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MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

A Constituent Institution of Manipal University

V SEMESTER B.TECH. (PRINT AND MEDIA TECHNOLOGY)

END SEMESTER EXAMINATIONS, NOV/DEC 2016

SUBJECT: PACKAGING TECHNIQUES AND PROCESSES [PMT 4003]

REVISED CREDIT SYSTEM

(05/12/2016)

Time: 3 Hours

MAX. MARKS: 50

Instructions to Candidates:

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

1A. What are the standards available for matching threads on the closure and container? Also explain the importance of matching thread profiles.

1B. Explain the properties of various plastic films used in vacuum metallization.

1C. Some snacks, sealed in a bag made from 24 μm PVC, gained 2.3 g in seven days, and 9.7 g altogether when the bag was cut open and re-exposed the snacks. How much amount of moisture would it have gained in 105 days, if the packaging material is changed to 72 μm PVC film?

[04 + 03 + 03]

2A. With a neat sketch explain the working of gravity filler using flow meter and valve.

2B. Explain the construction and working of two types of push-fit closure.

2C. Name the type of label that does not require label application equipment on the filling line. Explain the steps involved in the application of such labels.

[04 + 03 + 03]

3A. Explain the working of automatic wet glue labelling machine with a neat sketch.

3B. What is the technique used to improve the decorative, aesthetic and high barrier properties of plastic films? Explain such process with a neat sketch.

3C. With a neat diagram explain the features of Roll-on pilfer-proof (ROPP) closures.

[04 + 03 + 03]

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- 4A.** What finishing technique is used to apply Braille to printed cartons? Explain such finishing process with a neat sketch.
- 4B.** With a neat sketch explain the working of multi-deflection continuous ink jet package printer.
- 4C.** With neat diagrams explain two types of lineless closures.

[04 + 03 + 03]

- 5A.** Explain four techniques available for batch coding printed package.
- 5B.** Explain three common styles of sealing methods used on form, fill and seal packaging machines with a neat sketch.
- 5C.** Explain the features of following types of packaging closures.
- i. Child resistant caps
 - ii. Dispensing pumps
 - iii. Flip-top caps

[04 + 03 + 03]