

Syllabus of for the trade  
of  
**PLATE MAKER CUM IMPOSITOR**  
(SEMESTER PATTERN)  
  
UNDER  
  
CRAFTSMEN TRAINING SCHEME

Designed in : 2013

By  
Government of India  
**CENTRAL STAFF TRAINING AND RESEARCH INSTITUTE**  
Directorate General of Employment & Training  
Ministry of Labour & Employment  
EN - 81, SECTOR – V, SALT LAKE CITY  
Kolkata – 700 091

**List of members of the Trade Committee Meeting for Trade of Plate Maker Cum Impositor**

| <b>Sl. No.</b> | <b>Name &amp; Designation S/Sri.</b>            | <b>Organisation</b>                                    | <b>Remarks</b> |
|----------------|---|--|----------------|
| 1.             | D.Mallick,<br>Director/Chairman                 | A.T.I- Kanpur & RD, RDAT, Kanpur                       | Chairman       |
| 2.             | Anil Kumar, Director                            | A.T.I-E.P.I, Dehradun                                  | Member         |
| 3.             | Anil Kumar tripathi, Principal                  | Govt-I.T.I, Dehradun,U.K.                              | Member         |
| 4.             | Vinay Kumar, Manager                            | Dept. of Science & Technology, Govt.of India, Dehradun | Member         |
| 5.             | Akhil Gupta                                     | Saraswati Press, Dehradun                              | Member         |
| 6.             | Amit Garg, Director                             | Om color creation, lane no.2, chaman vihar, Dehradun   | Member         |
| 7.             | Vinay Mittal, Manager                           | Saraswati Press, Dehradun                              | Member         |
| 8.             | Ashok Mehta, Manager Sales                      | HCL INFOSYSTEMS LTS.                                   | Member         |
| 9.             | GN Prasad Padhy, Regional sales manager         | HCL INFOSYSTEMS LTS.                                   | Member         |
| 10.            | Thakur Singh Rawat, Incharge- Printing Section  | LBS. NAA, Mussoorie                                    | Member         |
| 11.            | Satyabir Singh, AO. Printing Dept.              | LBS. NAA, Mussoorie                                    | Member         |
| 12.            | Ravindra Mohan Kala, Secretary, Scout and Guide | 55, Rajpur Road, State H.Q. ,Dehradun                  | Member         |
| 13.            | Gajender Pal, Proprietor                        | Dev Printers, D.dun                                    | Member         |
| 14.            | P.N.Yadav, Dy.Director of Trg.                  | ATI Kanpur   | Member         |
| 15.            | Rajeev Kumar, Proprietor                        | Rajeev Binders& Printers                               | Member         |
| 16.            | H. C. Goyal, Dy. Director                       | A.T.I.-E.P.I. dehradun                                 | Member         |
| 17.            | Ashwani Kumar, Asstt. Director                  | A.T.I.-E.P.I. dehradun                                 | Member         |

**List of members attended the Workshop to finalize the syllabi of existing CTS into Semester Pattern held from 6<sup>th</sup> to 10<sup>th</sup> May'2013 at CSTARI, Kolkata.**

| <b>Sl. No.</b> | <b>Name &amp; Designation</b>                             | <b>Organisation</b>                               | <b>Remarks</b> |
|----------------|---|---|----------------|
| 1.             | R.N. Bandyopadhyaya, Director                             | CSTARI, Kolkata-91                                | Chairman       |
| 2.             | K. L. Kuli, Joint Director of Training                    | CSTARI, Kolkata-91                                | Member         |
| 3.             | K. Srinivasa Rao,<br>Joint Director of Training           | CSTARI, Kolkata-91                                | Member         |
| 4.             | L.K. Mukherjee,<br>Deputy Director of Training            | CSTARI, Kolkata-91                                | Member         |
| 5.             | Ashoke Rarhi,<br>Deputy Director of Training              | ATI-EPI, Dehradun                                 | Member         |
| 6.             | N. Nath,<br>Assistant Director of Training                | CSTARI, Kolkata-91                                | Member         |
| 7.             | S. Srinivasu,<br>Assistant Director of Training           | ATI-EPI, Hyderabad-13                             | Member         |
| 8.             | Sharanappa,<br>Assistant Director of Training             | ATI-EPI, Hyderabad-13                             | Member         |
| 9.             | Ramakrishne Gowda,<br>Assistant Director of Training      | FTI, Bangalore                                    | Member         |
| 10.            | Goutam Das Modak,<br>Assistant Director of Trg./Principal | RVTI, Kolkata-91                                  | Member         |
| 11.            | Venketesh. Ch. , Principal                                | Govt. ITI, Dollygunj,<br>Andaman & Nicobar Island | Member         |
| 12.            | A.K. Ghate, Training Officer                              | ATI, Mumbai                                       | Member         |
| 13.            | V.B. Zumbre, Training Officer                             | ATI, Mumbai                                       | Member         |
| 14.            | P.M. Radhakrishna pillai,<br>Training Officer             | CTI, Chennai-32                                   | Member         |
| 15.            | A.Jayaraman, Training officer                             | CTI Chennai-32,                                   | Member         |
| 16.            | S. Bandyopadhyay, Training<br>Officer                     | ATI, Kanpur                                       | Member         |
| 17.            | Suriya Kumari .K , Training Officer                       | RVTI, Kolkata-91                                  | Member         |
| 18.            | R.K. Bhattacharyya, Training<br>Officer                   | RVTI, Trivandrum                                  | Member         |
| 19.            | Vijay Kumar, Training Officer                             | ATI, Ludhiana                                     | Member         |
| 20.            | Anil Kumar, Training Officer                              | ATI, Ludhiana                                     | Member         |
| 21.            | Sunil M.K. Training Officer                               | ATI, Kolkata                                      | Member         |
| 22.            | Devender, Training Officer                                | ATI, Kolkata                                      | Member         |
| 23.            | R. N. Manna, Training Officer                             | CSTARI, Kolkata-91                                | Member         |
| 24.            | Mrs. S. Das, Training Officer                             | CSTARI, Kolkata-91                                | Member         |
| 25.            | Jyoti Balwani, Training Officer                           | RVTI, Kolkata-91                                  | Member         |
| 26.            | Pragna H. Ravat, Training Officer                         | RVTI, Kolkata-91                                  | Member         |
| 27.            | Sarbojit Neogi, Vocational<br>Instructor                  | RVTI, Kolkata-91                                  | Member         |
| 28.            | Nilotpal Saha, Vocational<br>Instructor                   | I.T.I., Berhampore,<br>Murshidabad, (W.B.)        | Member         |
| 29.            | Vijay Kumar, Data Entry Operator                          | RVTI, Kolkata-91                                  | Member         |

## GENERAL INFORMATION

1. **Name of the Trade** : PLATE MAKER CUM IMPOSITOR
2. **N.C.O. Code No.** : 926.40
3. **Duration** : One year (Two Semester)
4. **Power Norms** : 4.2 KW
5. **Space Norms** : 72 sq. mtrs.
6. **Entry Qualification** : 10<sup>th</sup> class passed
7. **Unit size (No of student)** :16 Trainees.
  
8. **Instructor's/Trainer's Qualification** : Three year Diploma in printing technology from a recognized board /Institution with two year experience in the relevant field.
  
9. **Desirable qualification** : Preference to be given CIC (Craft instructor Certificate) holders.

At least one Instructor must have Degree / Diploma in relevant field

**SYLLABUS FOR THE TRADE OF PLATE MAKER CUM IMPOSITER UNDER C.T.S.  
DURATION: Six months**

**FIRST SEMESTER**

**Semester Code:PMC :SEM I**

| <b>Week No.</b> | <b>Trade Practical</b>  | <b>Trade Theory</b>   |
|-----------------|---|---|
| 1.              | To familiarize and identify the general tools and equipment used in the printing industries. To get awareness of printing material through identification and observation. Discriminate, differentiate and categories the printing material into various printing categories. | To acquire the historical development of printing through references. To understand the scope and purpose of each level of small to medium and big printing industries. Learning importance of printing technology. Definition and principle of various type of printing, |
| 2.              | Observation and familiarization of image designing, Image generation, Image conversion and Image setting, preparation of image carrier, image transfer and Image finishing.   | Analyzing and comparing of image designing, Image generation, Image conversion and Image setting, preparation of image carrier, image transfer and Image finishing.   |
| 3.              | Mixing the chemicals, making the coating solution. Proper use of photochemical process, equipment and material used for plate making and offset printing.   | Description of material and preparation of solution for surface plate making. Photochemical process, classification, equipment and material used for plate making and offset printing.  |
| 4.              | Identification, observation and understanding of, balance contrast, proportional, unity, optical centre, upper and lower case character, ascender and decenders and other element of alphabets  | Define unit for measuring typology, balance contrast, proportional, unity ,optical centre, upper and lower case character, ascender and decenders and other element of alphabets  |
| 5.              | Measuring and observing to understand term like strokes, stress and serif. Assessment of no. of pages in terms of printing page, width of printed area, length of page and length of printed area, no. of character in a line and fonts size.                                 | Classification of type faces. Parts of type face. Type of fonts. Description of width, length and character of printing page and printing area and font size.   |
| 6.              | To understand and identify the major component of the computer system and characteristics of software and hardware. Identification and functioning of various storage devices. Operation of different kinds of printers.  | Knowledge of computer architecture , memory, CPU, input and output devices, MS office and MS word. To learn about the various storage devices of the computer. To know about impact and non impact printer. Advantage of laser printer                                    |
| 7.              | Observing, Identifying and performing operation on DTP composition process. Awareness about internet application e-mail, fasci –mail EDI ,Talk write, web application, web browser etc  | Familiarization of page maker and other DTP package composition process. Knowledge of internet e-mail, fasci –mail EDI ,Talk write ,web application, web browser etc  |

|         |  |   |
|---------|--|---|
| 8.      | Practice on basic of page maker and quark press job, creating style sheet, Importing of texts and graphics, Master pages and multiple master pages, imposition of pages and layers.                        | Knowledge about basic of page maker and quark press job, creating style sheet, Importing of texts and graphics, Master pages and multiple master pages, imposition of pages and layers.                             |
| 9.      | Demonstrate skill of performing on photo shop, its various tools, illustrator and corel draw, creating various image and monograms. Practice on graphic arts software.                                     | To learn basic of photo shop, overview of various tools, illustrator and corel draw, creating various image and monograms. Introduction of software for graphic arts.   |
| 10.     | Observing, comparing and identifying the type, measurement and copy fitting in different method.   | Knowledge of type, measurement and copy fitting in different method.  |
| 11.     | Discriminating and identifying fake color, flat colour, tints, surprints, reverse and bleeds.  | Describing and differentiating colour printing method. Knowledge of fake color, flat colour, tints, surprints, reverse and bleeds.  |
| 12.     | Use, care and handling of punch register, whirler, and drier, printing down frame, exposure machine, graining and step wages.  | Knowledge and process of punch register, whirler, drier, printing down frame, exposure machine and graining machine and step wedges.  |
| 13.     | Uses and demonstration of plate graining equipment with chemical, mechanical, sand blast and electro gain. Demonstration of coating solution for deep etches plate.  | Plate graining equipment and type of material used: chemical, mechanical, sand blast and electro grain etc. to ascertain the quality of grain. To know about the quality of coating solution for deep etched plate. |
| 14.     | Analyzing, comparing, measuring and understanding the procedure of cutting a mask. Preparing a multi colour paste up, reverse and sun print.   | Procedure of mask, multi colour paste up, reverse, sunprint.  |
| 15.     | Demonstrating the process of colour photography, additive and subtractive colour pattern. Observing and understanding the colour filters. Understanding the screen angle in colour separation.             | Definition of light colour additive and subtractive. Theory of colour filter. Screen angle used in color separation   |
| 16.     | To familiarize primary step in electronic colour separation including scanning, modification, analysis, editing, storing image and exposure. Understand traditional, electronic and achromatic separation. | Knowledge of electronic colour separation including scanning, modification, analysis, editing, storing image and exposure. Learn about traditional, electronic and achromatic separation.                           |
| 17.     | To demonstrate image setter, automatic and on line processor.  | Learn the image setter, automatic and online processor  |
| 18.     | Observation and understanding of four unit of printing press.  | To know about four unit of printing press. These units are feeder, registration, and printing and delivery unit.  |
| 19.-20. | Selection of subtract used in offset   | Knowledge of subtract used in offset  |

|        |   |   |
|--------|---|---|
|        | printing. Demonstration of offset print component. Show process drying, impression rollers and blankets. Selection of Ink variables and differences of ink for printing Application of flexography in label printing. Use, care and handling of automatic plate processor | printing. Offset printability. offset print component. Principle of drying, impression rollers and blankets. Ink variables and differences of ink for printing Knowledge of flexography. Familiarization with the process and sequence of operation of automatic plate processor. |
| 21.-24 | Familiarization of development of screen printing. Identification of screen printing presses. To recognize the material used in screen printing and suitability of job for screen painting.   | Knowledge of development of screen printing. Classification of screen printing presses. To know the material used in screen printing and suitability of job for screen painting.  |
| 25.    | Project Work / Industrial Visit ( Optional)   |   |
| 26.    | <b>Examination</b>  |   |

**SYLLABUS FOR THE TRADE OF PLATE MAKER CUM IMPOSITER UNDER C.T.S.  
DURATION: Six months**

**Second SEMESTER**

**Semester Code:PMC :SEM II**

| <b>Week No.</b> | <b>Trade Practical</b>   | <b>Trade Theory</b>   |
|-----------------|--|---|
| 1.              | Handling, care and use of pre sensitized plate.  | Knowledge of kind and material used in pre sensitized plate.  |
| 2-3.            | Proper uses with safety precaution of chemical and solution used for light sensitivity of surface and deep etched plate, whirler, P.S. Plates, wipe on plate, photopolymer plates, multi metallic plates and xerographic polyester plates. | Familiarization of chemical and solution used for light sensitivity of surface and deep etched plate, whirler, P.S. Plates, wipe on plate, photopolymer plates, multi metallic plates and xerographic polyester plates. |
| 4.              | Show the light sources: Kinds, exposure, printing down frame and their effective uses.   | To know about the different kind of light sources and their effect on the printing  |
| 5.              | Demonstration of photo integrator, inverse square law and law of reciprocation and its effect on printing.   | Define photo integrator, inverse square law and law of reciprocation.   |
| 6-7.            | Show proper proof and transfer process by proofing: Mechanical and operational feature, hand transferring of image.  | Description of proof and transfer process by proofing: its kind, mechanical and operational feature, hand transferring of image.  |
| 8-9.            | Practice on various kinds of printing machine for offset printing: mechanical and operational feature, inking and damping system.  | Knowledge of printing machine for offset printing: its kind, mechanical and operational feature, inking and damping system.   |
| 10.             | Proofing: practice of checking colour density by density meter.  | Define process of checking colour density with densitometer.  |
| 11.             | Use of pre-maker ready equipment and their care.   | Familiarization of pre-maker ready equipment and their care.  |
| 12.             | Practice of step and repeat process of machine.  | Description of step and repeat process of machine.  |
| 13.             | Practice on single perfecter offset printing machine(Sheet fed).   | To know about Single colour perfecter offset printing machine(Sheet Fed)  |
| 14-15.          | Proper uses and handling of the plate and blanket, setting the lays, damping, inking, automatic feeders, setting and adjustment of cylinders.  | Knowledge of fixing the plate and blanket, setting the lays, damping, inking, automatic feeders, setting and adjustment of cylinders,.  |
| 16.             | Practice on printing of lines, half tons and multi colour works, / fanning paper, and use of pre use ready equipments.   | Familiarization of printing of lines, half tons and multi colour works, / fanning paper, and pre use ready equipments.  |
| 17.             | Preparation, handling and treatment of nap roller.   | State kind, setting, cleaning, storing of nap rollers.  |



|             |   |  |
|-------------|---|--|
| 18.-<br>19. | Practice on division and sub division of paper. Seasoning of paper and paper calculation.   | Selection of standard size of paper: its kinds and qualities.  |
| 20.-21      | Handling and use of proper qualities of ink for printing.   | Ability to select the proper quality of ink for printing.  |
| 22.-<br>23. | Identify the problem in plate making/ printing and their remedies.<br>Checking the safety hazards in plate making and machine room: preventive measure including fire safety. | To know the problem in plate making/ printing and their remedies.<br>Knowledge of safety hazards, fire and first aid safety. |
| 24.         | Visit to government, commercial and other advance printing press.   |  |
| 25.         | <b>Revision.</b>  |  |
| 26.         | Examination.  |  |

TRADE: PLATE MAKER CUM IMPOSITER

LIST OF TOOLS & EQUIPMENT

TRAINEES TOOL KIT FOR 16 + ONE TRAINEES

**A. Trainees Kit –(As per the below table)**

| <b>Sl. No.</b> | <b>Name of the Items</b>   | <b>Quantity</b>  |
|----------------|--|------------------|
| 1              | Offset proofing press - capable of producing proofs to register -size : Demy or equivalent, with all accessories.                    | 1 No.            |
| 2              | Single colour offset printing machine with automatic feeder accessories and computerized control system : size - Demy or equivalent. | 1 No.            |
| 3              | Lining up table - size : Double demy or equivalent.  | 1 No.            |
| 4              | Punch register device  | 1 No.            |
| 5              | Vacuum printing - down frame, with Metal Halide lame size : Demy or equivalent with auto control and computerized.                   | 1 No.            |
| 6              | Flip Top general type printing down frame Demy.  | 1 No.            |
| 7              | Whirler machine - size : Demy or equivalent with speed control.  | 1 No.            |
| 8              | Plate graining machine - size : Double Demy or equivalent.   | 1 No.            |
| 9              | Glass jar/Container (For keeping / mixing solution.  | 8 Nos.           |
| 10             | Measuring Cylinder - different sizes.  | 12 Nos.          |
| 11             | Enamel/glass funnel  | 12 Nos.          |
| 12             | Hydrometer for measuring Baume   | 2 Nos.           |
| 13             | Timer  | 2 Nos.           |
| 14             | P.V.C. Sink (180cm x 750cm x 20cm.) with stand.  | 1 No.            |
| 15             | Room Thermometer   | 1 No.            |
| 16             | Hygrometer   | 1 No.            |
| 17             | Steel Rule, graduated  | 2 Nos.           |
| 18             | Micrometer   | 2 Nos.           |
| 19             | Vernier caliper  | 2 Nos.           |
| 20             | Spatula - long & small size  | 4 Nos. each size |
| 21             | Pumpice stone  | 1 No.            |
| 22             | Densitometer (Reflection type)   | 1 No.            |
| 23             | Enamel bowls.  | 2 Nos.           |
| 24             | Magnifying glass (X 8)   | 4 Nos.           |
| 25             | Cupboard steel (Height 185 cm)   | 1 No.            |
| 26             | Instructor table   | 1 No.            |
| 27             | Instructor Chair   | 1 No.            |
| 28             | Fire Extinguisher  | 2 Nos.           |
| 29             | Ink Slab 50 x 50 cm.   | 1 No.            |
| 30             | Development Tray   | 2 Nos.           |
| 31             | Plate drying cabinet 30 x 40 cm with 2.5 cm, slots.  | 1 No.            |
| 32             | Re-touching Table - 50 x 75 cm.  | 1 No.            |

|    |  |                    |
|----|--|--------------------|
| 33 | Auto Plate Processor 75 cm.  | 2 Nos.             |
| 34 | Step & Repeat Machine 76 x 102 cm,   | 1 No.              |
| 35 | Heater 1500 watt.  | 1 No.              |
| 36 | Rubber Squeezer 30 cm.   | 1 No.              |
| 37 | Black Board  | 1 No.              |
| 38 | Black Board/Enamel Board   | 1 No.              |
| 39 | Computer with latest configuration facilities with CD/DVD writer, CD drive , Zip drive, video capture card (latest configuration) connected with LAN | 10 Nos.            |
| 40 | Ink jet printer and laser jet printer with color cartridge(1200 dpi or higher)   | 02 No each.        |
| 41 | Colour Scanner latest version  | 01 NO.             |
| 42 | Window operating system (latest version)   | As required        |
| 43 | Free hand latest version   | 01 No.             |
| 44 | M S Office latest version  | As per requirement |
| 45 | Table for computer, printer and scanner  | 10 Nos.            |
| 46 | Computer chair   | 16Nos.             |
| 47 | Class room furniture:<br>a) Steel chair folding type with arm rest<br>b) Working table   | 16 Nos.<br>16 Nos. |
| 49 | Small offset printing machine  | 01 No.             |
| 50 | Screen printing equipment  | 05 Nos.            |
| 51 | Cutting machine  | 01 No.             |
| 52 | Hard press   | 01 No.             |
| 52 | Spiral and comb winding machine  | 01 No.             |
| 53 | Glass work table   | 10 No.             |
| 54 | Whirler  | 01 No.             |
| 55 | Plate development sink   | 01 No.             |
| 56 | Printing down frame  | 01 No.             |
| 57 | Baby offset machine  | 01 No.             |
| 58 | Two colour perfecting machine  | 01 No.             |
| 59 | Cutting machine  | 01 No.             |
| 60 | Stitching machine  | 01 No.             |
| 61 | Ruling machine   | 01 No.             |
| 62 | Hard press   | 01 No.             |
| 63 | Laminating machine   | 01 No.             |
| 66 | Screen printing frame  | 05 Nos.            |