

B.E. PRINTING ENGINEERING SECOND YEAR SECOND SEMESTER EXAM 2025

DIGITAL PRINTING

Full Marks: 100

Time: 3Hr.

Answer questions under each CO separately and clearly in one place

CO1: Discuss digital printing technologies (K2)

1. Answer any 5 questions (5 x 8)

- a) Discuss how the corona discharge is used for sensitization of electrophotographic image carrier. What is the utility of using shield in this connection? 6 + 2
- b) Discuss how the continuous jet of ink is broken and projected on the paper in vibration type CIJ. 8
- c) Discuss how heat energy is employed to realize drop on demand inkjet printing. 8
- d) Discuss how development electrode contributes towards over and under development in case of xerography. 8
- e) Discuss how the indirect thermal printing is different from direct thermal printing and the advantages of indirect thermal printing over direct one. 6 + 2
- f) Discuss the drop movement dynamics of inkjet printing with required diagram. 8

CO2: Analyze digital prepress. (K4)

2. Answer any 3 questions (3 x 10)

- a) Analyze the result of halftoning for 3 pixels only using error diffusion method and compare the result with fixed thresholding. List your observations while comparing the result with the result obtained by fixed thresholding against 0.5. 8 + 2

40	180	210
40	30	67
100	200	210

- b) Analyze the role of scanner in digital prepress. 10
- c) Analyze the role of AM and FM screening. Also analyze the role of RIP in prepress. 6 + 4
- d) Analyze the role of PostScript with an example. What is PDF X1A? 8 + 2

CO3: Describe digital proofing. (K2)

3. Answer any 2 questions (2 x 10)

- a) Describe the working principle and use of spectrophotometer in print proofing. 10
- b) Describe the working principle of any one standards for print proofing. 10
- c) Describe different aspects of preflighting in print proofing. 10

CO4: Evaluate varieties of application (K6)

4. Answer any 1 question (1 x 10)

- a) A publisher wants to print 500 jute bags for a bookstore. Each will contain the logo of bookstore but the customer name will be different from one to another. Evaluate the requirement and suggest the probable print flow that may be adopted with proper justification. 10
- b) An offset press outsourced their prepress work to a vendor. However after receiving the pdf they found that the print is visibly varying from what they required and what they saw on screen particularly in reproduction of colors. Evaluate the situation and suggest some possible ways which may help to avoid such circumstances. 10

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