

GUJARAT TECHNOLOGICAL UNIVERSITY
DIPLOMA IN PRINTING TECHNOLOGY
SEMESTER: V

Subject Name: **Flexo-Gravure Printing**

Sr. No.	Course content
1.	Introduction to Gravure Printing: 1.1 Principles involved. 1.2 Methods of imparting impression. 1.3 Substrates and their characteristics.
2.	Gravure Image Preparation: 2.1 Metals used as image carrier. 2.2 Photographic/chemical method of image preparation. 2.3 Electronic engraving.
3.	Gravure Printing Techniques: 3.1 Introduction to various gravure printing machine and their job suitability. 3.2 Printing Techniques. <ul style="list-style-type: none">- Plate bending and installation.- Inking.- Use of Doctor Blade.- Setting of feeder, gripper, delivery and other ancillary units.
4.	Single/Multicolour Gravure Printing: 4.1 Makeready and printing of single colour jobs. 4.2 Makeready and printing of multicolour jobs. 4.3 Ink for gravure and Drying of inks. 4.4 Solvent recovery.
5.	Problems, Causes and Remedies in Gravure Printing: 5.1 Introduction to problems, causes and remedies in gravure printing related with substrates, ink, machine, screens etc.
6.	Introduction to Flexo Printing: 6.1 Principles involved. 6.2 Method of imparting impression. 6.3 Substrates and their characteristics.
7.	Flexo Image Preparation: 7.1 Various substrates used as image carrier in Flexo. 7.2 Method of preparing image in various flexo image carrier.
8.	Flexo Printing: 8.1 Introduction to various flexo printing machines. 8.2 Various units of flexo machine and printing techniques. 8.3 Troubles and trouble shooting.

9.	Quality Control in Flexo Printing.
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Laboratory Experience:

1. Methods of guiding paper through rollers cylinders.
2. Technique of tension control of papers and feeding of paper from rolls.
3. Setting of doctor blade with cylinder.
4. Pressure setting between Impression roller and cylinder for various substrate.
5. Makeready and printing with register control for two colour printing.
6. Printing defects like streaks, doctor blade marks, cylinder straches and their remedies.
7. Methods of moving paper / substrate through roller and cylinder of flexo machine.
8. Techniques of tension control of substrates and feeding substrates from rolls.
9. Setting of flexo cylinder with impression roller.
10. Make-ready and printing with register control for two colour printing.
11. Printing defects and remedies.
12. Demonstration of on-line operation.

Reference Books:

Sr. No.	Name of Books	Author	Publication
1.	A handbook of printing and packaging	Drishwanath Chakravarty	Galgotio & sons. New Delhi.
2.	Photogravure	Pitman	Pitman
3.	A Survey of Printing Process.	A. D. Haching	London