QPC: RN20BTECH627 AR 20 Reg. No | | | | | | | | | | |

GIET UNIVERSITY, GUNUPUR – 765022

B. Tech (Seventh Semester – Regular) Examinations, November – 2023

BPEAG7011 - Food Packaging Technology

(Age)

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.	Packaging of food is a method of _____		CO1	PO2
	(i) Food adulteration	(ii) Food preservation		
	(iii) Food irradiation	(iv) None of the above		
b.	Which of the following is the abrasion resistance layer in a retort pouch?		CO3	PO2
	(i) Polypropylene	(ii) Nylon		
	(iii) Aluminum Foil	(iv) Polyester		
c.	Which of the following is used in making carrier bags?		CO2	PO1
	(i) PP	(ii) LDPE		
	(iii) PVC	(iv) PET		
d.	What type of active packaging is applicable to fruits?		CO2	PO2
	(i) Oxygen absorbers	(ii) Moisture absorbers		
	(iii) Ethylene absorber	(iv) Carbon dioxide absorbers		
e.	_____ is used as Protective layer in steel.		CO3	PO2
	(i) Chromium	(ii) Aluminium		
	(iii) Boron	(iv) Iron		
f.	_____ and _____ are used to make edible packaging material.		CO2	PO1
	(i) Minerals and vitamins	(ii) Proteins and vitamins		
	(iii) Water and proteins	(iv) Proteins and carbohydrates		
g.	_____ is the most common metal material used for food can.		CO2	PO1
	(i) Tin plate	(ii) Stainless steel		
	(iii) Aluminium	(iv) Alloy steel		
h.	_____ is a common example of an odor absorber.		CO2	PO1
	(i) Cyclodextrin	(ii) Peroxidase		
	(iii) Ethene	(iv) Dextrin		
i.	The term “blow moulding” is used during the production of _____		CO3	PO1
	(i) Plastic bottles	(ii) Metal can		
	(iii) Plastic laminates	(iv) All of the above		
j.	The packaging materials used in Flexible packaging are		CO1	PO2
	(i) Glass, Metal and Plastic Container	(ii) Lined Carton		
	(iii) Aluminium Foil	(iv) Folding Carton		

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

Q.2. Answer *ALL* questions	[CO#]	[PO#]
a. Define package and Packaging.	CO1	PO2
b. Define Thermoset and Thermoplastics use as packaging of Food Products.	CO2	PO3
c. State the characteristics of Polyolefins Group widely used plastic in Food Packaging.	CO3	PO2
d. Define foodborne infection and foodborne intoxication .	CO4	PO3
e. State the characteristics of steel metal use as Food packaging.	CO3	PO2
f. State the different forms of paper use for Packaging of Food products.	CO1	PO1
g. Define shelf-life of food and express the necessary parameters to predict the shelf-life of a moisture sensitive food.	CO2	PO2
h. State the differentiate between vacuum and gas packaging.	CO4	PO2
i. Explain in short "Enzymatic Browning" Spoilage Mechanism During Storage of Food Products.	CO4	PO3
j. Define Calendering and Rotational moulding methods of Manufacturing Plastic Films.	CO2	PO3

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

Answer *ALL* questions	Marks	[CO#]	[PO#]
3. a. Enlist factors affecting shelf life of food material during storage .	5	CO3	PO2
b. Describe the characteristics of High-Density Polyethylene (HDPE) use for packaging of food products.	5	CO2	PO1
(OR)			
c. Describe Injection Moulding and Compression Moulding methods of Manufacturing Plastic Films	5	CO3	PO2
d. Describe the characteristics of Polypropylene (PP) and Biaxially Oriented Polypropylene (BOPP) for packaging of food products.	5	CO2	PO1
4. a. Explain functions of packaging "Unitization and Information about the product."	5	CO2	PO1
b. Describe the characteristics of Low-density polyethylene (LDPE) use for packaging of food products.	5	CO4	PO3
(OR)			
c. Describe in details "Preservation and Convenience" functions of packaging	5	CO2	PO1
d. Explain the characteristics of below said Plastic Films: (i) Stretch, cling and twist wrap film, (ii) House Hold cling catering film and (iii) Twist wrap film	5	CO4	PO3
5. a. State the advantages of Aluminium containers for Food Packaging.	5	CO1	PO1
b. Describe types of steel plate depending upon the corrosion, behaviour, strength and durability.	5	CO2	PO1
(OR)			
c. State the advantages and disadvantages of metal containers for Food packaging	5	CO1	PO1
d. Describe types of steel plate depending upon the corrosion, behaviour, strength and durability.	5	CO2	PO1
6. a. Describe the properties of Steel and Aluminium use for making of metal container for food and drink products.	5	CO3	PO3
b. State the properties of good packaging material.	5	CO2	PO1
(OR)			
c. State the basic functions performed by Metal Packages for food products to be delivered consumers in safe and wholesome manner.	5	CO3	PO3
d. Explain Corrugated Fibreboard Packaging.	5	CO2	PO1

*** End of the Paper ***