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

III SEMESTER B.TECH. (MEDIA TECHNOLOGY)

END SEMESTER GRADE IMPROVEMENT/ MAKE-UP EXAMINATIONS,

JULY 2021

SUBJECT: **OFFSET TECHNOLOGY [MED 2155]**
REVISED CREDIT SYSTEM

23 / 07 / 2021

Time: 2 Hours MAX. MARKS: 40

Instructions to Candidates:

- Answer any **FOUR FULL** questions.
- Missing data may be suitably assumed.

1A. Explain the procedure of paralleling blanket cylinder to impression cylinder on a sheet fed offset printing press.

1B. A press manufacturer specifies that the plate is 0.013 in thick and its height above the bearers should be 0.025 in. The plate cylinder undercut is 0.022 in. The blanket is 0.075 in thick and its height above the bearers is 0.025 in. The blanket cylinder undercut is 0.085 in. Calculate the following;
i. Packing sheet thickness for plate
ii. Plate-plus packing height
iii. Packing sheet thickness for blanket
iv. Blanket-plus packing height
v. Squeeze between plate and blanket

[05 + 05 = 10]

2A. Explain the steps in setting pressure between the inking roller and printing plate on an offset press. Also, illustrate the mechanism of metering dampening solution by using water stops with a neat sketch.

2B. How do you prepare a make-ready book for an offset printing press? Explain its significance in print production with a suitable example.

[05 + 05 = 10]

3A. Which type of folder is used to perform the first right-angle fold on a web offset printing machine. Explain the working of such a folder with neat sketches.

3B. Discuss the following offset printing problems.

i. Roller glazing
ii. Doughnut hickey
iii. Plate blinding
iv. Hot weather scumming
v. Scum

[05 + 05 = 10]

4A. Name the splicer that performs splicing while both webs rotate at the speed of the web offset printing press. With a neat sketch, describe how such a splicer works.

4B. What is the purposes of installing an offset inking system with an oscillating ink form roller? Explain the working of such a system with a neat sketch.

[05 + 05 = 10]

5A. "Only in some instances does the modulus of elasticity dictate the stretch behavior of paper, and these variations in the paper web dimensions cannot be predicted in advance on a web offset printing machine". Justify this statement with a suitable experiment.

5B. Identify the device used to regulate the speed of paper to maintain web tension on a web offset printing press. Explain the working of such a device with neat sketch.

[05 + 05 = 10]

6A. Explain various mechanisms of detecting early and late sheets on a sheet-fed offset printing press with neat sketches.

6B. With neat sketches, explain the principle of ‘negative’ and ‘positive’ working offset printing plates.

[05 + 05 = 10]

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