Reg. No.										

MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

A Constituent Institution of Manipal University

FOURTH SEMESTER B.TECH (PRINT AND MEDIA TECHNOLOGY)

END SEMESTER EXAMINATIONS, APR/MAY 2017

SUBJECT: OFFSET PRINTING [PMT 2201]

REVISED CREDIT SYSTEM
(21/04/2017)

Time: 3 Hours MAX. MARKS: 50

Instructions to Candidates:

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

1A. What are the parts of the delivery section in sheet fed offset press and explain their functions.

1B. Explain the different types of infeed systems used for sheet insertion.

1C. **i.** Define RPW? What is its effect? Describe the method of controlling RPW on web offset presses.

ii. List press operator training and Safety precautions to be taken in pressroom.

[03 + 03 + (02+02)]

2A. Describe the significance and working principles of the following:

a. Ink agitator **b.** Web pre-conditioner **c.** Blanket washer

2B. Explain the construction and functioning of dancer roll to maintain the constant web tension.

2C. **i.** Explain two types of continuous feeders used on sheet-fed offset presses.

ii. Explain the working of former folder with neat diagram.

[03 + 03 + (02+02)]

3A. Explain the parts of the single color offset press with neat diagram.

3B. List the causes and remedies for the following printing problems:

a. Picking **b.** Hickeys **c.** Web break

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3C. **i.** List and explain the advantages of waterless printing over conventional offset printing.

ii. Explain the procedure of preparing a make-ready book and taking trial impressions.

[03 + 03 + (02+02)]

4A. How does perforation help in eliminating problem related to finishing operations? Explain.

4B. **i.** Explain the working principle of inker feed dampening system with neat diagram.

ii. Explain the procedure for setting the ink form roller to oscillator and ink form roller to plate cylinder using visual stripe method.

4C. **i.** Explain the features of compressible and non-compressible blankets. Describe their constructions with neat diagrams.

ii. With a help of a graphical representation, describe the effects of dampening on web tension.

[02 + (02+02) + (02+02)]

5A. How are the inking and the dampening systems maintained during press-run? Explain.

5B. **i.** Explain the purpose and working of a dead-weight bench micrometer and packing gauge.

ii. Explain IR and UV drying principles.

5C. **i.** What is the effect of bearer compression on the squeeze between cylinders? How can it be taken care?

ii. With the following data about the contact bearer press, calculate the squeeze and packing thickness for plate and blanket cylinders:

Plate undercut = **0.025"**, Plate height above bearer = **0.003"**, Plate thickness = **0.018"**, Blanket undercut = **0.085"**, Blanket height above bearer = **0.003"**, Blanket thickness = **0.065".**

[02 + (02+02) + (02+02)]