Reg. No.										

MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

A Constituent Institution of Manipal University

I SEMESTER M.TECH. (PRINTING AND MEDIA TECHNOLOGY)

END SEMESTER EXAMINATIONS, NOV 2017

SUBJECT: PRINTING TECHNOLOGY [PME 5101]

REVISED CREDIT SYSTEM
(16/11/2017)

Time: 3 Hours MAX. MARKS: 50

Instructions to Candidates:

- Answer **ALL** the questions.
- Missing data may be suitable assumed.

1A. What is the sheet registration system used on sheet-fed offset presses? Explain the mechanisms.

1B. With a neat diagram, describe the CIC gravure press configuration and state its advantages and disadvantages

1C. Explain the working principle of fully automatic cylinder bed screen printing press with a neat sketch. What are the variations of these presses?

[02 + 04 + 04]

2A. Compare FM and AM screening.

2B. Describe the principle of three types of drop on demand inkjet technologies with neat diagrams.

2C. **i.** Explain the fountain roller deflection and the methods of avoiding it.

ii. Calculate the packing for the plate and blanket cylinder on an offset press, if plate undercut is 0.028”, Plate thickness= 0.017”, Plate height above the bearers= 0.03”, Blanket undercut = 0.09”, Blanket thickness = 0.08”, Blanket height above the bearers=0.03” and Bearer gap= 0.008”.

[02 + 04 + (02+02)]

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3A. Explain the procedure for making the following flexo image carriers

i. Laser engraved design rolls **ii.** Liquid photopolymer plates

3B. Explain with neat diagram the inker-feed and plate-feed dampening systems. What are the differences between the two systems?

3C. Explain the following:

i. Direct-indirect method of stencil making

ii. Laser ablation, chemical etching of gravure cylinders.

[03 + 03 + 04]

4A. State the benefits of completely digitized prepress workflow in comparison with completely analog prepress workflow.

4B. **i.** Explain the feature of Dual position turret unwinder and Dual roll vertical surface driven rewinder.

ii. Explain the importance of anilox roll in flexo printing.

4C. With a neat diagram, explain the principle of electrophotography and thermal transfer printing processes.

[02 + (02+02) + 04]

5A. Describe the setting of pressure between ink rollers and the methods adopted.

5B. Describe the following digital plate making process:

i. Thermal transfer process using Dry film

ii. Thermo-contact process using thermos-chromic film

5C. **i.** Explain the characteristics of carbonized and calendared meshes used in screen printing.

ii. Explain the functions of squeegee and methods of screen printing?

[02 + 03 + (02+03)]