

Reg. No.



# Manipal Institute of Technology, Manipal

(A Constituent Institute of Manipal University)



## V SEMESTER B.TECH (PRINT AND MEDIA TECHNOLOGY)

### MAKE-UP EXAMINATIONS, DEC 2015 – JAN 2016

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.

|            |   |            |
|------------|---|------------|
| <b>1A.</b> | What are the consequences of improper tensioning of fabric mesh? Explain.   | <b>3</b>   |
| <b>1B.</b> | Explain different types of roll follower tension control system with neat diagrams.   | <b>3</b>   |
| <b>1C.</b> | i. With diagram, explain modular type of combination flexo-gravure printer.<br>ii. With neat diagram, explain the features, 2 advantages and 2 disadvantages of top side gravure printer.         | <b>2+2</b> |
| <b>2A.</b> | With neat diagrams, explain the following ways of producing gravure doctor blade oscillation:<br>i) Dual acting cylinder                      ii) Cam                      iii) Bidirectional rod | <b>3</b>   |
| <b>2B.</b> | With diagrams, explain variations of two-roll flexo inking system.  | <b>3</b>   |
| <b>2C.</b> | i. Compare 2 types of tensioning systems used with fixed frames in screen printing.<br>ii. Explain the variables of screen fabric affecting ink deposit in screen printing.                       | <b>2+2</b> |
| <b>3A.</b> | With neat diagrams, explain the features of flat-bed and cylindrical screen printing presses.   | <b>3</b>   |
| <b>3B.</b> | With neat diagrams, discuss the 3 types of roller impression roll designs used for ESA on gravure presses.  | <b>3</b>   |
| <b>3C.</b> | Explain the components of narrow web presses.   | <b>4</b>   |
| <b>4A.</b> | Explain various steps involved in mounting a complete line job during proofing of flexo plates.   | <b>3</b>   |
| <b>4B.</b> | With neat diagrams, discuss the working principle and features of 3 types of sheeters used in roll-to-sheet inline gravure presses.   | <b>3</b>   |
| <b>4C.</b> | With diagrams, Explain the variations that can be done in a flexo press to be used as a coating unit.   | <b>4</b>   |

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| <b>5A.</b> | Explain the following anilox roller cleaning methods:<br>i) Soak tank method                      ii) Pressure wash                      iii) Bead blast   | <b>3</b>   |
| <b>5B.</b> | What are the essential components of screen printing process? Explain with neat diagram.   | <b>3</b>   |
| <b>5C.</b> | i. With neat diagram, explain the features, advantages and disadvantages of waterfall gravure inking system.<br>ii. With neat diagram, explain carbon absorption method of solvent recovery technique used in gravure printing industry. | <b>2+2</b> |
|            |  |            |
| <b>6A.</b> | Explain the features of 3 types of liquid direct photo emulsions.  | <b>3</b>   |
| <b>6B.</b> | With neat diagrams, explain the 2 types of single roll surface driven rewinders.   | <b>3</b>   |
| <b>6C.</b> | i. Explain 2 methods of positioning anilox roller.<br>ii. With diagram, explain recycle air recirculation system used in flexo dryer.  | <b>2+2</b> |