breads. Discuss the acceptability of both types of bread for each sensory attribute evaluated

(5 marks)

b) **Table Q4(b)** shows a tabulated data of texture of the test breads. Interpret the data by calculating their sum of squares of total, panelists, products and error.

(15 marks)

- A new fruit yogurt produced by Naura Enterprise, which is an SME registered company, will be launched to the market next month. Appearance and colour, texture, aroma, sweetness and the overall taste of the new product have been evaluated before launching. However, the results of the evaluation are not satisfactorily presentable.
 - a) Identify the problem occurs in this situation and describe **THREE** (3) methods of data interpretation.

(10 marks)

b) The scores of 9-point Hedonic Scale of the test is given in **Table Q5(a)**. Convert the data into a presentable result.

(10 marks)

-END OF QUESTION-



SEMESTER / SESSION: SEM I / 2020/2021

PROGRAMME CODE : BWD

COURSE NAME : SENSORY EVALUATION COURSE CODE : BWD 30803

OF FOOD



Figure Q1(a)



SEMESTER / SESSION: SEM I / 2020/2021

OF FOOD

PROGRAMME CODE : BWD

COURSE NAME

: SENSORY EVALUATION COURSE CODE : BWD 30803

Table Q3(a)

No. of panelists	R	S	Т	U
1	1	3	2	4
2	1	2	3	4
3	1	2	4	3
4	2	1	3	4
5	1	3	2	4
6	3	1	2	4
7	1	3	2	4
8	1	3	2	4
9	3	2	1	4
10	1	3	4	2
11	1	2	3	4
12	1	2.	3	4
13	1	2	4	3
14	3	1	2	4
15	1	3	?	4



SEMESTER / SESSION: SEM I / 2020/2021

OF FOOD

PROGRAMME CODE : BWD

COURSE NAME

: SENSORY EVALUATION

COURSE CODE : BWD 30803

Table Q4(a)

				Sensor	y scores			
	Gluten-free seeded bread			Gluten-free unseeded bread				
	256	341	127	298	325	247	163	367
Colou	6.6	6.4	7.5	5.6	5.3	6.4	7.8	3.7
Taste	5	4	4.6	5.6	6.3	6.8	4.5	3.3
Flavour	3.6	5.1	4.3	4	6.5	5.1	4.9	3.7
Texture	5.1	5	5.7	4.6	7.9	6.8	7.3	4.8



SEMESTER / SESSION: SEM I / 2020/2021

PROGRAMME CODE : BWD

COURSE NAME

: SENSORY EVALUATION

OF FOOD

COURSE CODE : BWD 30803

Table Q4(b)

	Sensory scores						
Panellists	Control white bread	Gluten-free seeded bread	Gluten-free unseeded bread				
1	4.8	7.8	5.5				
2	5.8	6.3	6.0				
3	5.6	6.5	5.0				
4	3.8	5.9	4.8				
5	5.0	8.1	5.8				
6	5.3	6.2	5.2				
7	4.0	7.7	4.7				
8	4.6	7.6	4.0				
9	5.7	6.4	4.0				
10	4.4	8.5	5.2				



SEMESTER / SESSION: SEM I / 2020/2021

PROGRAMME CODE : BWD

COURSE NAME SENSORY EVALUATION

OF FOOD

COURSE CODE · BWD 30803

Table Q5(a)

Panellists	Appearance and colour	Texture	Aroma	Sweetness	Overall
1	5	6	7	4	6
2	6	5	9	6	6
3	5	5	9	6	7
4	3	4	6	4	8
5	4	7	8	5	8
6	4	8	5	7	5
7	3	6	9	5	7
8	7	5	7	4	8
9	5	5	7	6	6
10	5	6	7	8	7
11	4	8	6	5	7