

AMPT02 INTRODUCTION TO PRINTING PROCESSES

UNIT-1 HISTORY

- 1.1 Brief history of printing in the Western Countries and in India from the time of Gutenberg's invention of movable type.
- 1.2 A brief survey of the evolution of printing processes and methods from a craft to the present day sophisticated technology.

UNIT-2 BRIEF INTRODUCTION OF PRINTING INDUSTRY IN INDIA

- 2.1 Scope and total printing capacity. Participation at international level

UNIT-3 BASIC OPERATIONS IN PRINTING

- 3.1 Pre-press, press and post press operations.

UNIT-4 PRINTING PROCESSES

- 4.1 Introduction to printing processes, basic principles, characteristics, identification and applications of letterpress, flexography, lithography and offset, gravure, screen printing etc.
- 4.2 General principles of printing Surface preparation for these processes.
- 4.3 Modes of taking impressions.
- 4.4 Suitability & limitations of various processes of printing.

UNIT-5 LETTERPRESS PRINTING MACHINES

- 5.1 Introduction to letter press printing machines, classification of letterpress printing machines, types of platen, cylinder and rotary machines;
- 5.2 Their mechanical and operational features and uses; merits and demerits.

UNIT-6 ROLLERS

- 6.1 Different kinds of printing machine rollers, their types, manufacture, care and maintenance.

UNIT-7 RUNNING DEFECTS

- 7.1 Common printing faults, causes and their remedies.

UNIT-8 SCREEN PRINTING:

- 8.1 History of Screen Printing, Stencils - Their kinds and methods of preparation.
- 8.2 Screen materials. Screens - multifilament, mono filaments, Selecting mesh material, stretching screen fabric to frame, screen preparation, screen reclamation
- 8.3 Trouble shooting clogged screens. Care and storage of screens.
- 8.4 Image transfer – The squeegee, Squeegee considerations, squeegee preparation, hardness categories of squeegee blades, Variety of blade, its shape and application.
- 8.5 Screen ink- its kinds and uses for different substrates and drying methods.

UNIT-9 SCREEN PRINTING MACHINES

- 9.1 Their kinds and working principles and methods.

9.2 Method of halftone preparation for screen printing.

9.3 Drying Equipments- Drying racks, wicket dryers, Jet dryers, Infrared dryers, Ultraviolet dryers.

9.4 Flocking process.

UNIT-10 SCREEN PRINTING SUBSTRATES:

10.1 Introduction, Paper and Paper board, Wood, Textiles, Plastics, Metals,

10.2 Ceramics and glass. Specialized Areas

10.3 Printed circuit boards of screen printing.

References Books:

1. Letter Press Printing Part 1, 2, By C.S. Misra
2. Printing Technology By Adams, Faux, Rieber
3. Screen Printing Review By Babett Magee
4. Screen Printing By John Stephens

