

GUJARAT TECHNOLOGICAL UNIVERSITY

B.E Semester:3

DIPLOMA IN PRINTING TECHNOLOGY

Subject Code 335804

Subject Name PRINTING PROCESSES

Sr.No	Course content
1.	DEVELOPMENT OF OFFSET PROCESS. 1.1 Lithographic principles, surfaces, properties. 1.2 Principles of offset printing.
2.	PARTS OF SINGLE COLOUR SHEET-FET OFFSET PRINTING MACHINE. 1. Feeder and delivery. 2. Printing unit cylinder. 3. Damping and inking unit. 4. Insertion device 5. Trip-off mechanism.
3.	CLASSIFICATION, CHARACTERISTICS AND APPLICATIONS OF PLATE, BLANKET, ROLLERS, INK.
4.	PRE MAKE READY AND MAKE READY. 4.1 Pre required settings of Plate, Blanket, Rollers (Fountain and Ink). 4.2 Application of press room chemicals and materials. 4.3 Required settings for simple, partial and full make ready. 4.4 Required settings for Registration of jobs.
5.	STUDY OF OPERATING SEQUENCES OF OFFSET PRINTING MACHINE FOR VARIOUS TYPES OF JOBS.
6.	PRINTABILITY. ◆ Printability aspect of various categories of paper in relation to printing ink (e.g. hard stock, coated stock, medium stock, thin stock etc.)
7.	PRINTNG PROBLEMS AND THEIR REMEDIES. 1. Slurring. 2. Chalking 3. Scumming. 4. Crystalization 5. Emulsification 6. Set-off etc.
8.	INTRODUCTION OF SCREEN PRINTING PROCESS. 8.1 Introduction of process and product produced

	8.2 Briefing of materials and basic equipment used 8.3 Various screen fabrics and its care 8.4 Various screen stretching methods
9.	STENCIL PREPARATIONS IN SCREEN PROCESS PRINTING 9.1 Various manual methods of stencil preparation 9.2 Photographic stencil methods : Direct and Indirect 9.3 Application of 5 star film, chromolin film and recent developed, P S films etc. 9.4 Proper selection for different types of job
10.	SCREEN PRINTING OF VARIOUS VARIETIES OF JOBS 10.1 Make ready : Care & Precautions, Various steps before printing. 10.2 Single colour and multi colour screen printing 10.3 Sticker printing on paper, PVC Plastic and Cellophane plastic. 10.4 Running troubles faced / care in drying and drying racks. 10.5 Familiar with various shapes and surfaces and related equipment 10.6 Relation of various inks for various surfaces
11.	RELIEF PRINTING PROCESS / LETTER PRESS. 11.1 Introduction and development stages of letter press printing 11.2 Understand various machines and their principles 11.3 Suitability of various jobs on various types of letter press machines and reason of its being obsolete from the market.

LABORATORY EXPERIENCES

1. Understand the handling of various tools / equipment / materials used in printing workshop.
2. Preparation of new blanket for installation in offset machine and practice of removing glaze.
3. Preparation of fountain solution and dampening roller for offset printing.
4. Adjusting inking rollers, setting of ink fountains in offset machine.
5. Make ready and printing of line and halftone combined jobs with offset printing process.
6. Demonstration of Relief printing / Letter press printing process.
7. Acquire knowledge of preparing manual screen stencils.
8. Prepare Direct and Indirect photo stencils on screens through PVA cold / hot 5 star film, chromolin film or PS films etc. Close the open areas and other processing.
9. Exercise of single colour and multi colour screen printing jobs and rectify the running troubles. (e.g. Stickers printing on paper, PVA, cellophane, Labels, etc.)
10. Working on the process of flocking by hand or through equipment.
11. Handle equipment for various irregular shape.
12. Understand the various atmospheric changes take place in the workshop and tackle them so that it shows effect on the job.
13. Exercise on various automatic screen printing machines.

Reference Books:

Sr. No.	Name of Books	Author	Publisher
1.	Commercial Screen Printing	Bhamre	Adorn publication
2.	Complete Screen Printing	K. K. Agrawal	Dehati pustak Bhandar Delhi
3.	Vyavasayik Screen Printing	Bhamre	Adorn publication
4.	A Hand Book of Printing & Packaging	Bishwanath Chakravarty	Galgotia publication
5.	Letter Press Printing Part – I & II	C. S. Misra	Anupam prakashan Allahabad
6.	Practical Printing and Binding	Odham	ABC publication London
7.	A Survey of Printing Processes	A. D. Hutding	Earnest benn & comp.
8.	Mudransastra	P. T. Thakkar, A. K. Patel	University granth Nirman Board Ahmedabad.
9.	Technology of Offset Printing	C. S. Misra	
10.	Machine Printing		Dinrant W. R.
11.	Lithographers Press Operating		G.A.T.F, USA
12.	Offset Press Operating		G.A.T.F, USA
13.	Offset Mudran Shastra	C. S. Misra.	