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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 MAKE-UP EXAMINATIONS, DEC/JAN 2016-17

#### QUALITY CONTROL AND STANDARDISATION IN PRINTING [PME 5106]

#### REVISED CREDIT SYSTEM

Time: 3 Hours

MAX. MARKS: 50

#### Instructions to Candidates:

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

**1A.** Differentiate between the followings

- a) Absolute print density and relative print density
- b) Ladder target and checker board targets
- c) Image fit target and star targets

**1B.** Explain the testing procedure and significance of coefficient of friction test for paper and flexible substrates

**1C.** Explain the procedure to find the CtP target values using Manual fangraph. Method.

**1D.** Explain the rules for using Gray bars in SNAP standard.

**[ 03 + 03 + 02 + 02 ]**

**2A.** What are the basic elements of test chart in G7 calibration method? Explain the function & importance of each element.

**2B.** What is the significance of ink water emulsification and explain the testing procedure?

**2C.** Explain the followings with reference to SNAP standard.

- a) Dry back Testing
- b) Gray bar target for Standardisation

**2D.** Explain the design and evaluation procedure of followings

- a) Color correction target
- b) Gray balance chart

**[ 04 + 03 + 02 + 01 ]**

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- 3A.** Explain the guidelines set by SNAP standard to run a print quality Press test.
- 3B.** Explain the following with respect to G7 calibration
- a)** Shadow Contrast (SC)
  - b)** Highlight Range (HR)
- 3C.** Explain the following tests of CtP system
- a)** 50% dot test
  - b)** Consistency test
- 3D.** Explain the reason for measuring solid ink density for different paper and ink combinations.

**[ 04 + 02 + 02 + 02 ]**

- 4A.** What is the significance of following tests of offset printing ink? Explain
- a)** Ink draw down test
  - b)** Fineness of grind
- 4B.** Explain procedure of Raster image processing using Harlequin Navigator RIP software to produce color separations.
- 4C** Explain the SNAP guidelines for Vacuum Frame Exposures
- 4D.** Explain "Print characteristic curve". List and explain the factors that affect this curve.

**[ 04 + 02 + 02 + 02 ]**

- 5A.** Explain the method of measurement and influence of following paper properties on print standardization.
- a)** Porosity
  - b)** Opacity
- 5B.** Explain the three major test targets used in conventional plate control wedge and their method of evaluation in detail
- 5C.** Give the suitable reasons for the following statements
- a)** In offset printing the amount of ink trap is not same for different ink sequence and also wet on wet to wet on dry printing
  - b)** Coated papers show good print quality than an uncoated paper.
- 5D.** What is the significance of pH and conductivity of dampening solution in quality printing?

**[ 04 + 03 + 02 + 01 ]**