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**B.E / B.Tech (Full Time) DEGREE END SEMESTER EXAMINATIONS, APRIL / MAY 2014**

PRINTING TECHNOLOGY

Semester VII

**PT 471 / PT 9401 PACKAGING MATERIALS**  
(Regulation 2004/2008)

Time: 3 Hours

Answer ALL Questions

Max. Marks 100

**PART-A (10 x 2 = 20 Marks)**

1. Difference between monomer and oligomer?
2. List the application of bio-films in and packaging.
3. What is IPPC logo in wood?
4. What is folding endurance?
5. Mention any two types of lacquering method.
6. Write the important properties of coating ingredients.
7. What is fragile factor?
8. List the materials used for manufacturing of collapsible tube?
9. Compare gloss and haze.
10. What is pin adhesion test?

**Part – B (5 x 16 = 80 marks)**

11. Discuss briefly about the following polymer with their applications in packaging;  
(i) Polyurethane (ii) Polyesters (iii) Urea formaldehyde (iv) PET
12. a) Briefly discuss about various paper bag styles with neat sketch.  
**OR**  
b) Explain in detail about different types of lamination methods with neat sketch.
13. a) Explain in detail about various types of coating methods.  
**OR**  
b) Briefly discuss about manufacturing process of two piece steel can? Mention its applications.
14. a) Explain in detail about purpose of cushioning material in packaging and their selection criteria.  
**OR**  
b) Describe briefly about the different types of closures in packaging.
15. a) Explain in detail about any four mechanical tests for packaging materials.  
**OR**  
b) Discuss about the various types of optical tests for packaging materials.