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**ANNA UNIVERSITY (UNIVERSITY DEPARTMENTS)**  
**B.E. / B. Tech / B. Arch (Full Time) - END SEMESTER EXAMINATIONS, APRIL/MAY 2024**

**PRINTING AND PACKAGING TECHNOLOGY**  
Fourth Semester  
**PT5404 – OFFSET PRINTING TECHNOLOGY**  
(Regulation 2019)

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 sheetfed offset machines
CO 4	Identify factors influencing print quality
CO 5	Demonstrate the sequence of press operating procedures and solve print problems

**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	Define the role of contact angle in lithography.	2	1	L2
2	What is Desensitizing process?	2	1	L1
3	Write the importance of pile height governor.	2	2	L1
4	What is called over feed system?	2	2	L2
5	Define true rolling.	2	3	L2
6	Write short note on convertible press?	2	3	L2
7	Write some properties of elastic materials used for rollers in printing.	2	4	L1
8	Emulsification of ink and dampening solution - Discuss	2	4	L2
9	Write some advantages of automatic blanket washing.	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)	Write brief note on the properties of plates used in lithography.	4	1	L4
(ii)	Discuss the types of surface treatments given to the offset plates.	9	1	L4
<b>OR</b>				
11 (b) (i)	Write short note on Plate exposing unit.	5	1	L4
(ii)	Explain in detail about any three Quality Control gadgets used in printing.	8	1	L3

12 (a) (i)	Explain briefly about the types of feed board sheet control devices used in printing.	6	2	L3
(ii)	Briefly discuss the lay mechanism used in printing	7	2	L4
<b>OR</b>				
12 (b) (i)	Explain in detail about the sheet insertion systems used in offset printing machine with neat sketch.	9	2	L3
(ii)	Write the importance of various detectors in offset printing.	4	2	L4
13 (a) (i)	Explain how to calculate the squeeze pressure of the blanket with neat sketch.	8	3	L3
(ii)	Write short note on (a) Transfer Cylinder (b) Delivery Cylinder:	5	3	L4
<b>OR</b>				
13 (b) (i)	Explain Anti set-off spray devices with neat sketch.	8	3	L4
(ii)	Discuss the necessary safety precautions to be followed in press room.	5	3	L3
14 (a) (i)	Explain the basic configuration and the properties of blankets used in printing with neat sketch.	8	4	L3
(ii)	Explain briefly the composition of dampening solution used in Offset printing	5	4	L4
<b>OR</b>				
14 (b) (i)	Explain the Ink supply chain mechanism with sketch.	8	4	L4
(ii)	Briefly discuss about the properties of ink used in offset technology	5	4	L4
15 (a) (i)	Discuss briefly about the make ready operation to be carried out in offset printing.	7	5	L4
(ii)	Physical drying vs Chemical drying - Discuss	6	5	L4
<b>OR</b>				
15 (b) (i)	Write short note on (a) Sheet coating systems, (b) spot coating and varnishing.	6	5	L4
(ii)	Discuss 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)	Explain how to Identify various print problems in offset printing.	8	5	L4
(ii)	Analyze the remedies for the print problems occurred during printing.	7	5	L5