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Manipal Institute of Technology, Manipal

(A Constituent Institute of Manipal University)



V SEMESTER B.TECH (PRINT AND MEDIA TECHNOLOGY)

END SEMESTER EXAMINATIONS, NOV/DEC 2015

SUBJECT: FLEXOGRAPHY, GRAVURE & SCREEN PRINTING [PME 315]

REVISED CREDIT SYSTEM

Time: 3 Hours

MAX. MARKS: 50

Instructions to Candidates:

- ❖ Answer **ANY FIVE FULL** questions.
- ❖ Missing data may be suitable assumed.

- 1A.** Explain different ways to minimize fountain roller deflection. **3**
- 1B.** With neat diagrams, explain the following ways of producing doctor blade oscillation on gravure presses: **3**
 - i) Bidirectional rod ii) Crankshaft iii) Dual acting cylinder
- 1C.**
 - i. Compare 2 types of re-tensionable frames in screen printing. **2+2**
 - ii. Explain the coating trough variables used for liquid emulsion in screen printing.
- 2A.** Explain the construction, working and disadvantages of dancer roll tension control system. **3**
- 2B.** What is the need for ESA? With sketches, explain different ESA systems. **3**
- 2C.**
 - i. Explain the features of 2 print head designs of screen printing presses. **2+2**
 - ii. With diagram, explain re-heating air recirculation system used in flexo dryer.
- 3A.** Explain the following anilox roller cleaning methods: **3**
 - i) Ultrasonic method ii) Baking soda iii) Dry ice blast
- 3B.** What are the functions of a squeegee? Explain the variables of squeegee affecting the ink deposit in screen printing process. **3**
- 3C.**
 - i. Explain the 2 methods of fabric tension measurement used in screen printing. **2+2**
 - ii. With diagram, explain features of horizontal flow stack press used in gravure.

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- 4A.** With diagrams, explain variations of single-roll inking system. **3**
- 4B.** Explain the 3 types of textile screen printing presses. **3**
- 4C.** i. With neat diagram, explain the features, 2 advantages and 2 disadvantages of bottom side gravure printer. **2+2**
- ii. With neat diagram, explain carbon absorption method of solvent recovery technique used in gravure printing industry.
- 5A.** Explain the components and procedure of pin register mounting system used for solid photopolymer plates with a diagram. **3**
- 5B.** Explain the following flexo printing problems with their causes and remedies: **3**
- i) Blocking ii) Feathering iii) Streaks
- 5C.** i. With neat diagram, explain the features, 2 advantages and 2 disadvantages of pre-metered gravure inking system. **2+2**
- ii. Explain the features and applications of carbonized and calendered mesh in screen printing.
- 6A.** i. Explain various methods of prepress make-ready of flexo plates during proofing. **2+1**
- ii. Explain the importance of flexo plate staggering on plate cylinder.
- 6B.** With diagram, explain the components of flexo inking system. **3**
- 6C.** With diagrams, explain 4 types of shafted single position unwinders. **4**