


**SECOND SEMESTER M.TECH. (PRINTING AND MEDIA TECHNOLOGY)**
**END SEMESTER EXAMINATIONS, APR/MAY 2017**
**ADVANCED PRINTED PACKAGING TECHNOLOGY [PME 5201]**
**REVISED CREDIT SYSTEM  
(20/04/2017)**

Time: 3 Hours

MAX. MARKS: 50

**Instructions to Candidates:**

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

- 1A.** Explain the steps in preparing jigged die for converting cartons.
- 1B.** Explain the procedure in carrying out the following package test.
- i. Inclined impact test      ii. Salt spray test
- 1C.** Explain the construction and working of three types of Time Temperature Indicators.

**[ 04 + 03 + 03 ]**

- 2A.** With a neat sketch explain the working of vertical form fill seal packaging machine.
- 2B.** With a neat sketch explain the process of dry offset letterpress metal can printing.
- 2C.** List and explain six skills required for an efficient packaging manager to manage packaging company.

**[04 + 03 + 03 ]**

- 3A.** Explain four types of metal containers used in the packaging of hazardous chemicals.
- 3B.** Name the test used to evaluate the overall durability of transport package. Explain the procedure involved in conducting such test.
- 3C.** 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 ]**

- 4A.** With the help of block diagram, explain eight responsibilities of packaging director in managing the company.
- 4B.** Explain the procedure in designing cushioned package.
- 4C.** What are the factors governing the choice of printing packaging labels? Explain.

**[04 + 03 + 03 ]**

- 5A.** A logistic company needs a corrugated box of width 280 mm to carry 22 Kg of tea powder. The boxes are required to be stacked up to 12 high. The length, width and height of the corrugated box are respectively to be in the ratio 2:1:1. The fluting medium is of 127 GSM with RCT of 1.8 KN/m and all the liners are made from same paper with equal GSM. Which of the following corrugated box is cheaper for the above specifications?

- a.** Three ply box with C flute.
- b.** Five ply box with B & C combination flutes.

*(Note: Use two decimal place correction for ECT and RCT )*

- 5B.** Explain six packaging cost with suitable example.
- 5C.** With a neat sketch explain the interacting elements of smart packaging technology.

**[04 + 03 + 03 ]**