

PRINTING TECHNOLOGY



Information about the Book

Title: Modern Printing Technology
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Format: Paperback
ISBN: 8186623221
Code: ENI4
Pages: 152
Published: 1998
Publisher: National Institute of Industrial
Research



Printing is one of those inventions that have revolutionized our world and is the most important fundamental practices in our society. Nothing is more essential to civilization intellectually or commercially, than printing. Printing is widely used in our society to pass on information and to decorate objects. Printing is a process for reproducing text and images, typically with ink on paper using a printing press. It is often carried out as a large scale industrial process, and is an essential part of publishing and transaction printing. There are various types of printing methods such as screen printing, offset printing, rotogravure printing etc. Offset printing is a widely used printing technique where the inked image is transferred (or offset) from a plate to a rubber blanket, then to the printing surface. There is an enormous growth being witnessed in the printing industry.



The emergence of the retail revolution and growing education across the country is acting as a fuel to the growth of the printing industry. The Indian Printing Industry is well established and presently growing at 12% per annum.

This book provides you details about the various methods and techniques involved in modern printing technology. Some of the fundamentals of the book are multi colours, paper publishing unit, screen printing, offset printing press, rotogravure printing, desk top publishing, computer forms and security printing press, printing inks, ink for hot stamping foil, aluminium printing plate for offset printing machine, screen printing on cotton, polyester and acrylics. The book also covers process, project profiles of different types of printings and printing inks manufacturing along with sources of machinery and raw materials.



The book provides you with comprehensive information on modern printing technology. Basic information in entering a market and the opportunities and requirements of the potential sector has been the best way to penetrate in a market. How and what if properly answered can take you to a long way. The first hand information on different types of modern printing technology has been properly dealt in the book and can be very resourceful for those looking for entrepreneurship opportunity in this sector

INTRODUCTION

It is perhaps Edam realized that the twentieth century is not so much the atomic age as the age of mass communication better, faster, more efficient international communication: an age of which the atomic race is only aspect. Visual communication a term coined only recently the graphic and typographic arts output and standard of printing have grown to crude process used only for short runs is giving way to an appreciation of the special characteristics effects and advantages of offset printing.

Printing Cycle for Direct and Indirect or Offset Printing

At the preparatory or preparing stage the operation involved converting the original to be reproduced into a printing plate or image carrier. The starting point in all printing processes is the original or copy. In all other cases the original is converted to the form for printing by photo mechanical means.

Letterpress

Letterpress is a “relief” process that is, the printing surface holding the image to be printed is raised above the non-printing background.

Offset Press Operation

- Offset presses are rotary in nature and use the principle that grease and water do not mix to deliver the desired impressions on paper.
- The printing section of the press includes a plate cylinder, an impression cylinder a blanket cylinder, linking rollers, a moisture system and a plate adjustment (Registration) device.
- That all material to be printed is on one thin, flat, and pliable plate is one of the various uses of the offset process.
- Once the plate is on the press the operation must apply, the moisture (water plus an additive) to the surface of the plate. When ink greases is applied, it adheres only to the image area and is repelled by the water wet portions. Because of the water grease action and its photographic nature, offset printing is considered a chemical process.

2 Bureau of Indian Standards Specifications

The following Indian Standards

Specification are available for reference

I.S. 11610-1986

Rubber rollers for offset printing size A4

I.S. 6830-1973.

Uses and Application

The offset press is characterized by the following important advantages over other printing methods;

1. The rubber printing surface conforms to irregularities in the paper surface. Less printing pressure is needed and print quality is improved. Half tones of high quality can be printed on rough papers.
2. Paper does not come into contact with the metal printing plate. Therefore the plate is less subject to abrasive wear and can run much longer editions.

Speed of printing is increased. The effect of press improvements on printing speed.

4. The image on an offset printing plate reads right instead of in reverse or wrong reading. This facilitates both hand and photomechanical preparation.

5. Less

6. Ink is required for equal coverage. This reduces trapping problems and decreases to tendency of the printed sheets to smudge/and set off i.e. produce a mirror image on the back in the delivery pile. Also drying is quicker.

Photo Offset Printing

Photo-offset printing of increasing interest to everyone in the field of communications differs from letter press because it is:

1. Photographic
2. Plan Plano graphic (printing is done for a flat surface)
3. Chemical is natural rather than mechanical
4. Usually indirect rather than direct, each of the above can have an effect on editorial as well as a mechanical procedures.

MARKET SURVEY

India is one of the big country having about 900 million population. The estimation is made that about 37% people are educated now. The growth in the percentage of educated people is taking place day by day with establishment of new school, colleges, education institutions and other. Similarly demand of books, publications etc. is also increasing. This needs establishment of new printing process, viz. Offset, Treadle Letter, Flexographic, Rotogravure, screen Printing etc.

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- ▶ We use authentic & reliable sources to ensure business precision

Our Approach

Requirement collection

Thorough analysis of the project

Economic feasibility study of the Project

Market potential survey/research

Report Compilation

Who do we serve?

- Public-sector Companies
- Corporates
- Government Undertakings
- Individual Entrepreneurs
- NRI's
- Foreign Investors
- Non-profit Organizations, NBFC's
- Educational Institutions
- Embassies & Consulates
- Consultancies
- Industry / trade associations

Sectors We Cover

- Ayurvedic And Herbal Medicines, Herbal Cosmetics
- Alcoholic And Non Alcoholic Beverages, Drinks
- Adhesives, Industrial Adhesive, Sealants, Glues, Gum & Resin
- Activated Carbon & Activated Charcoal
- Aluminium And Aluminium Extrusion Profiles & Sections,
- Bio-fertilizers And Biotechnology
- Breakfast Snacks And Cereal Food
- Bicycle Tyres & Tubes, Bicycle Parts, Bicycle Assembling

Sectors We Cover *Cont...*

- Bamboo And Cane Based Projects
- Building Materials And Construction Projects
- Biodegradable & Bioplastic Based Projects
- Chemicals (Organic And Inorganic)
- Confectionery, Bakery/Baking And Other Food
- Cereal Processing
- Coconut And Coconut Based Products
- Cold Storage For Fruits & Vegetables
- Coal & Coal Byproduct

Sectors We Cover *Cont...*

- ▶ Copper & Copper Based Projects
- ▶ Dairy/Milk Processing
- ▶ Disinfectants, Pesticides, Insecticides, Mosquito Repellents,
- ▶ Electrical, Electronic And Computer based Projects
- ▶ Essential Oils, Oils & Fats And Allied
- ▶ Engineering Goods
- ▶ Fibre Glass & Float Glass
- ▶ Fast Moving Consumer Goods
- ▶ Food, Bakery, Agro Processing

Sectors We Cover *Cont...*

- Fruits & Vegetables Processing
- Ferro Alloys Based Projects
- Fertilizers & Biofertilizers
- Ginger & Ginger Based Projects
- Herbs And Medicinal Cultivation And Jatropha (Biofuel)
- Hotel & Hospitality Projects
- Hospital Based Projects
- Herbal Based Projects
- Inks, Stationery And Export Industries

Sectors We Cover *Cont...*

- Infrastructure Projects
- Jute & Jute Based Products
- Leather And Leather Based Projects
- Leisure & Entertainment Based Projects
- Livestock Farming Of Birds & Animals
- Minerals And Minerals
- Maize Processing(Wet Milling) & Maize Based Projects
- Medical Plastics, Disposables Plastic Syringe, Blood Bags
- Organic Farming, Neem Products Etc.

Sectors We Cover *Cont...*

- Paints, Pigments, Varnish & Lacquer
- Paper And Paper Board, Paper Recycling Projects
- Printing Inks
- Packaging Based Projects
- Perfumes, Cosmetics And Flavours
- Power Generation Based Projects & Renewable Energy Based Projects
- Pharmaceuticals And Drugs
- Plantations, Farming And Cultivations
- Plastic Film, Plastic Waste And Plastic Compounds
- Plastic, PVC, PET, HDPE, LDPE Etc.

Sectors We Cover *Cont...*

- Potato And Potato Based Projects
- Printing And Packaging
- Real Estate, Leisure And Hospitality
- Rubber And Rubber Products
- Soaps And Detergents
- Stationary Products
- Spices And Snacks Food
- Steel & Steel Products
- Textile Auxiliary And Chemicals

Sectors We Cover *Cont...*

- Township & Residential Complex
- Textiles And Readymade Garments
- Waste Management & Recycling
- Wood & Wood Products
- Water Industry(Packaged Drinking Water & Mineral Water)
- Wire & Cable

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