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ANNA UNIVERSITY (UNIVERSITY DEPARTMENTS)
B.E. / B. Tech / B. Arch (Full Time) - END SEMESTER EXAMINATIONS, NOV/DEC 2024

PRINTING AND PACKAGING TECHNOLOGY

PP23303 FLEXOGRAPHY PRINTING AND CONVERTING

(Regulation 2023)

Time: 3hrs

Max. Marks: 100

CO 1	State the factors influencing design for flexography.
CO 2	Design and optimize the plate preparation process
CO 3	Apprehend the steps in the image carrier preparation and mounting
CO 4	Report about the working of flexographic press and its control.
CO 5	Implement quality control in flexographic printing workflow

BL – Bloom's Taxonomy Levels

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

PART- A (10 x 2 = 20 Marks)

(Answer all Questions)

Q. No	Questions	Marks	CO	BL
1	Differentiate cut and process color.	2	1	L2
2	Write the function of solvent recovery system.	2	1	L1
3	What is plate beveling?	2	2	L2
4	Draw and justify the need for plate staggering in flexo- press.	2	2	L1
5	Give the significance of chambered inking system.	2	3	L1
6	List down the types of clutches used in flexo-press.	2	3	L2
7	Justify the need for dual dryer system in flexographic press.	2	4	L2
8	Name the types of plate cylinder.	2	4	L1
9	What is press optimization?	2	5	L1
10	Which QC aids used to measure the trap and density of the print?	2	5	L2

PART- B (5 x 13 = 65 Marks)

(Restrict to a maximum of 2 subdivisions)

Q. No	Questions	Marks	CO	BL
11 (a)(i)	Describe any three design considerations of page design element used in flexography printing process.	7	1	L4
(ii)	Write the significant features about flexographic screen angles.	6	1	L3
OR				
11 (b) (i)	Describe the salient features of designing barcode printing in flexo-press.	7	1	L4
(ii)	What is digital trap and how it is compensated for text and vignette for flexographic print job	6	1	L3
12 (a)	Distinguish production stage variations between sheet and liquid photo polymer plates.	13	2	L4
OR				
12 (b)	Using a schematic diagram, describe any one method of direct imaging plate preparation.	13	2	L4
13 (a) (i)	Describe the significant features and functions of "Anilox roller" in detail.	7	3	L3
(ii)	Explain the procedure of video camera-based plate mounting.	6	3	L4

(P.T.O)

OR				
13 (b) (i)	Describe the offline multi-color proofing procedure in detail.	7	3	L3
(ii)	Elaborate the types of flexo-press and their salient features in detail.	6	3	L4
14 (a) (i)	Explicate the principle of any one splicer in a unwind station of flexographic web press.	8	4	L3
(ii)	Explain the working of static electricity remover used in flexo-press with clear diagram.	5	4	L4
OR				
14 (b)(i)	Elaborately discuss the parts and functions of flexographic printing station.	8	4	L3
(ii)	Describe the functions of web tension control used in rewind station of a flexographic press.	5	4	L4
15 (a) (i)	Discuss any five flexographic print related trouble shooting problems with its causes and remedies.	8	5	L3
(ii)	Explain the functions of any five quality control aids in a control strip.	5	5	L3
OR				
15 (b)	List the types of press characterization, Discuss the finger printing process in detail.	13	5	L3

PART- C (1 x 15 = 15 Marks)
(Q.No.16 is compulsory)

Q. No	Questions	Marks	CO	BL
16. (i)	Elaborately discuss the functions and types of motors and brakes in web tension control.	8	3	6
(ii)	a. Calculate repeat size for the given data: 1. 1/8" CP gears with 82 gear teeth (2 Marks) 2. 1/4" CP gears with 75 gear teeth (2 Marks) b. 12 DP gear press, calculate the gear size needed to print a 20" repeat. (3 Marks)	7	4	5

