

Foundation Course)

Subject Name- Design & Artwork

Subject Code- BPT-107 T

Internal+External-(20+80)

No. of credits-4

No. of Contact Hours/Week-4

Rationale: Although type setting technique has evolved through hand typesetting, mechanical type setting and phototypesetting up to high end DTP systems aided by ultra-modern hardware like color scanner and digital camera. The principles of design and typesetting are forming the basis of established modern graphic reproduction processes. Therefore it is of importance for the student of printing technology to learn and understands the various design and type setting principles.

Unit-1-Graphic Design Fundamentals and Principles-Study of Graphic Design Fundamentals Point, line, space, weight, size, scale, tone, texture, pattern, color. Study of use, versatility, and purposes of design principles. Study of different media and its substitutes, and economy of graphic design. Study of Need layout design with respect to different imaging and printing processes and products e.g. different types of binding styles, provision for a bleed and different types of margins.* Study of Graphic Design Principles Balance-symmetric and asymmetric, contrast, proportion, unity, rhythm, simplicity, fitness, use, advantages and limitations.

Unit-2 - Colors in Graphic Design-Color Terminology Hue, value, chromo, brightness, shades, tint, color symbolism.* Color Relationship Cool, warm, contrast, complementary and colors schemes.*Graphic Design and printing involving 2, 3 and 4 colors. Study of factors such. As target readers, financial input, substrate, number of copies, and printing process, etc, governing or controlling graphic design

Unit-3 - Preparation of Layout for Graphic Reproduction-Definition of layout and attributes of a good layout, Study of stages such as visualization, thumbnail and rough layout involved in preparing a good layout.* Study of basic geometric shapes, space, use of tools such as geometric and optical center.* Definition, types, applications, advantages and limitation of House Style and Dummy. , House style rules and basis, qualification of proofreader and copyholder, rules for word division and use of hyphenation.

Unit-4 - Imposition and Planning-Concept and need of imposition and planning in typesetting. Concept of oblong and upright pages. Elements of a standard imposition scheme and their use. Comparison of different types of imposition schemes of text pages in layout.*Study of different types of graphic marks incorporated in an imposition scheme.* Different converting operations such as collating, folding, trimming and binding, etc. that governs the use or selection of imposition scheme.*Limitations such as working of folding machine, page sizes, types of paper and their physical properties. Introduction to electronic imposition. * Graphic Design Considerations for various printed jobs such as newspaper, magazine, leaflet, folder, letterhead, visiting card, and envelopes etc.

Unit-5 -Desk Top Publishing Systems-Concept of DTP and (EPC) Electronic Page Composition or DAR) Digital Artwork and Reproduction. Comparison of traditional page make-up and assembly systems with electronic or digital make-up and assembly.*Brief overview of Desk Top Publishing Systems, their application areas, various related hardware and component parts of ideal DTP system.*Different DTP Page make-up software and main feature of ideal DTP software or package.*Brief overview of Page Maker and Quark press DTP package in terms main features, application area, advantages and limitation.

Subject Name-Screen Printing
Subject Code- BPT- 111T
Internal+External-(20+80)

No. of credits-4
No. of Contact Hours/Week-4

Rationale: Screen-printing has created a niche by its wide range of applications including packaging and label design, large format printing and special applications. The process also requires less capital for upcoming entrepreneurs. After undergoing the practical of this course, the student would be able to perform – Multi-color printing with proper registration; understanding the cloth type, mesh count, calendaring; different types of image carriers & their preparations; printing on different surfaces; etc.

Unit-1

* Introduction to Screen Printing *Introduction to characteristics and application areas of screen printing technology. *Comparison of screen printing technology with other printing technologies.

Unit-2

*Image Carrier Used in Screen Printing *Study of construction and characteristics of screen printing image carrier.* Study of different forms of image carrier. Comparison of screen printing image carrier with other printing technologies.* Study of construction, types, advantages, limitations and applications of different types of frames used in screen image carrier.* Study of construction, types, advantages, limitations and applications of *Different types of screen fabric or mesh materials used screen printing. Study of terminology associated with screen fabric such as threads per inch, plain and twill weave, etc.* Study of different types of light sensitive chemistries used for stencil making for screen printing technology and their application areas.* Study of construction and working of machinery and equipments used in screen i.e. image carrier making such as screen fabric stretching unit, light source, exposure unit, emulsion coating unit, water gun, etc.

Unit 3

Screen Printing. Study of construction and working different types machine configurations used in screen printing * Study of construction, types, advantages and applications areas of different types squeezes used in screen printing. * Study of different types, formulation and application areas of inks and varnishes used for screen printing. *Study of different types of printing troubles encountered and remedies *Selected subsequently.* Study of different types of ink drying mechanism used on screen printing machines.*Study of different types of substrates and their application areas used in screen printing

Unit-4

* Inline Operations Used in Screen Printing.* Introduction to different types of inline and finishing operations performed in screen printing such as adhesive and varnish coating, lamination, punching, stripping, and slitting, etc.

Unit-5

*Quality Control in Screen Printing * Study of viscosity, tack, specific gravity requirements of screen printing inks, varnishes and solvents. *Importance of color of fabric, fabric stretching angle, tension value while fabric stretching. Study of effect of moisture and relative humidity on screen*printing image carrier and its operation. Study of effect of off-contact, squeeze pressure and angle on print quality. To study the calculation of ink volume deposition and image elongation in screen printing.* Study of graphic quality control aids used in screen printing to achieve tone and color reproduction.