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GIET UNIVERSITY, GUNUPUR – 765022

B. Tech (Seventh Semester – Regular) Examinations, November – 2022

BPEBT7010 – Food Biotechnology

(Biotechnology)

Time: 3 hrs

Maximum: 70 Marks

Answer ALL Questions

The figures in the right hand margin indicate marks.

PART – A: (Multiple Choice Questions)

(1 x 10 = 10 Marks)

- Q.1. Answer ALL questions** [CO#] [PO#]
- a. Among these antioxidants, which one is used to prevent oxidation of fats by molecular oxygen? CO3 PO1
- (i) Butylated hydroxyanisole (ii) Butylated hydroxyl toluene
(iii) Propyl Gallate (iv) All of these
- b. Which is Fat soluble vitamin CO1 PO1
- (i) A (ii) B
(iii) C (iv) None of these
- c. A substance intentionally added that preserves flavour and improves taste is called? CO1 PO1
- (i) Food adulterant (ii) Food contaminant
(iii) Food additive (iv) Food component
- d. Carotenoids belongs to which category among these? CO1 PO1
- (i) Carbohydrates (ii) Fatty acids
(iii) Pigments (iv) Flavenoids
- e. Fruits and vegetables discolour when bruised or cut due to CO4 PO1
- (i) Dehydration (ii) Enzymatic browning
(iii) Sulfiting (iv) Caramelization
- f. At what temperature refrigerator ensures to maintain the safety and quality of stored food? CO3 PO1
- (i) 40°F (ii) 30°F
(iii) 45°F (iv) 35°F
- g. Two factors that accelerate rancidity in food products are CO3 PO1
- (i) Light and moisture (ii) Light and soluble minerals
(iii) Temperature and light (iv) Light and oxygen
- h. Protein is required for CO1 PO1
- (i) Absorption of water (ii) Proper bowel function
(iii) Production of antibodies (iv) Bacteria inhibition
- i. What is the composition of egg? CO1 PO1
- (i) Water: 65%; Protein: 12%, and fat: 17% (ii) Water: 45%; Protein: 22%, and fat: 27%.
(iii) Water: 55%; Protein: 22%, and fat: 17%. (iv) None
- j. Which of the following food processing operations is NOT for cooling food products? CO3 PO1
- (i) Air blast (ii) Ice water bath
(iii) Extrusion (iv) Vacuum oven

PART – B: (Short Answer Questions)**(2 x 10 = 20 Marks)**Q.2. Answer ALL questions

	[CO#]	[PO#]
a. What are vitamins? What are effects of vitamin K and C deficiencies?	CO1	PO1
b. List out some of the natural colourants and their source.	CO1	PO1
c. What are Food preservatives?	CO3	PO1
d. What factors determine the odour threshold value of aroma compounds?	CO1	PO1
e. What is the reason for the characteristic porosity of breads and cakes?	CO2	PO1
f. Define Immobilized enzymes.	CO2	PO1
g. What are the conditions required for whole egg pasteurization?	CO3	PO2
h. What is botulism?	CO4	PO1
i. What is the role of radiations in food preservation?	CO3	PO2
j. What are the factors responsible for spoilage of meat?	CO4	PO1

PART – C: (Long Answer Questions)**(10 x 4 = 40 Marks)**Answer ALL questions

	Marks	[CO#]	[PO#]
3. a. Elaborate the functional properties of food and role of carbohydrate, protein, lipid and vitamins in contributing textural characteristics.	5	CO1	PO2
b. Explain briefly about food colorants and flavors.	5	CO1	PO1
(OR)			
c. Describe the steps involved in food fermentation.	5	CO1	PO1
d. What are the functional characteristics of chemical additives? Classify the different additives used in food industry, giving one example for each class.	5	CO3	PO1
4. a. Discuss about the role of protease in cheese making?	5	CO2	PO2
b. Write short notes on immobilized enzyme in food biotechnology.	5	CO2	PO1
(OR)			
c. Discuss the production of value-added products from food waste.	5	CO2	PO2
d. How are enzymes useful as processing aids in confectionary and edible oil industry?	5	CO2	PO6
5. a. What is parboiling of paddy? How does nutritional characteristics change due to parboiling?	5	CO3	PO2
b. Give a note on pasteurization, blanching and thermal death curves of micro organism.	5	CO3	PO2
(OR)			
c. Give a brief explanation about the factors responsible for spoilage food.	5	CO3	PO1
d. Give an account on Low temperature food preservation methods.	5	CO3	PO6
6. a. Discuss food borne diseases with suitable examples.	5	CO4	PO1
b. Discuss about the spoilage of Vegetables and fruits.	5	CO4	PO1
(OR)			
c. Discuss the microbiology of dairy products.	5	CO4	PO1
d. Discuss the spoilage of Meat and meat products.	5	CO4	PO1

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