

PRINTING TECHNOLOGY BRANCH  
FIFTH SEMESTER – (REGULATIONS 2008)

**PT9302 – PACKAGING TECHNOLOGY**

Time : 3 hrs

Max Mark:100

ANSWER ALL QUESTIONS

**Part – A (10 x 2 = 20 Mark)**

1. Define Life Cycle Assessment.
2. For packaging a fruit juice, which packaging material will you choose? Justify.
3. What is the role of colour in package design?
4. For a medicine bottle, what features can be added for increasing convenience of consumers?
5. What are the applications of aluminium foil in packaging?
6. What is a tympan?
7. Write the applications of RFID in packaging?
8. What are the layers in an ovenable packaging material?
9. How will calculate the safe load of a corrugated box?
10. Write the significance of vibration test for packages.

**Part – B (5 x 16 = 80 Mark)**

11. Explain in detail about the Horizontal, Inclined and bridge impact tests and their significance with diagram.
12. a. Write short notes on
  - i) Shelf life estimation (5 marks)
  - ii) Packaging functions (6 marks)
  - iii) Packaging materials and machine interface (5 marks)(or)
  - b. Explain in detail about the mechanical and climatic hazards for a package.
13. a. What are the factors affecting package design? Develop a package design for a cosmetic product and justify the structural and graphic design based on the above factors.  
(or)
  - b. Explain in detail about the stages in package design with flowchart.
14. a. With neat sketch, explain the manufacturing of 3 piece cans.  
(or)
  - b. Explain in detail about any two types of Form, Fill and Seal machines.
15. a. i) Describe in detail about aseptic packaging. (12)  
ii) Write a short note on child resistant packaging. (4)  
(or)
  - b. i) Explain the types of electrostatic discharge protective packaging. (8)  
ii) Describe in detail about the components of an aerosol package with diagram. (8)