



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

END SEMESTER MAKE-UPEXAMINATIONS, DECEMBER 2019

SUBJECT: FLEXOGRAPHY, GRAVURE AND SCREEN PRINTING [PMT 3101]

REVISED CREDIT SYSTEM
(19/12/2019)

Time: 3 Hours

MAX. MARKS: 50

Instructions to Candidates:

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

1A. Describe the mechanical principles of flexography with a neat diagram. Explain how do you select the plate cylinder size for a given print repeat length.

1B. Describe the different ESA systems used on gravure presses with simple sketches.

1C. Explain the workflow of screen printing process with a flow chart.

[04 + 03 + 03]

2A. Explain with neat diagrams the modular and non-modular flexo presses. List the benefits and drawbacks of each of them.

2B. i. Draw a 10 unit gravure publication press design that prints 8 page newspaper with 1,2,7,8 pages in process color and 3, 4, 5, 6 pages in black.

ii. Why does gravure publication presses require reversing units? Justify.

2C. Explain the importance of squeegee and flood bar in screen printing.

[04 + 03 + 03]

3A. Describe with the applications, the carbonized and calendered meshes used in screen printing.

3B. Describe with neat diagram the offset gravure press. What are its advantages, disadvantages and applications.

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3C. Describe tension zones of a flexo press. Explain the pattern of tension to be followed in each tension zone with proper justification.

[04 + 03 + 03]

- 4A.** i. Calculate mesh opening and TWIV of mesh with count 480 TPI, thread diameter 42 μ and fabric thickness 73 μ .
 ii. Explain the situations where cambered and skewed squeegee are used. Explain the way in which they can be carried out.

4B. With neat diagrams, explain the 2 types of gravure stack presses, their advantages and disadvantages.

4C. Compare the offset pivot guide and steering guide used for lateral registration of web on flexo presses.

[(02 + 02) + 03 + 03]

5A. Explain 4 methods of anilox roller cleaning before storage.

5B. Explain the combination of top and bottom side gravure presses with a neat diagram.

5C. Explain with neat diagram the components and working principle of flat bed hinged frame screen printing press.

[03 + 03 + (02 + 02)]