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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

PT5402 FLEXOGRAPHY AND CONVERTING PROCESS

(Regulation 2019)

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	Explain the steps in the image carrier preparation and mounting
CO 4	Discuss 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 reverse text and reverse print.	2	1	L2
2	What is digital trapping?	2	1	L1
3	What is capped plate?	2	2	L2
4	Draw and write the need for plate staggering in flexo-press.	2	2	L1
5	What is priming?	2	3	L1
6	Justify the need for light finishing.	2	3	L2
7	Name the parts of a simple dryer system-	2	4	L1
8	Give any two surface treatment technique.	2	4	L2
9	How pH of ink affects print quality?	2	5	L1
10	Which QC aid is used to measure dot gain and density?	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)	Describe the design considerations of following page design element used in flexographic printing process. (i) Types (5) (ii) vignette (4) (iii) Trapping (4)	13	1	L4
OR				
11 (b) (i)	Describe the salient features of designing barcode printing in flexo- press.	7	1	L4
(ii)	Explicate speciality of screen angles used in flexography.	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)	Elaborate the types of flexo-press and their salient features in detail.	7	3	L3
(ii)	Explain the procedure of microdot-based plate mounting procedure.	6	3	L4
OR				
13 (b) (i)	Describe with neat diagram the significant features and functions of "Anilox roller" in detail.	7	3	L3

(ii)	Elaborate the importance, types and selection of sticky back	6	3	L4
14 (a)	Explain the different types of dryers and chillers used in flexo press with clear diagram.	13	4	L3
OR				
14 (b)	Describe the need and functions of any two substrate cleaning techniques used in flexographic press with neat sketch.	13	4	L3
15 (a) (i)	Draw and explicate the significant of cut-back curve in maintaining flexographic print quality.	8	5	L4
(ii)	Discuss any four flexographic press related trouble shooting problems with its causes and remedies.	5	5	L3
OR				
15 (b) (i)	Explain the functions of any four quality control aids in a control strip.	8	5	L4
(ii)	Discuss any four flexo plate related trouble shooting problems with its causes and remedies.	5	5	L3

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

Q. No	Questions	Marks	CO	BL
16. (i)	Elaborate the importance and control of web tension zones in flexo-press.	7	1	6
(ii)	a. Calculate repeat size for the given data: 1. 1/8" CP gears with 75 gear teeth (2) 2. 1/4" CP gears with 92 gear teeth (2) b. 10 DP gear press, calculate the gear size needed to print a 10" and 25" repeat size. (4)	8	5	5

