

**AIMS:**

- To be able to identify various kinds of raw- material for image preparation.
- To be able to handle and use various types of tools & equipment of image preparation.
- To be able to prepare various kinds of image carrier.
- To be able to develop knowledge of physical and chemical properties of materials used in image preparation.

**SHORT DESCRIPTION**

Various image preparation; Image preparation for flexographic printing; Digital flexo plates; Image preparation for Gravure printing; Offset printing image preparation; Various tools & equipments used in Offset image preparation; Application of raw materials used in image preparation; Various troubles for preparing a plate; Computer to Plate systems for Offset printing.

**DETAIL DESCRIPTION****Theory:**

- 1. Understand various image preparation.**
  - 1.1 Define image preparation.
  - 1.2 Describe various types of image carrier.
  - 1.3 Identify tools & equipments for plate making.
  - 1.4 Identify surface preparing raw materials.
- 2. Understand the image preparation for flexographic printing.**
  - 2.1 Describe various types of flexo plates.
  - 2.2 Describe Processing method of rubber & photopolymer plates.
  - 2.3 Distinguish between Sheet photopolymer & Liquid photopolymer Plate.
  - 2.4 Compare between rubber & photopolymer plates.
  - 2.5 Describe the storage & handling of raw & used plates.
- 3. Digital Flexo Plates.**
  - 3.1 Define digital engraving.
  - 3.2 Describe the characteristics of digital flexo plate.
  - 3.3 Define HD flexo.
  - 3.4 Describe the use of CDI (Cyrel Digital Imager).
  - 3.5 Describe Thick Plate, Digital Sheet- Solvent and Liquid Photopolymer
  - 3.6 Explain Thin Plate, Digital Sheet- Solvent and Digital Sheet- Thermal Plates.
  - 3.7 Describe Digital Sheet- Thermal and Liquid Photopolymer Plates.
  - 3.8 Describe different types of images used in digital flexo plate making.
  - 3.9 Describe different types of lasers used in digital flexo plate making.
- 4. Understand the image preparation for Gravure printing.**
  - 4.1 Define De- Chrome and Re- Chrome.
  - 4.2 Describe the materials & equipments used for Gravure image preparation.
  - 4.3 Discuss Copper Plating & Polishing.
  - 4.4 Describe storage and changing of Gravure cylinders.
  - 4.5 Explain Computer to Cylinder for Gravure printing.
- 5. Understand the Digital & Offset printing image preparation.**
  - 5.1 Describe the processing method of Digitally Imaged Plates (Di & Laser).
  - 5.2 Describe the processing method of Laser- Edge Ctp Plates.

- 5.3 Describe the processing method of Laser- Edge X Ctp Plates.
  - 5.4 Describe the processing method of D- STAT Thermal Plates & Ribbons.
  - 5.5 Describe the processing method of Kimoto Poly Plates.
  - 5.6 Describe the processing method of Inkjet Ctp Metal Plates
  - 5.7 Describe the processing method of Metal Computer- To- Plate
  - 5.8 Describe the method of Dry offset plate preparation.
  - 5.9 Describe the importance of maintenance of image area and non- image area.
- 6. Understand the operation of various tools & equipments used in Offset image preparation.**
- 6.1 Describe tools & equipments for Offset plate making.
  - 6.2 Discuss on operating the machines & equipments used in Offset image preparation.
  - 6.3 Describe the operating procedure and function of auto exposing equipment.
  - 6.4 Describe the operating procedure and function of auto processing equipment.
  - 6.5 Explain the following procedures:
    - a) Plate coating, b) Plate exposing, c) Plate developing, d) Plate backing: need, process and advantages, e) Offset plate punching system.
  - 6.6 Explain the procedure of using tools for measuring and testing solutions.
- 7. Understand the application of raw materials used in Image preparation.**
- 7.1 Describe image preparing raw materials of different groups.
  - 7.2 Describe the procedure of coating solution making.
  - 7.3 Describe the procedure of Gums solution making.
  - 7.4 Describe the procedure of preparing developing solution.
  - 7.5 Describe the base material of Offset plate.
- 8. Understand various troubles for preparing a plate.**
- 8.1 Describe different types of trouble in plate making.
  - 8.2 Explain the necessary correction for minor defect.
  - 8.3 Describe the causes of scumming in Plate.
  - 8.4 Describe the causes of poor image in plate.
- 9. Understand the technology of Computer to Plate Systems for Offset Printing.**
- 9.1 Explain Computer to Plate (CtP) system in Offset image preparation.
  - 9.2 Describe the advantages & disadvantages of CtP systems.
  - 9.3 Describe the problems & solutions in Offset image preparation with CtP system.
  - 9.4 Describe the offset image setting methods & techniques in CtP system.
  - 9.5 Describe the software's used in CtP system.

### PRACTICAL:

1. Familiar with the tools and equipments of Flexo, Gravure & Offset image Preparation.
2. Identify the various Chemicals used in various kind of plate making.
3. Engrave a gravure cylinder.
4. Plate & polish a Gravure Cylinder.
5. Make a flexo plate using CDI.
6. Make a digital flexo plate.
3. Prepare a Plate Using (Ctc) Computer to Cylinder.
4. Remove the unnecessary image from image area by image remover.
9. Operate an automatic stencil cutting machine.
- 10 Prepare a stencil using Computerized Stencil Machines.

**Reference:** [www.Printwiki.org](http://www.Printwiki.org) , <https://shop.markandy.com> , [www.Cyrel.com](http://www.Cyrel.com)