

DRAFT SYLLABUS FOR

PLATE MAKER

UNDER

G.C.V.T. PATTERN

DIRECTORATE OF EMPLOYMENT & TRAINING

Block No. 1/8, 3rd Floor, Dr.Jivraj Mehta Bhavan,
Gandhinagar, Gujarat state,

-: GENERAL INFORMATION :-

- (1) NAME OF THE TRADE : **PLATE MAKER**
- (2) ENTRY QUALIFICATIONS : NEW S.S.C PASS
WITH SCIENCE (PHYSICS &
CHEMISTRY)
- (3) DURATION OF TRAINING : ONE YEAR
- (4) SCHEME OF TEACHING : 1. 12 HRS/WEEK THEORY
2. 28 HRS/WEEK PRACTICAL.
(Including library, A.V etc.)

PREPARED BY:

SHRI S.A PATEL (C.I. F.S& D.T.P.O.)
SHRI M.N.SHAIKH (C.I. Offset Printer)
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-: DRAFT SYLLABUS :-
TRADE : PLATE MAKER

Theory:

- (1) Brief history of printing.
- (2) Different printing processes and comparison. Outline of preparation for all Printing processes.
- (3) History and development of lithographic process (plate & machinery).
- (4) Photomechanical process classification equipment and material used for plate making and offset printing.
- (5) Offset plates- metal used for offset plate. Aluminum, zinc, copper, paymaster. Different types of plates used for offset printing according to necessity of printing surface deep etch. MultiMatel plates, anodized plate, presensitized plate. Their properties preparation comparative analysis and use.
- (6) Chemicals and solution used for plate making. Their preparation ready-made solutions available in market.
- (7) Plate graining equipment and material used, quality of the grain.
- (8) Lining up table, layout sheets handing and use.
- (9) Films negative and positives -qualities required for plate making.
- (10) Light source used for plate making their kinds exposers -printing downframe and use.
- (11) Plate making surface and deep etch p.s. coating of plates, chemical and solution used, speed of rotation, effects of variation in coating, printing down, register marks, step wedges. Their purpose correction addition and delation. Chemical and tools used. Defects in plates causes and remedies. handling care and storage of plate. Step and repeat machine kinds purpose of use. Quality control.
- (12) Measuring gauges, Hydrometer, Hygrometer, Densitometer Handling Care And Use.
- (13) Offset proof press and their use.
- (14) Brief outline of offset printing machines. Damping and inking system.
- (15) Imposition terms used for imposition. Different scheme relation to folding schemes.
- (16) Half tone and continuous tone theory –dot formation. Control of dot size. Screens kinds and uses modernisation of color separations (Brief outline).
- (17) COLOUR- principles of colour, primary, secondary, and tertiary color, additive and subtractive color theory.
- (18) Temperature and relative humidity effects on plates control. Air-conditioning advantages.
- (19) Modern development in plate making. Different modern devices.
- (20) Calculation-consumption of chemical and other materials of plate making. Costing of Plate making.
- (21) Paper-kinds and qualities, standard sizes, division, sub-division.
- (22) Ink kinds qualities, offset ink.
- (23) Planning and arrangement of plate making section.
- (24) General care and maintenance of machinery, equipment and other materials of a plate making section.
- (25) Safety Hazard preventive methods.

PRACTICAL : -

- (1) Introduction to plate making machinery tools and equipments current working method, maintenance and use of plate making machinery handling and care.
- (2) Printing surfaces, comparative analysis litho stone, Zinc, Alluminiums, Copper handling and use.
- (3) Measuring gauges, Hydrometer, Boume meter, Densitometer, handling care and use.
- (4) Lining up table, preparation of layout sheet (according to imposition scheme) register. Mark retouching single color/ Multi color pasting work.
- (5) Films negative and positives care handling and use.
- (6) Graining of plates-equipment and material used. Grain quality control. Handling and storage of grain plates. Washing of plate for regraining.
- (7) Solutions for plate making surface and deep etch plate. Chemical's used preparation handling and storage.
- (8) Exposer-image formation sources of exposer, control.
- (9) Surface plate making Sequence of operations counter etch, coating solution, developing lacquering, inking washout solution, Graining care and handling for surface plate making.
- (10) Deepetch plate making, water deepetch, sequences of operation, counter etch, coating solution, developing, etching, Lacquering, inking, washout solutions, Gumming, care and handling.
- (11) Gum deepetch plate making, sequence of operation. Counter etch, coating solution, developing, etching, lacquering, inking, washout solutions, Gumming, care and handling. Dot control.
- (12) P.S. Plate making sequence of operation.
- (13) Duplication of images- step and repeat machine, kinds manual and automatic care and use.
- (14) Diazo film making for duplicating.

GENERAL MACHINERY

TRADE : PLATE MAKER

NO.	DISCRIPTION OF ITEM	QUANTITY
01.	Plate exposing unit frame size 28" x 36" -4 kw metal halide lamp with shutter. -Exposure (computer control) -Light integrator, microprocessor controlled LCD display. -Manual operator control for vacume defusial foil, exposure, high / low power (in case of computer failure)	01 No.
02. No.	Whirler machine size 28"x 36" -Semi vertical type -Internal light facility for plate inspection -Filtered warm air system with variable temperature control. -Stainless steel body. (working area) -Tachometer and timer control	01
03. No.	Plate graining machine size 28" x 36" (or equivalent) -Stainless steel (working Tray)	01

GENERAL SHOPOUT

TRADE : *PLATE MAKER*

<u>SR.NO.</u>	<u>DESCRIPTION OF ITEM</u>	<u>QUANTITY</u>
01.	Glass jar/ container (for keeping/Mixing solution)	06 Nos
02.	Measuring glasses-different sizes graduated.	08 Nos
03.	Enamel/glass funnel	06 Nos
04.	Hydrometer (Boume reading)	02 Nos
05.	Timer.	01 Nos
06.	Litho plate developing and treating sink with square pipe stand. Size35"x45"x6"	02 Nos
07.	Working Table square and pipe fabricated with material storing facilities size 28"x36".	01 No
08.	Lining up table size 28"x40" With diffusion light source, vertical and horizontal ruler,Made of Metal sheet. With four bearing loaded racs. Two small racs for tools and matter.	01 No
09.	Steel rule, graduated (12")	02 Nos
10.	Steel rule, graduated (24")	02 Nos
11.	Steel rule, graduated (36")	02 Nos
12.	Graph sheet sandwich film for anti scratch	02 Nos
13.	Hand gloves (rubber)	04 Pairs
14.	Scraper steel	04 Nos
15.	Porcelain bowls.	04 Nos
16.	Magnifying Glass (15x)	04 Nos
17.	Cupboard steel	01 No
18.	Instructor Table	01 No
19.	Instructor chair	01 No

LIST OF BOOKS FOR REFERENCE

<u>Sr.no</u>	<u>Name of book</u>	<u>Author/Publisher</u>
01.	Photolitho offset	Eric Chambers
02.	Offset Plate making	Robert Reed.
03.	Offset Lithography.	L.E.Lawson.
04.	Lithographers manual	Graphic Arts & Technical Foundation, Illinois, USA.
05.	Photo mechanics and Printing	Lithographic Technical Foundation, UK.