



MANIPAL INSTITUTE OF TECHNOLOGY
MANIPAL
(A constituent unit of MAHE, Manipal)

VI SEMESTER B.TECH. (MEDIA TECHNOLOGY)

END SEMESTER EXAMINATIONS, MAY 2022

SUBJECT: PACKAGING TECHNIQUES AND PROCESSES [MED 4056]

REVISED CREDIT SYSTEM

(21/05/2022)

Time: 3 Hours

10:00-01:00 PM

MAX. MARKS: 50

Instructions to Candidates:

- ❖ Answer **all the** questions.
- ❖ Missing data may be suitable assumed.

<i>Qn no:</i>	<i>Question</i>	<i>M</i>	<i>CO</i>	<i>BTL</i>
1	What are the various factors influencing halftone reproduction in package printing? Explain.	3	1	1
2	Discuss the 6 key properties of aluminium which makes it most important packaging material.	3	2	1
3	With neat diagrams, compare the process of manufacturing sachets using vertical form-fill-seal machines and horizontal form-fill-seal machines, along with their features.	4	4	2
4	Explain the features of lug closures and crimped crown cork closures with the help of neat sketches.	3	3	2
5	Explain the working and applications of 3 types of level fillers used for liquid products with the help of neat diagrams.	3	4	1
6	Discuss the technological aspects of gravure printing process to be considered for package printing.	4	1	2
7	With neat sketches, explain the 3 types of embossing presses.	3	1	1
8	With neat sketches, explain different types of dispensing and metering closures.	3	3	1
9	Explain the process of processing aluminium from its mineral ore with neat diagram. Explain how aluminium foil is manufactured from aluminium blocks using conventional method with diagram.	4	2	1

10	A recently started dairy farm is planning to introduce butter as one of their product. The company knows that they need a vertical form fill-seal machine to pack butter. Identify and explain the features of filler required for the mentioned purpose with neat diagram.	3	4	3
11	A lidding material is required for health drink product similar to Horlicks for 750gm bottle. It should be prepared by laminating paper with aluminium foil using a suitable adhesive. Identify the lamination method and explain its working principle and features with the help of a neat diagram.	3	4	3
12	With neat sketches, explain different ways of providing tamper evident features for packages.	4	3	2
13	With neat diagrams, compare bar sealing and band sealing along with their features.	3	1	1
14	With neat sketches, explain the features of 3 types of push-in closures.	3	3	1
15	There is a requirement of a packaging material with aluminium coated to BOPP for a new 1 rupee chocolate product. The aim is to achieve metallic appearance with reduced cost and weight instead of laminating BOPP with aluminium foil. Identify and explain the manufacturing process of achieving such a laminate with neat diagram. Also, explain the properties of that material.	4	2	2