



MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

(A constituent unit of MAHE, Manipal)

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

MAKE-UP EXAMINATIONS, JUNE 2019

SUBJECT: PE 1- PACKAGING MATERIALS [PMT 4002]

REVISED CREDIT SYSTEM

(19/06/2019)

Time: 3 Hours

MAX. MARKS: 50

Instructions to Candidates:

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

- 1A.** Explain the essential properties of paper and paperboard.
- 1B.** What are the different barrier properties obtained from a coated paper? Explain.
- 1C.** Explain the theories of adhesion.
- [03 + 03 + 04]**
- 2A.** Explain two - piece and three - piece tin containers used in packaging industry.
- 2B.** Explain the properties of glass used in packaging industry.
- 2C.** 'Timber used for making containers should have certain quality' – Justify this statement.
- [04 + 03 + 04]**
- 3A.** Explain the applications of LDPE after recycling.
- 3B.** Explain the properties of HM/HDPE.
- 3C.** Give the industry overview of plastics used in packaging industry.
- [03 + 03 + 04]**
- 4A.** What are cushioning materials? Explain the functions of cushioning materials.
- 4B.** Explain the design constraints for cushioning materials.
- 4C.** Give the classification of cushioning materials and explain with relevant examples.
- [03 + 03 + 04]**
- 5A.** What are laminates? Explain with its applications.
- 5B.** Explain the different films used for laminates.
- 5C.** How the flexibles are combined using hot melt process? Explain.
- [03 + 03 + 04]**