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B.E / B Tech. (Full- Time) DEGREE END SEMESTER EXAMINATIONS, April/May 2014  
PRINTING TECHNOLOGY BRANCH  
FIFTH SEMESTER – (REGULATIONS 2004/2008)  
**PT281/PT9301 – PRINTING INKS**

Time: 3 hrs

Max Marks: 100

Instructions:

1. Answer all questions.
2. All questions carry equal marks.

**Part – A (10 × 2 = 20 Marks)**

1. Which type of carbon black is best suited for making printing inks. Why?
2. What are solvent dyes?
3. Write the properties and applications of metallic pigments.
4. What are mineral oils? Write its applications in printing inks.
5. What are alkyds? Write the characteristic properties of alkyd resins.
6. What are plasticizers? Give two examples.
7. What is meant by length of an ink?
8. What types of balls are used in ball mills for printing ink manufacturing?
9. What is the use of Grind Gauge during ink manufacturing?
10. How the viscosity of liquid inks are measured?

**Part – B (5 × 16 = 80 Marks)**

11. Explain in detail the types of drying oils used for the manufacturing of paste inks.
- 12(a) Explain any five types pigments with their properties and their applications in ink manufacturing in detail.  
(or)  
(b) Discuss briefly the types of rosin modified resins and their properties and end uses in printing ink manufacturing.
- 13.(a) Explain the type of additives used during the manufacturing of paste inks.  
(or)  
(b) Explain with suitable diagram how paste inks are manufactured using triple roll mill.
- 14.(a) What is ink tack? How are they measured using tackmeter? Write its significance in multicolour printing.  
(or)  
(b) Write the constituents of Waterbased inks. Explain the drying of inks with relevant to the properties of inks pH & surface tension value.
- 15.(a) Explain the types of radiation curable inks and briefly discuss the constituents of UV inks in detail.  
(or)  
(b) Discuss the ink related problems in offset printing their causes and remedies in detail.