



### VII SEMESTER B.TECH. (PRINT AND MEDIA TECHNOLOGY)

#### END SEMESTER EXAMINATIONS, JAN/FEB 2021

SUBJECT: PACKAGING DESIGN AND TESTING [PMT 4101]

**REVISED CREDIT SYSTEM  
(25/01/2021)**

Time: 3 Hours

2:00-5:00 PM

MAX. MARKS: 50

#### Instructions to Candidates:

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

<b>1A.</b>	Explain 5 mechanical tests done on package to determine the effect of various hazards acting upon it.
<b>1B.</b>	With a neat sketch, explain the process of manufacturing aluminium collapsible tubes for toothpaste dispensing.
<b>1C.</b>	With a neat sketch, explain the working of metal container used for body spray packaging.
	<b>[05 +03 +02 ]</b>
<b>2A.</b>	With neat diagrams, explain snap lock bottom and auto lock bottom carton styles with suitable examples of each.
<b>2B.</b>	A fabric conditioner manufacturer (eg. Comfort) visits a plastic bottle manufacturer industry. He tells that he need 2 litre bottles without handle and 5 litre bottles with handle (where orifice is very small compared to the overall cross-section of the body). Identify and explain the 2 methods of producing such bottles with neat diagrams.
	<b>[05 + 05]</b>
<b>3A.</b>	Write notes on <ol style="list-style-type: none"> <li>i) Transparent labels in packaging</li> <li>ii) Decorations done on glass bottles.</li> <li>iii) Influence of environmental factors on package design.</li> </ol>

<b>3B.</b>	A bakery owner visits a plastic film manufacturing industry in order to get package for his biscuits. After lot of discussion, he decides that the primary package will be made of transparent cellulose film and secondary package will be made up of BOPP. Explain the method of producing these 2 films with neat diagrams.
	<b>[ (02+02+02) + 04 ]</b>
<b>4A.</b>	<ul style="list-style-type: none"> <li>i) How does the content of a glass bottle affects its design? Explain.</li> <li>ii) Explain the features of 5 types of metal closures.</li> </ul>
<b>4B.</b>	Explain various applications of corrugated boards used in packaging other than in the form of box.
<b>4C.</b>	Explain 6 advantages of using Computer-aided design (CAD) in packaging.
	<b>[ (2.5+2.5) + 02 + 03 ]</b>
<b>5A.</b>	<ul style="list-style-type: none"> <li>i) Discuss 8 performance parameters to be tested for plastic substrates in packaging.</li> <li>ii) Identify and explain the type of thermoforming used to make a plastic article having depth more than 2.5 times its width, with diagram.</li> </ul>
<b>5B.</b>	With sketches, explain the working of bag-on-valve and piston type pressurized dispensing systems.
<b>5C.</b>	With neat diagram, explain various stages of product life cycle.
	<b>[ (02+02) + 03 + 03 ]</b>

