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**B.E / B.Tech ( Full Time ) DEGREE END SEMESTER EXAMINATIONS, MAY / JUN. 2013**

**DEPARTMENT OF PRINTING TECHNOLOGY**

**Semester VIII**

**PT9029 SECURITY PRINTING**

**(Regulation 2008)**

31

Time : 3 Hours

Answer ALL Questions

Max. Marks 100

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

1. What paper is used for making bank note and state about its composition?
2. Name the equipment used for numbering in currencies?
3. What is check digit in barcodes? Give an example.
4. Write about Aztec and QR code.
5. What are OVERT and COVERT features in forms?
6. What is a computer form?
7. Differentiate a hologram from a photograph.
8. Draw the schematic diagram of a lensless Fourier hologram.
9. List four chemicals used as invisible inks.
10. What is steganography?

**Part – B ( 5 x 16 = 80 marks)**

11. Write about the manufacturing and types of computer forms.
12. a) Explain in detail the manufacturing of bank notes and its security features.  
**OR**  
b) Explain in detail about the two techniques for incorporating security threads in currency notes.
13. a) i) Design a cheque with security features and explain the features in detail. (8)  
ii) Explain UPC and EAN-13 bar-coding system (8)  
**OR**  
b) i) Explain about the principle and formulae for designing a barcode. (8)  
ii) Explain various scanners used for decoding barcodes (8)
14. a) Explain the inline & off axis holograms with proper derivations.  
**OR**  
b) Explain in detail about the two hologram printing processes.
15. a) Write in detail about invisible inks.  
**OR**  
b) Write in detail about thermochromic inks.