

# GUJARAT TECHNOLOGICAL UNIVERSITY

B.E Semester:3

## DIPLOMA IN PRINTING TECHNOLOGY

Subject Code 335802

Subject Name REPRODUCTION TECHNIQUES

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Sr.No	Course content
1.	<b>CLASSIFICATION AND HANDLING OF ORIGINALS FOR REPRODUCTIONS:</b>  1.1 Classification line, tone, halftone, suitability for different printing processes.  1.2 Transparency-choosing, evaluating, content requirement, balance and exposure level, characteristics of different originals and precautions and techniques in handling them for reproduction.  1.3 Difficult line originals - lines originals with colour, line originals with line and screen; line originals with broken effect.
2.	<b>LIGHT AND COLOURS:</b>  2.1 Basic colours theory, additive and subtractive colours, colours analysis, applications of colours theory.  2.2 Basic concept of light.
3.	<b>OPTICAL-EQUIPMENT AND ACCESSORIES :</b>  3.1 Lens defects, Aperture setting, Types of Aperture, Prism position assembly for different types of camera.  3.2 Different types of camera and its relative advantages and disadvantages and its working.  3.3 Exposure calculations for different size.  3.4 Essential requirements of camera lens, safelight and illumination, colour filters.  3.5 Process enlarger and vertical camera.
4.	<b>PHOTOGRAPHIC MATERIAL AND CHEMISTRY OF PHOTOGRAPHY:</b>  4.1 Consistency of film emulsion and light sensitivity.  4.2 Types of films.  4.3 Consistency of developers chemicals and allied bath, formulations of developers.  4.4 Effect of exposures and developers on film emulsion.

5.	<b>TYPES OF ILLUMINATIONS:</b> 5.1 Spectral sensitivity of emulsion for different light resource. 5.2 Characteristics of light, light intensity calculations at different distance.
6.	<b>HALFTONE PHOTOGRAPHY:</b> 6.1 Introduction to the concepts. 6.2 Selection of screen ruling. 6.3 Introduction to different halftone screen - glass screen contact screen - gray and magenta. 6.4 Theory of dot formation on film emulsion. 6.5 Screen distance calculation and practical approach. 6.6 Process of halftone - reworking and line negative preparation.
7.	<b>tone AND CORRECTION:</b> 7.1 Tools and materials. 7.2 Use of gray scale and its application for tone correction. 7.3 Halftone dot etching process for tone correction. 7.4 Sensitometry and Densitometer.
8.	<b>NEGATIVE/POSITIVE SHOOTING STRAIGHT REVERSAL AND LATERAL REVERSAL:</b> 8.1 Line -ve/+ve preparation and evaluations, as per printing process. 8.2 Line & halftone combination. 8.3 Halftone -ve/+ve preparation and evaluations, as per printing process.
9.	<b>COLOUR SEPARATION:</b> 9.1 Introduction to colour separation methods and evaluation of direct colour separation

Reference Books:

<b>Sr. No.</b>	<b>Name of Books</b>	<b>Author</b>
1.	Graphic Arts Photography	G.A.T.F.
2.	Manual of Graphic Reproduction Lithography	Eric Chambers
3.	Hand book of Modern Halftone Photography	Ekald Tred, Noemer
4.	Graphic Reproduction Photography	Hemes Walter Burden
5.	Colour and its Reproduction	GATF
6.	Line Photography	A.I.F.M.P. New Delhi
7.	Halftone Photography	A.I.F.M.P. New Delhi