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

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

END SEMESTER EXAMINATIONS, APRIL / MAY 2019

SUBJECT: OFFSET PRINTING [PMT 2201]

REVISED CREDIT SYSTEM
(02/05/2019)

Time: 3 Hours

MAX. MARKS: 50

Instructions to Candidates:

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

- 1A.** Explain the functions and settings of the following feeder devices:
i. Forwarding rollers ii. Front guides iii. Extra sheet detector
- 1B.** Describe the sequence of splicing operations of a flying splicer with neat diagrams.
- 1C.** What is intermittent dampening system? Explain with neat diagrams the two types of intermittent dampening systems.
- [03 + 03 + 04]**
- 2A.** Describe the design, construction and specifications of plate, blanket and impression cylinders of an offset press.
- 2B.** What do you mean by marking-up problem? What are the different ways of eliminating it on sheetfed presses? Describe with sketches.
- 2C.** Explain three configurations of sheet-fed offset press with neat diagrams.
- [03 + 03 + 04]**
- 3A.** What are RPL and RPW? What is their significance? How do you control each of them? Describe.
- 3B.** Explain the different elements of remote control console of an offset press with their working principles.
- 3C.** Describe the pressure setting of ink distributor roller to oscillator roller by resistance method and ink form rollers to plate by visual stripe method. How do you interpret the pressure setting from the type of stripe obtained

[03 + 03 + 04]

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- 4A.** Discuss the significance of different web tension variables. What is tension dynamics in case of web offset presses? Explain its implications.
- 4B.** Discuss the methods of ink roller maintenance and its importance. Highlight on ink roller care and storage.
- 4C.** Define the problem, list the causes for the problem and suggest remedies for the following:
- i. Roller stripping ii. Tinting iii. Web breaks iv. Plate image blinding

[03 + 03 + 04]

- 5A.** With a neat diagram, explain the elements of the combination folder with their operation principles.
- 5B.** Describe the procedure of mounting the plate and blanket on their respective cylinders.
- 5C.** i. On a sheetfed offset press the plate and blanket cylinder undercuts are 0.020 inches and 0.085 inches respectively. The cylinders are mounted with plate and blanket of thickness 0.01 inches and 0.075 inches respectively. Plate cylinder is packed with 2 sheets of kraft papers of 0.017 inches and the blanket cylinder is packed with 2 sheets of kraft paper of 0.019 inches. As per the manufacturer recommendations, the squeeze between the cylinders should be 0.004 inches. Calculate the distance between plate and blanket cylinder bearers.
- ii. How is the conventional offset press different from dry offset presses? Highlight the major requirements of dry offset press mentioning the reason for the same.

[03 + 03 + (02 + 02)]