



MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

(A constituent unit of MAHE, Manipal)

VII SEMESTER B.TECH. OE IV

END SEMESTER MAKE-UP EXAMINATIONS, JAN 2023

SUBJECT: PACKAGING DESIGN AND DEVELOPMENT [MED 4303]

REVISED CREDIT SYSTEM

Time: 3 Hours

03/01/23

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	Explain the 6 stages of a product life cycle with a neat diagram.	3	1	2
2	With a neat diagram, explain the working of the plasticating extruder.	3	3	2
3	Explain the 4 tests done on packages to resist mechanical hazards with neat sketches.	4	1	1
4	With a neat diagram, explain the various steps involved in making jigged die.	3	2	2
5	Discuss the functions of 5 departments involved in the production of cartons.	3	2	2
6	Explain 8 emerging trends in food packaging.	4	6	3
7	Explain 3 types of testing done on glass containers used for packaging.	3	4	2
8	With a neat diagram, explain the various stages of manufacturing thermocol.	3	1	1
9	With neat diagrams, explain the working of Vertical and Horizontal form-fill-seal machines used in the packaging industry.	4	5	2
10	With neat diagrams, explain the features of the following fillers used for the product packaging; a) Auger filler b) Piston filler c) Weighing filler	3	5	3
11	Compare injection and stretch blow molding processes with neat diagrams.	3	3	1
12	Discuss 8 equipment used in corrugated board manufacturing.	4	2	2
13	With neat diagrams, explain the 2 methods of coating metal cans.	3	4	2
14	With neat a diagram, explain the process of manufacturing cellulose film.	3	3	1
15	With neat sketches, explain 4 types of closures used for glass containers.	4	4	2