Reg. No.										

MANIPAL INSTITUTE OF TECHNOLOGY
MANIPAL
(A constituent unit of MAHE, Manipal)

IV SEMESTER B.TECH. (PRINT AND MEDIA TECHNOLOGY)

END SEMESTER EXAMINATIONS, APRIL 2018

SUBJECT: PRINTING MATERIAL SCIENCE II [PMT 2202]

REVISED CREDIT SYSTEM
(23/04/2018)

Time: 3 Hours MAX. MARKS: 50

Instructions to Candidates:

- Answer **ALL** the questions.

1A. With a neat table explain the relationship between the raw materials, processing technique, fiber products and end products to create paper, card and board.

1B. Explain the following chemical properties of paper
i. Coating composition
ii. Fiber & filler composition and
iii. Moisture content.

1C. What is the difference between Bristol, Cover and Utility type of papers? Explain.

[04 + 03 + 03]

2A. Explain about the emulsification, viscosity, tack, and length properties of ink.

2B. Differentiate between Evaporation drying and Precipitation drying.

2C. Distinguish between temporary and permanent conversion inks.

[04 + 03 + 03]

3A. Explain the importance of testing the following mechanical properties of paper.
i. Bursting strength
ii. Folding endurance
iii. Stiffness and
iv. Tensile strength

3B. Mention the requirements of paper specifications for Sheet fed Offset and Gravure Printing Process.

3C. Summarize the advantages and disadvantages of British and ISO system of Paper measurements.

[04 + 03 + 03]

Reg. No.										

4A. Explain about the color, color strength, opacity and gloss properties of ink.

4B. Write in detail about the plastisol and sublimation dye transfer inks utilized in textile printing.

4C. Compare the two types of toners used in digital printing.

[04 + 03 + 03]

5A. List out the difference in raw materials, properties and applications of Polyethylene and Polyester.

5B. Explain the following chemical properties of paper

i. pH and

ii. Sizing and water resistance.

5C. Explain Pigment Dispersion and list out the problems which occur due to improper pigment grinding.

[04 + 03 + 03]