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MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

A Constituent Institution of Manipal University

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

END SEMESTER EXAMINATIONS, NOV 2017

QUALITY CONTROL AND STANDARDIZATION IN PRINTING [PME 5106]

REVISED CREDIT SYSTEM

(23/11/2017)

Time: 3 Hours

MAX. MARKS: 50

Instructions to Candidates:

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

- 1A.** Explain the process of G7 calibration in offset printing in detail.
- 1B.** Explain the term “Ink trapping”. What are the factors that affect this and explain the formula / methods to measure it?
- 1C.** Explain the guidelines formulated for the following process in SNAP standard.

- a)** Duplicating / contacting films
- b)** Vacuum frame exposure

[04 + 03 + 03]

- 2A.** Explain the various reasons for dot gain in printing and solution to overcome the same.

- 2B.** Explain the SNAP guidelines for the following:

- a)** Scan resolution in SNAP
- b)** Computer to plate process

- 2C.** Explain the following with respect to Gracol 7:

- a)** Shadow Contrast (SC)
- b)** Highlight Contrast (HC)
- c)** Highlight Range (HR)

[04 + 03 + 03]

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3A. Explain the design and evaluation procedure of following:

- a) Line resolution target
- b) Color correction target
- c) Star target
- d) Gray balance chart

3B. Explain the quality control aspects of offset dampening system.

3C. Explain the following ink adhesion tests:

- a) Scotch tape
- b) Heat seal strength

[04 + 03 + 03]

4A. Explain the following paper properties along with their evaluating procedure and impact on print or product quality:

- a) Paper formation
- b) Surface strength
- c) Dimensional stability
- d) Water absorption capacity

4B. Explain the step by step procedure for calibration of CtP system.

4C. Explain the process of linearization of a digital proofer (Ink Jet) and significant of linearization of such printer.

[04 + 03 + 03]

5A. Differentiate between the following:

- a) Polarization and non-polarized filter densitometer
- b) Absolute print density and relative print density
- c) Ladder target and checker board targets
- d) Image fit target and star targets

5B. Explain the importance and procedure to print the optimum Density Test chart in offset printing.

5C. Give the suitable reasons for the following statements:

- a) Solid ink density of offset ink is different for different types of paper substrates.
- b) Coated paper shows good print quality than an uncoated paper.

[04 + 03 + 03]