



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

END SEMESTER EXAMINATIONS, APRIL 2018

SUBJECT: PE – III PACKAGING APPLICATIONS [PMT 4001]

REVISED CREDIT SYSTEM
(24/04/2018)

Time: 3 Hours

MAX. MARKS: 50

Instructions to Candidates:

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

- 1A.** Explain four sterilization processes in the packaging of medical devices with suitable examples.
- 1B.** What are the six requirements of packaging of hazardous liquid products as per IS: 8190? Explain.
- 1C.** List six plastic materials used in the packaging of food. How would you rate the resistance of such materials to insect penetration?

[04 + 03 + 03]

- 2A.** List and explain specific properties and applications of eight types of materials used in packaging of fertilizers.
- 2B.** Explain the steps in the development of dairy product packaging.
- 2C.** Explain the properties and applications of three types of rigid and semi rigid containers used in the packaging of oral pharmaceutical products.

[04 + 03 + 03]

- 3A.** What are the various atmosphere manipulation techniques inside the food package? Explain each technique with suitable example.
- 3B.** What are the six characteristics of formable materials used in pharmaceutical packaging? Also list six materials used to manufacture thermoformed trays.
- 3C.** Explain the construction and advantages of two types of bags used in the packaging of hazardous chemicals.

[04 + 03 + 03]

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- 4A.** What are the two objectives of legislation on food contact materials? Name and explain four types of food simulants according to European Union.
- 4B.** Discuss three types of auxiliary packaging materials used in the packaging of oral pharmaceutical products.
- 4C.** Explain three forms of mild steel containers used in the packaging of hazardous chemicals.

[04 + 03 + 03]

- 5A.** Differentiate between flammable and explosive type of hazardous materials. List six hazardous chemicals and indicate a suitable container for each.
- 5B.** What are the three types of plastics commonly used in the cosmetic industry? Explain.
- 5C.** Name and explain the properties of six types of gases used in Modified Atmosphere Packaging (MAP).

[04 + 03 + 03]