VIVEKANANDHA COLLEGE OF ENGINEERING FOR WOMEN
[AUTONOMOUS INSTITUTION AFFILIATED TO ANNA UNIVERSITY, CHENNAI]
Elayampalayam – 637 205, Tiruchengode, Namakkal Dt., Tamil Nadu.

Question Paper Code: 9016

B.E. / B. Tech. DEGREE END-SEMESTER EXAMINATIONS – MAY / JUNE 2024
Sixth Semester
Biotechnology
U19BTV41 – FOOD PROCESSING AND PRESERVATION TECHNIQUES
(Regulation 2019)

Time: Three Hours   Maximum: 100 Marks

Answer ALL the questions

Knowledge Levels (KL)	K1 – Remembering	K3 – Applying	K5 - Evaluating
	K2 – Understanding	K4 – Analyzing	K6 - Creating

PART – A

(10 x 2 = 20 Marks)

Q.No.	Questions	Marks	KL	CO
1.	What are the role of additives in the food industry?	2	K1	CO1
2.	What are food flavors? Give its classification.	2	K1	CO1
3.	What is water activity? Define its role in food.	2	K1	CO2
4.	Explain the principle behind flash peeling and its advantages in the food processing industry.	2	K2	CO2
5.	Define blanching.	2	K2	CO3
6.	Define cold extrusion and its benefits over hot extrusion.	2	K2	CO3
7.	Write short notes on food spoilage.	2	K2	CO4
8.	What are the two types of equipment commonly used for chilling in the food industry and their specific applications?	2	K1	CO4
9.	Brief the essential information that should be included in the food labeling of a packaged product.	2	K2	CO5
10.	Explain the purpose of coating in food processing.	2	K2	CO5

PART – B

(5 x 13 = 65 Marks)

Q.No.	Questions	Marks	KL	CO
11. a)	Discuss the concept of energy value in foods. Compare the energy values of proteins, carbohydrates, and fats. Explain how this information is crucial for dietary planning.	13	K2	CO1

	b)	Discuss the use of biotechnology to develop flavors in the food industry. Highlight any advantages and challenges associated with this approach.	13	K3	CO1
12.	a)	Explain the use of cyclone separators, color separators, and grading techniques in the separation and classification of raw materials. Highlight the specific applications of each method.	13	K2	CO2

(OR)

	b)	Explain briefly about different raw material cleaning methods.	13	K2	CO2
13.	a)	What are the four stages of drying? Explain in brief and list some applications.	13	K3	CO3

(OR)

	b)	Explain different methods of pasteurization.	13	K3	CO3
14.	a)	Discuss in detail how the modified atmospheric storage contributes to extending the shelf life of meat, grains, seeds, flour, roots, and tubers.	13	K4	CO4

(OR)

	b)	Explain in detail about food spoilage. What are Physical, enzymatic, chemical, and biological spoilage?	13	K2	CO4
15.	a)	Explain the significance of Controlled Atmospheric Packaging (CAP) in extending the shelf life of fresh produce. Provide an example of a fruit or vegetable that benefits from CAP.	13	K3	CO5

(OR)

	b)	Define the principles of HACCP (Hazard Analysis Critical Control Points) and explain its significance in food safety.	13	K4	CO5

PART – C

(1 x 15 = 15 Marks)

Q.No.		Questions	Marks	KL	CO
16.	a)	Discuss in detail about the types of extruders based on construction with the help of clearly labelled diagram.	15	K3	CO3

(OR)

	b)	Identify and elaborate on two recent trends in the food processing technologies. Discuss how these trends contribute to sustainability in the food industry.	15	K6	CO3