

Total number of printed pages: 3

UG/6th /UFET602

2024

FOOD ANALYSIS, QUALITY CONTROL AND MANAGEMENT*Full Marks : 100*

Time : Three hours

*The figures in the margin indicate full marks for the questions.**Answer any five questions.*

1.	a)	Explain triangle and duo-trio test	4
	b)	Define the followings: Quality Control, Quality Assurance, HACCP, Chroma, Papillae, Sensory Evaluation	6
	c)	Explain Texture Profile Analysis test of a food sample.	10
2.	a)	Explain the seven principles of HACCP? Show the decision tree method to determine the CCP in a HACCP system	10
	b)	Justify the title of the subject?	3
	c)	Define food adulteration? How many types of adulterants are there? State the name and test for adulterants used in ghee and turmeric.	7
3.	a)	i) What are the variables involved for TPA graphical representation. ii) Mention the name and place of Central Food Laboratory of India iii) What is the primary objective of quality control? iv) What is subjective method of quality control? v) What are the main aspects of quality control?	5
	b)	. A quality control inspector at the beverage company has taken ten samples with four observations each of the volume of bottles are filled. The data and computed mean are shown in the table. If standard deviation of the bottling operation is 0.16 ounces use this information to develop, i) Control limits of three standard deviations for the bottling operation and prepare the control charts. ii) Average range, range charts and mean (X) bar chart. Use the value of $A_2 = 0.73$, $D_4 = 2.28$ and $D_3 = 0$	10

	Sl No.	Sample No.	Observations				
	1.	1.	15.74	15.12	16.02	15.36	
	2.	2.	16.02	15.84	16.18	16.08	
	3.	3.	16.14	15.41	15.23	15.71	
	4.	4.	15.23	15.36	15.41	16.10	
	5.	5.	15.35	15.74	15.84	16.08	
	6.	6.	15.71	16.08	16.12	15.74	
	7.	7.	16.05	16.21	16.03	15.23	
	8.	8.	15.85	16.14	15.41	15.41	
	9.	9.	15.42	15.80	15.55	15.32	
	10.	10.	16.18	15.51	15.64	16.21	
	c)	Explain PDSA cycle process. What is the significance of it quality management?					5
4.	a)	What are the seven features of TQM which are combined to create the TQM philosophy?					10
	b)	What are the different types of statically quality control tool used in food industries? Explain any three statically quality with its significance.					10
5.	a)	What are the ISO 9000 and ISO 14000? What are the difference between ISO 9000 and ISO 22000					8
	b)	How control charts can be constructed? Explain					8
	c)	What are the different sensory tests employed for food evaluation? Explain duo-trio test and Monadic test					4
6.	a)	Explain the role of food laws, officials, inspections and consumer expectations as regards for food quality and safety with a schematic diagram					4
	b)	i) What is the role of sensitivity test in sensory evaluation ii) Which papillae are present around the bitter sensing taste bud? iii) When was PFA formed? iv) What is the primary objective of quality control?					4
	c)	Write short notes on:					4*3

		i) PFA ii) Codex Alimentarius Commission iii) BIS	
7.	a)	Explain how color of food sample can be measured.	8
	b)	Define process capability and process capability index. What does it mean when $C_p=1$, $C_p>1$ and $C_p<1$. What is the use of ' C_p ' value in quality control	5
	c)	Write a note on FSSAI with its governing structure and functions for food safety.	7

