Roll No. | | | | | | | | | | |

ANNA UNIVERSITY (UNIVERSITY DEPARTMENTS)

B.E. /B.Tech / B. Arch (Full Time) - END SEMESTER EXAMINATIONS, APRIL / MAY 2025

PRINTING AND PACKAGING TECHNOLOGY

PT5502 PACKAGING MATERIALS
(Regulation2019)

Time:3hrs Max.Marks: 100

CO1	Analyze the suitable plastic packaging material for various applications.
CO2	Determine the appropriate paper and board for packaging applications
CO3	Categorize the suitable coating methods for packaging material.
CO4	Assess the correct ancillary materials for different applications.
CO5	Identify the quality control standards used for testing of packaging materials

BL – Bloom's Taxonomy Levels
(L1-Remembering, L2-Understanding, L3-Applying, L4-Analysing, L5-Evaluating, L6-Creating)

PART- A (10x2=20Marks)

Q.No.	Questions	Marks	CO	BL
1	What are the resin identification codes of packaging polymers?	2	1	L1
2	List any four thermoset polymers.	2	1	L1
3	Differentiate between soft wood and hard wood.	2	2	L2
4	List the textile fibers used for packaging.	2	2	L1
5	What is a tin-free steel?	2	3	L2
6	List any four additives used for coloring glass.	2	3	L1
7	Differentiate between a crown closure and a roll on closure.	2	4	L2
8	What is a wad-less closure?	2	4	L2
9	What is young's modulus?	2	5	L1
10	Differentiate between gloss and haze.	2	5	L2

PART- B (5x13=65 Marks)

Q.No.	Questions	Marks	CO	BL
11 (a)	Analyse how variation in the polymerization process affects the properties of polypropylene.	13	1	L4
	OR			
11 (b)	Analyse how variation in the polymerization process affects the properties of polyethylene.	13	1	L4
12 (a)	Analyse how the beating and bleaching operations affect the structural and functional properties of paper and paper boards.	13	2	L4
	OR			
12 (b)	Compare and contrast the suitability of the properties of wood and textile bags for bulk packaging.	13	2	L4
13 (a)	With proper illustration explain in detail about various defects in glass bottles.	13	3	L2
	OR			
13 (b)	Illustrate the metallization process of polymer films using a clear, labeled diagram, and demonstrate its use in enhancing packaging functionality.	13	3	L2

14 (a)	Analyse and explain in detail about the non-linear behavior of cushioning materials	**13**	4	L4
	OR			
14 (b)	Analyse and explain in detail about the construction and functioning of various closures.	**13**	4	L4
15 (a)	Execute standard methods to assess the barrier properties of polymeric films and interpret their suitability for specific packaging applications.	**13**	5	L4
	OR			
15 (b)	Implement performance testing protocols to evaluate the load-bearing and environmental resistance characteristics of corrugated board.	**13**	5	L4

PART- C (1x15=15Marks)

Q.No.	Questions	Marks	CO	BL
16.	Explain how to evaluate the suitability of a polymer for food packaging applications.	**15**	5	L5

CONTROLLER OF EXAMINATIONS * ADDITIONAL AU CHENNAI 600 025