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ANNA UNIVERSITY (UNIVERSITY DEPARTMENTS)

B.E. / B. Tech / B. Arch (Full Time) - END SEMESTER EXAMINATIONS, APRIL/MAY 2025

PRINTING AND PACKAGING TECHNOLOGY

Fourth Semester

PP23401 – OFFSET PRINTING TECHNOLOGY

(Regulation 2023)

Time: 3hrs

Max. Marks: 100

CO 1	Describe the principle of offset printing process and image carriers.
CO 2	Explain the sheet feeding mechanism.
CO 3	Infer the design principle of sheet-fed offset machines.
CO 4	Identify the importance of blanket, rollers as influencing factors in print quality.
CO 5.	Demonstrate the automatic press operating procedures and solve print problems.

BL – Bloom's Taxonomy Levels

(L1 - Remembering, L2 - Understanding, L3 - Applying, L4 - Analyzing, L5 - Evaluating, L6 - Creating)

PART- A (10 x 2 = 20 Marks)

(Answer all Questions)

Q. No	Questions	Marks	CO	BL
1	Define the principles of lithography.	2	1	L1
2	Describe the role of contact angle in Lithography.	2	1	L2
3	Illustrate the importance of pile height governor.	2	2	L2
4	Compare No sheet and Double sheet detectors.	2	2	L2
5	Define undercut.	2	3	L1
6	What is called equal diameter rolling?	2	3	L1
7	Recall some physical characteristics of blankets used in offset printing.	2	4	L1
8	Emulsification of ink and dampening solution - Illustrate	2	4	L2
9	State Image blinding?	2	5	L1
10	What are called hybrid presses?	2	5	L1

PART- B (5 x 13 = 65 Marks)

(Restrict to a maximum of 2 subdivisions)

Q. No	Questions	Marks	CO	BL
11 (a) (i)	Analyze properties of the Image carrier required to retain the ink on its surface used in lithography and also mention the materials required.	6	1	L4
(ii)	Categorize some Quality control aids used in Printing.	7	1	L4
OR				
11 (b) (i)	Identify the requirements of an effective Plate exposing unit.	7	1	L4
(ii)	Examine how wettability of solid surface can be enhanced in printing.	6	1	L4

12 (a) (i)	Identify and explain about the fundamental elements used in feeder table of the offset printing machine.	6	2	L3
(ii)	Construct a general note on three point register system in Offset printing.	7	2	L4

OR

12 (b) (i)	Examine in detail about the sheet insertion systems used in offset printing machine with neat sketch.	8	2	L4
(ii)	Distinguish between the automatic pasters used in Web offset press.	5	2	L3

13 (a) (i)	Explain how to determine the squeeze pressure of the blanket cylinder used in offset printing with neat sketch.	8	3	L4
(ii)	Identify and explain about the accessories required for effective sheet delivery.	5	3	L4

OR

13 (b) (i)	Explain the function of Anti set-off spray devices with neat sketch.	8	3	L5
(ii)	Discuss the necessary safety precautions to be followed in press room.	5	3	L3

14 (a) (i)	Determine the basic requirements and performance attributes of blankets used in printing with neat sketch.	8	4	L3
(ii)	Derive the properties of elastomers used for rollers in printing.	5	4	L4

OR

14 (b) (i)	Explain the application of UV coaters.	5	4	L5
(ii)	Discuss about the types and the functions of dampening systems in offset printing.	8	4	L4

15 (a) (i)	Prepare a chart to determine the make ready operations to be carried out in offset printing.	7	5	L6
(ii)	Demonstrate the necessities of multi-color printing.	6	5	L5

OR

15 (b)(i)	Discover the various drying operations performed in printing.	6	5	L4
(ii)	Elaborate the importance of ISO 12647-2, and also about some latest Emerging Trends in offset printing.	7	5	L4

PART- C (1 x 15 = 15 Marks)

(Q.No.16 is compulsory)

Q. No	Questions	Marks	CO	BL
16 (i)	Predict and evaluate various print problems occurred and also propose some solutions to solve it in offset printing.	8	5	L6
(ii)	Chemistry plays a the major roll in Offset Printing - Justify	7	1	L5

