

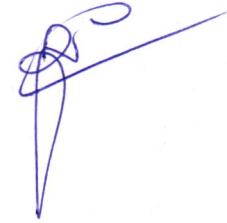
LIST OF COMMITTEE MEMBERS FOR THE

TRADE OFFSET PRINTING

Sl.No. Members and Experts

Signature

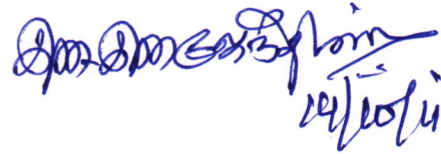
1. K. Panneerselvam,  
Regional Joint Director of Training  
Chennai Region  
Guindy,  
Chennai



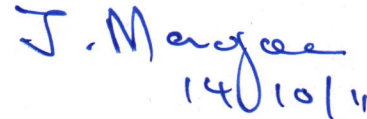
2. S. Valsakumar,  
Principal,  
Govt. Industrial Training Institute,  
Guindy,  
Chennai 600 032



3. R. Rajendiran  
Asst. Trg. Officer,  
Govt. Related Instruction Centre,  
North Chennai.



4. J. Manogaran,  
Junior Training Officer,  
Govt. Industrial Training Institute,  
Guindy,  
Chennai 600 032



COURSE DETAILS

Name of the trade	Offset Printing
Qualification	VIII pass
Age	14-40 yrs
Duration	1 Year
No. of Trainees	20
No. of Practical Hours	32 hours per week
No. of Theory Hours	12 hours per week
Space Required	
Workshop	400 Sq.ft
Theory	200 Sq.ft
Power required in Kilo watt	6 KW

**COURSE DETAILS**

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**Name of Trade** : **OFFSET PRINTING**

**Qualification** : **VIII Pass**

**Age** : **14-40 Years**

**Duration** : **1Year**

**Number of Trainees** : **20**

**Number of Practical hours** : **32 hrs. per week**

**Number of Theory Hours** : **12 hrs. per week**

**Space Required**

**Workshop** : **450 sq. feet**

**ClassRoom** : **200 sq. feet**

**Power Required in KW** : **6 k.w.**

OFFSET PRINTING.

Course Content

PRACTICAL:

1. ✓ Handling of Materials and Equipments for Lithographic Plate making and Litho-Offset Printing and correct working posture.
2. ✓ Maintenance of Machinery and Equipments.
3. ✓ Printing surfaces Litho Stone - Metals.
4. ✓ Layout Preparations.
5. ✓ Plate making - Solutions Preparations - grinding storage.
6. ✓ Films - Negatives - Positives. Patch of work for colour.
7. ✓ Exposing and developing Plates.
8. ✓ Proof Presses - Proofing for single and Multi-colours.
9. ✓ Off set Printing Machines - Preparation for Printing Feed Board and delivery setting - Ink and dampening setting.
10. ✓ Multi-Image Registrations.
11. ✓ Preparation of Polymer sheets - Scanning - Layer Printing.
12. ✓ Handling and Method of operating system in Mini Offset Printing machines.
13. ✓ Safety Precautions.

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LITHO - OFFSET - PRINTING.

THEORY:

1. ✓ History of Printing. Comparative analysis of Printing Processes.
2. ✓ Plates, Metals - Properties of Metals - Chemicals used in Printing ~~Processes~~
3. ✓ Sensitive Solutions - Preparations - Films Negative and Positives.
4. ✓ Lithographic Plates and Printing Machineries.
5. ✓ Photo Mechanical Processes - Camera - Lines and Halftone Theory - Retouching Technics.
6. ✓ Lining up work - Layout - Sheets.
7. ✓ Plate-Making - graining - ~~Coating~~ - Exposing - Developing.
8. ✓ Light Sources - Exposures - Image formation - Printing down.
9. ✓ Proof and Transfer Presses.
10. ✓ Premake ready Procedures - Make ready.
11. ✓ Printing Machines for Litho-Offset Printing Kinds - Mechanical and operational features - Inking and dampening systems.
12. ✓ Simple Imposition schemes. Relating to Folding Schemes.
13. ✓ Automatic Feeders - Drier Equipments - Roller setting and Handling with case.
14. ✓ Paper - Manufacturing - sizes - Sub Divisions and seasoning.
15. ✓ Printing Ink - Kinds - Qualities - Mixing for Colour works - Colour Theory.
16. ✓ Rollers. Outline of Manufacture - Kinds - Qualities - ~~Setting~~ - Cleaning - Handing & Storage.
17. ✓ Modern development~~in~~ Printing industry.

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OFF SET PRINTING.

Graded Exercises.

Duration in weeks	PRACTICAL
1 & 2	1. Handling and care of Tools and Equipments used in Offset Printing Machine room and Plate making section. ✓
3 & 4	2. Specifications, Physical and Chemical properties of materials used in Off-set printing room and plate making section - Handling and case. ✓
5 & 6	3. Printing surfaces - Litho stones - Properties sizes, Metal Plates - Aluminium and Zinc Presensitized Plates - Polymer plates. ✓
7 to 9	4. Plate Making processes - Plate grinding New and used plates. ✓
10 & 11	5. <del>Sensitive</del> <sup>Sensitive</sup> solution preparation - Preservation. ✓
12	6. Lay out preparation. ✓
13	7. Films - Negatives - Positives - <del>Handling</del> <sup>Handling</sup> and care. ✓
14 to 17	8. Retouching - Masking - Line and <del>HalfTone</del> <sup>HalfTone</sup> works. ✓
18 & 19	9. Coating the plate - use of whirler - coating machines - Handling and care of sensitized plates and solutions. ✓
20 to 23	10. Exposing - Loading - Positioning Negative/Positive - setting Arc Lamps/Focusing Exposure time setting. ✓
24 & 25	11. Developing Process - Drying - Checking. ✓
26 to 28	12. Proofing - Fixing on proofing machine - Inking pulling proofs - Single and Multicolour works. ✓
29 & 30	13. Pre make ready processes. ✓
31 to 34	14. Preparing the Machine for Printing - Packing - Fixing Blanket - Plate - Inking roller setting - Dampener setting Fountain solution - Feed Board and Delivery Board setting - setting guides and path of paper. ✓

- 35 & 36      15. Setting side and Front Lays -  
Printing single colour work -  
Problems and defect while printing  
causes remedies. ✓
- 37 to 40      16. Printing Two or more colour -  
Registered Controlling colours -  
Colour ink mixing. ✓
- 41 & 42      17. Preparation of Polymer plates -  
Printing down and plate - Fixing -  
Lazer prints. ✓
- 43 to 46      18. Preparing Mini off-set printing  
machines - Handling and practice on  
Machines. ✓
- 47 to 50      19. Allied Trade - Book Binding - Simple  
Binding Methods. ✓
- 51 & 52      20. Safety **PVC** Cautiens. ✓

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**INDUSTRIAL SCHOOLS**  
**TRADE SYLLABUS – REVISED**

Name of the Trade : OFFSET PRINTING  
SPACE REQUIRED:

(1) Workshop/Lab : 450 sq. ft.

(2) Class Room : 200 sq. ft.

**LIST OF TOOLS AND EQUIPMENT FOR OFFSET PRINTING**

Sl.No.	Name of the Item	Quantity Revised
1	Hand transfer press - size : Demy or equivalent	1
2	Offset proofing press – cable of producing proofs to register – size : Double Demy or equivalent with all accessories	1
3	Single colour offset printing machine with automatic feeder and accessories size : Double Demy or equivalent	1
4	Lining-up table Size :Double Demy or equivalent	1
5	Litho stone size : Demy or equivalent	1
6	Vacuum printing – down, frame, with arc lamp	1
7	Whirlet machine - size : Double Demy or equivalent	1
8	Plate Graining machine - size : Double Demy or equivalent	1
9	Glass Jar / Container (or keeping/mixing solution)	4
10	Measuring glasses – different sizes graduated	6
11	Enamel / glass funnel	6
12	Hydrometer (heavier than water)	2
13	Timer	1
14	PVC sink ( 90 x 75 x 20 cm)	1
15	Thermometer, Boume	1
16	Steel rule graduated	4
17	Gloves	2 pairs
18	Scraper steel	4
19	Pumice stone	1
20	Densitometer (reflection & transmission type)	1
21	Porcelain bowls	2
22	Magnifying glass (8 x 8)	4
23	Cupboard steel	1
24	Instructor table	1
25	Instructor chair	1
26	Computer system with laser printer	1 set
27	Fire extinguisher	1
28	Fire bucket	2
29	First aid box	1



**ACHIEVEMENTS**

**OFFSET PRINTING**

1. To acquire skill in <sup>nd</sup> handling and Maintenance of Tools, Equipments machineries and materials used in offset printing section and plate making section.
2. To acquire knowledge in preparation of sensitive solution and other solutions used in plate making
3. To know the procedure of plate making and other make ready processes.
4. To know the colour theory and ink mixing methods
5. To acquire skill in printing preparatin for Printing and to know the running problems and remedies.