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**MANIPAL INSTITUTE OF TECHNOLOGY**

**MANIPAL**

*A Constituent Institution of Manipal University*

**FOURTH SEMESTER B.TECH. (PRINT AND MEDIA TECHNOLOGY)**

**END SEMESTER EXAMINATIONS, APR/MAY 2017**

**ELECTIVE I - PACKAGING MATERIALS [PMT 4002]**

**REVISED CREDIT SYSTEM**

**(28/04/2017)**

Time: 3 Hours

MAX. MARKS: 50

**Instructions to Candidates:**

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

- 1A.** Explain the important properties of paper and boards used in packaging.
- 1B.** Write the defects which occur in timber, Explain the methods of preservation of timber.
- 1C.** Name any four plastics, Write their advantages and applications in packaging.

**[ 03 + 03 + 04 ]**

- 2A.** Explain the terms "Shock transmission, Vibration reduction and Creep resistance" with reference to cushioning materials used in packaging.
- 2B.** With a neat diagram explain the process of Wet lamination.
- 2C.** Explain the starch based, synthetic emulsion and hot melt types of adhesives used in packaging.

**[ 03 + 03 + 04 ]**

- 3A.** Name six types of papers and six types of boards. Write their unique properties.
- 3B.** Write the properties and applications of LDPE.
- 3C.** With neat diagram explain the process of glass manufacturing with automatic machines.

**[ 03 + 03 + 04 ]**

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- 4A.** With examples, explain four types of "Resilient Cushioning Materials".
- 4B.** Name and explain any 6 lamination problems and their solutions.
- 4C.** Explain the process of production of Tin Plate and Black Plate.

**[ 03 + 03 + 04 ]**

- 5A.** Explain the need of lamination with any three materials as examples.
- 5B.** Explain six properties of a cushioning material.
- 5C.** Explain the properties, grades and applications of Polystyrene.

**[ 03 + 03 + 04 ]**