

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

Sl. No.	Name & Designation S/Sri.	Organisation	Remarks
1.	D.Mallick, 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 6th to 10th May'2013 at CSTARI, Kolkata.

Sl. No.	Name & Designation	Organisation	Remarks
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, Joint Director of Training	CSTARI, Kolkata-91	Member
4.	L.K. Mukherjee, Deputy Director of Training	CSTARI, Kolkata-91	Member
5.	Ashoke Rarhi, Deputy Director of Training	ATI-EPI, Dehradun	Member
6.	N. Nath, Assistant Director of Training	CSTARI, Kolkata-91	Member
7.	S. Srinivasu, Assistant Director of Training	ATI-EPI, Hyderabad-13	Member
8.	Sharanappa, Assistant Director of Training	ATI-EPI, Hyderabad-13	Member
9.	Ramakrishne Gowda, Assistant Director of Training	FTI, Bangalore	Member
10.	Goutam Das Modak, Assistant Director of Trg./Principal	RVTI, Kolkata-91	Member
11.	Venketesh. Ch. , Principal	Govt. ITI, Dollygunj, 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, Training Officer	CTI, Chennai-32	Member
15.	A.Jayaraman, Training officer	CTI Chennai-32,	Member
16.	S. Bandyopadhyay, Training Officer	ATI, Kanpur	Member
17.	Suriya Kumari .K , Training Officer	RVTI, Kolkata-91	Member
18.	R.K. Bhattacharyya, Training 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 Instructor	RVTI, Kolkata-91	Member
28.	Nilotpal Saha, Vocational Instructor	I.T.I., Berhampore, 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** : 10th 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

Week No.	Trade Practical	Trade Theory
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.	Examination	

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

Second SEMESTER

Semester Code:PMC :SEM II

Week No.	Trade Practical	Trade Theory
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.- 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.- 23.	Identify the problem in plate making/ printing and their remedies. 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. Knowledge of safety hazards, fire and first aid safety.
24.	Visit to government, commercial and other advance printing press.	
25.	Revision.	
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)

Sl. No.	Name of the Items	Quantity
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	Pumice 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: a) Steel chair folding type with arm rest b) Working table	16 Nos. 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.