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Manipal Institute of Technology, Manipal

(A Constituent Institute of Manipal University)



I SEMESTER M.TECH (PRINTING AND MEDIA TECHNOLOGY)

END SEMESTER EXAMINATIONS, NOV/DEC 2015

SUBJECT: QUALITY CONTROL AND STANDARDISATION IN PRINTING [PME 511]

REVISED CREDIT SYSTEM

Time: 3 Hours

MAX. MARKS: 50

Instructions to Candidates:

- ❖ Answer **ANY FIVE FULL** questions.
- ❖ Missing data may be suitable assumed.

- 1A.** Explain the different tests that are conducted for controlling the quality of dampening solution and its ingredients. **03**
- 1B.** Explain the testing procedure and significance of following paper properties. **03**
 - a) Tensile strength b) Stiffness c) Bursting strength
- 1C.** What is the significance of P2P25X target and Gray finder patch in G7 method? Explain in detail **04**
- 2A.** Explain the basic requirements of offset printing ink and write about the following tests of offset ink. **03**
 - a) Ink draw down test b) Fineness of grind
- 2B.** Define linearization of digital inkjet proofer and explain the procedure of linearization. **03**
- 2C.** Give the suitable reasons for the following statements **04**
 - a) Solid ink density of offset ink is different for different types of paper substrates.
 - b) Even though after linearization of CtP, one should linearize the plate against output of offset machine.
 - c) 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.
 - d) Coated papers shows good print quality than an uncoated paper.
- 3A.** Define and explain the importance and procedure of followings tests of offset printing ink. **03**
 - a) Scum test b) Light fastness test c) Emulsification test

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- 3B.** Explain the role of following components in dampening solution. **03**
a) Acidic component in dampening b) Alcohol content in dampening
c) Gum Arabic in dampening solution
- 3C.** Explain the procedure to print the Variable Density Test chart to find the optimum ink density for offset printing in detail. **04**
- 4A.** With neat diagram explain the working of polarized filter spectro-densitometer. **03**
- 4B.** Differentiate between Gracol G7 and ISO method of print standardization. **03**
- 4C.** Explain four test targets used to evaluate the image rendering quality of an image setter. **04**
- 5A.** What are the reasons for the followings? **03**
a) Color values (L a b) of a printed sample should be measured only after sufficient drying of ink film.
b) Ladder targets should be designed only at two extreme cylinder edges and surrounding the circumference of the plate cylinder.
c) In practical Cyan 50%, Magenta 50% & Yellow 50% will not match a 50% black tint.
- 5B.** Explain the calibration procedure of CtP system in detail **03**
- 5C.** Explain the following with respect to G7 calibration **04**
a) Shadow Contrast (SC) b) Highlight Contrast (HC)
c) Highlight Range (HR) d) G7 compatible Print Control Wedge
- 6A.** Explain the factors that affect the amount dampening solution flow rate for quality printing. **03**
- 6B.** Explain the procedure to find the CtP target values using manual method and fangraph. **03**
- 6C.** Explain the specifications and guidelines for the followings in SNAP standard. **04**
a) Scan resolution b) File compression
c) File format d) Contact /Duplicating device