

STAMPBOOKS FOR PHOTOGRAPHER

UNDER

CRAFTSMEN TRAINING SCHEME
&
APPRENTICESHIP TRAINING SCHEME

As approved by
GOVERNMENT OF INDIA

In consultation with
THE NATIONAL COUNCIL FOR
VOCATIONAL TRAINING

CENTRAL APPRENTICESHIP COUNCIL

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GENERAL INFORMATION

1. Name of the Trade : Photographer
2. N.C.O. Code No. : 173.10

JOB DESCRIPTION AS PER N. C. O.

Photographer general takes photographs of persons, places or other subjects, using various kinds of photographic equipment. Measures day light using exposing meter or places camera at desired angle and distance from subject to be photographed. Focuses lens and adjusts lens depending on exposure time. Loads camera with film or plate by pressing lever, allowing time, of necessary and removes negative from camera. Develops negative in Dark Room by dipping it in developer, washing it in fixing solution and further washing it in water and allows developed film to dry examines developed film for defects, and retouching medium, makes print enlargements in sensitized paper dries them by glazing on glazing sheet or by spreading on flat surface and trims glazed or unglazed prints according to required size and mounts them. May take colour photographs and develop colour films adopting special processes. May specialize in studio photography or take photographs or important events for production in news papers, building, machinery, industrial plants, for trade advertisements.

3. Duration of Craftsman Training. : 1 Year
4. Duration of Apprentice-ship Training. : 2 Years including Basic Training of 1 year.
5. Entry Qualification : Passed 10th class examination with Physics & Chemistry under 10 + 2 system or its equivalent.
6. Rebate for Ex-Craftsman Trainees.

<u>Trade :</u>	<u>Period of rebate</u>
Photographer	Full.
7. Ratio of Apprentice to Worker. : 1 : 4

8. Teaching Scheme

(A) During Craftsman Training :

Sl. No.	Subject	Hours/Week *
1.	Trade Practical	28
2.	Trade Theory	6
3.	W/cal & Science	-
4.	Engg. Drawing	-
5.	Social Studies	1
6.	Entrepreneurship Training	1
7.	Extra Curricular activities including Library studies and physical training.	6

TOTAL : 42

(*) Subject to changes by DGE&T. from time to time.

(B) During Apprenticeship Training :

(i) Theoretical Instruction : 7 Hrs./Week

(a) Trade Theory : 6 Hrs.
(b) Social Studies : 1 Hr.

(ii) Practical Training : As per Apprentices Rule.

9. Examination Scheme :

(Subject to changes by DGE&T from time to time).

Sl. No.	Subject	Exam. Marks.	Sessional Marks.	Total Marks	Pass Marks.
1.	Trade Practical	300	100	400	240
2.	Trade Theory	100	20	120	48
3.	Social Studies	50	10	60	24
<u>TOTAL :</u>		450	130	580	312

NOTE :
The course content for Entrepreneurship Training under CTS. and that for the subject of Social Studies both under CTS and ATS, being common for all the trades, are not incorporated separately in this syllabus.

SYLLABUS FOR THE TRADE OF PHOTOGRAPHER
UNDER CRAFTSMAN TRAINING SCHEME

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Period of Training : 1 Year

PRACTICAL TRAINING :

1. Handling of simple box, range finder, twin lens reflex single lens reflex and field/plate cameras.
2. Use of different types, sizes and grades of films.
3. Lighting in Photography.
4. Exposure setting - aperture, depth of field, shutter speed for still, moving & fast objects :

Portrait photography
Industrial photography
Press photography
Flash photography
Landscapes etc.
5. Composition in photography.
6. Filters & their uses.
7. (a) Chemicals - Preparation of developers, stop bath fixers, use of ready made developers, replenishers.
(b) Chemicals - Preparation of reducers, intensifiers, toners and their use.
8. Developments (Negative and Positive) : Developing, fixing, washing, use of developing tanks and dishes, use of drying cabinet.
9. Negatives :
(a) Types, checking, grading, masking.
(b) Retouching of negatives.
10. Use of different types and grades of printing papers.
11. Use of enlargers, negative carrier, heat filter, easels and paper holders, exposure timer, dodging and shading etc.
12. Photocopying.
13. Care & maintenance of photographic materials, equipment and machinery.

TRADE THEORY :

First Year :

Same as that for Craftsman Training in the trade of Photographer.

Second Year :

1. Camera & accessories, special camera, angle.
2. Image size angle of view, perspective and depth. Focal length and angle of view, covering power of lens. Normal focus, wide angle lens, long focus lens, telephoto lens, zoom lens, micro lens.
3. Close up attachment, extension rings/tubes, filters-type effect and filter factor.
4. Perspective and its importance, definitions in Photography, depth of focus and depth of field
5. The sensitive material - the emulsion, photographic materials/base coating, sizes of film/plates/papers-packing of film, plates and paper.
6. Developers - developing solution and its composition-formula-fine grain developer, high definition developers, replenishers, various techniques of developments
7. Colour photography - colour vision, colour reproduction, additive process, subtracting process, colour negative and how to handle the colour process by various methods, colour printing techniques, preparation of colour slides, making of duplicate slides.
8. Photo copying - various methods of photo copying dry method - wet method.
9. Film speed - different speed systems in use - conversion rating, practical value of film speed.

SYLLABUS FOR TRADE THEORY

1. Induction to the trade and safety precautions.
2. History of Photography :
 - (a) Definition
 - (b) Camera obscura
 - (c) Daguerreotype process
 - (d) Talbotype process
 - (e) Wet & dry plates
 - (f) George Eastman - introduction of celluloid and roll films.
3. The Camera & Accessories :
 - (a) Pinhole camera
 - (b) Box camera
 - (c) Roll film camera
 - (d) Hand camera
 - (e) Studio camera
 - (f) Reflex camera - single lens & twin lens.
 - (g) Miniature camera - full frame & half frame.
 - (i) Lenshood
 - (ii) Close-up lenses/extension rings
 - (iii) Tripod
 - (iv) Filters - type, effects, filter factor. Polarizing filter.
4. Adjustments in Field Cameras :

Swing back, sliding & rising fronts, revolving backs, single extension, double extension bellows, dark slides.
5. Shutters :
 - (a) Roller blind shutter
 - (b) In between lens shutter
 - (c) Focal plane shutter
 - (d) Efficiency.
6. Lenses :
 - (a) Standard/Normal lenses
 - (b) Wide angle, fish eye lenses
 - (c) Long focus/telephoto lenses
 - (d) Aberrations or defects
 - (e) Apertures
 - (f) Depth of field, angle of view, coating
7. Focusing :
 - (a) Ground glass
 - (b) Range finder-split image & split view
 - (c) Reflex
 - (d) Pentaprism
 - (e) Differential focussing
 - (f) Auto focussing.
8. Sensitive Materials :
 - (a) Negative materials - plates, cut films, film packs and roll films, miniature films.
 - (b) Characteristics - sensitivity, speed, grain, gradation resolving power and latitude, acutance or contour sharpness.
 - (c) Exposure of the negative and development.
 - (d) Composition & preparation of developers, reducer, preservative, accelerator, restrainer.
 - (e) Methods of development - inspection and time and temperature dish and tank development - dark room loading and day light loading tanks.
 - (f) Defects in negatives - remedies.
 - (g) After treatment - intensification & reduction.
 - (h) Retouching of negatives.
9. Printing & Enlarging :
 - (a) Printing papers - grades, surface and sizes.
 - (b) Gas light paper - chloro-bromide and bromide papers - their characteristics.
 - (c) Development of papers.
 - (d) Fixing, washing, glazing and trimming.
 - (e) Mounting and finishing of prints.
 - (f) Toning - different methods.

Enlarging :

 - (a) Day-light enlargers and artificial light enlargers.

- (b) Diffusion type and condenser type and auto focus enlargers.
- (c) Enlarging lenses, even illumination, negative carriers.
- (d) Control during enlargement.
- (e) Creative enlarging.
- (f) Mural enlargements.

11. The Dark Room :

- (a) Darkroom design and equipment.
- (b) Darkroom illumination, ventilation.
- (c) Make-shift darkroom.

12. Light Sources for Photography :

- (a) Sunlight
- (b) Incandescent tungsten light & fluorescent light.
- (c) Studio lights - floods and spots.
- (d) Flash light - power, bulbs, electronic & bounce.
- (e) Speed lamps.
- (f) Available light.

13. Colour Photography :

- (a) Theory of colour.
- (b) Elementary knowledge about colour films and colour photography.

14. How to take Good Photographs :

- (a) Portraits
- (b) Landscapes.
- (c) Night photography
- (d) Architecture
- (e) Industrial
- (f) Candid
- (g) Press & feature photography
- (h) Children, animal & birds etc.

15. General :

- (a) Preparation of albums.

- (b) Filing and storage of negatives and prints.
- (c) How to maintain accounts.
- (d) How to handle customers
- (e) Display and maintenance of equipment.
- (f) Show business.
- (g) Business etiquette, copy right and other matters.
- (h) Photographer and the law.

LIST OF TOOLS, EQUIPMENT ETC. FOR A UNIT OF 16 TRAINEES
FOR PHOTOGRAPHER TRADE

(A) EQUIPMENTS :

1. Cameras :

- (i) Box cameras AGFA CLICK IV 2 Nos.
- (ii) Box cameras ISOLY II 8 Nos.
- (iii) Twin lens reflex camera with lens hood, close up lenses & filters 2 Nos.
- (iv) Single lens reflex 35 mm camera with wide angle, telephoto lens, lens hood, close up lenses, special effect lenses filters & extension rings. 2 Nos.
- (v) Plate/field camera cabinet size with lens shutters & stand. 1 No.
- (vi) Studio stand with tilting head 2 Nos.
- (vii) Cable release 2 Nos.
- (viii) Photo copying stand 2 Nos.

2. Flash Guns :

- (i) Electronic flash gun (Maneal & Auto) 2 Each
- (ii) Slave units 2 Nos.

3. Lights :

- (i) Studio lights (non-glaring) with pedestal. 4 Nos.
- (ii) Spot lights pedestal type 2 Nos.
- (iii) Safe lights with filters 6 Nos.
(Line yellow 2, green 2, red 2)
- (iv) Electronic umbrella light (Agfa P-Q2) 4 Nos.

4. Enlarger :

- 2 B size with facility for 35 mm enlargement-2 Nos. complete with lens, lamp and masking board.

5. Air-conditioner :

- One ten window type for Dark Room & Studio. 4 Nos.

- 6. (a) Electronic timer for enlargers 2 Nos.
(b) Digital Timers with alarm 2 Nos.

- 7. Exposure meter 4 Nos.

- 8. Film Drier 1 No.

- 9. Thermo meters 2 Nos.

- 10. Zerox unit 1 No.

- 11. Studio Room (3.5 mts x 7 mts.) 1 No.

- 12. Studio and classroom furniture

- (i) Steel chairs folding type with arm rest for trainees. 18 Nos.

- (ii) Working table steel with Summica top (2.5 mts x 9 mts). 2 Nos.

- (iii) Carpet synthetic material. (3 mts. x 36 mts) 1 No.

- (iv) Curtains (3 mts. x 3.6 mts.) 4 Nos.

- (v) Adjustable height stool for single (steel). 2 Nos.

- (vi) Adjustable height stool for double (steel) 1 No.

- (vii) Fire extinguisher suitable type 3 Nos.

- (viii) Steel almirah (1800 mm x 900 mm x 450 mm). 2 Nos.

- (ix) Dressing table 1 No.

- (x) Steel lockers with 8 compartments for trainees. 2 Nos.

- (xi) Black Board with stand (7 mts x 3.5 mts.) 1 No.

- 13. Dark Room (7 mts. x 3.5 mts) having two cabins: 1 No.
one for panchromatic film development & other for Bromide printing with facility of long sink for dishes and water storage tank.
The Bromide Printing Room should have shelved platform or supporting furniture for enlargers and other equipment and safe zig-zag entrance.

- 14. Glazing machine-thermostatically controlled (4.2 mts. x 6 mts) and (350 mm x 250 mm). 1 Each
- (i) Spare sheets for above 4 Nos.
- (ii) Squeeze rollers (225 mm) with ball bearings. 4 Nos.

15.	Contact Printing Machine (cabinet size)	2 Nos.
16.	<u>Cutters :</u>	
	(i) Desk type full size (600 mm)	1 No.
	(ii) Handle type (400 mm)	2 Nos.
	(iii) Rota cutter (400 mm)	1 No.
17.	Retouching desk with glass (300 mm x 300 mm)	2 Nos.
18.	Printing frames 25.4 x 30.5 cm.	2 Nos.
19.	Dishes P. V. C. :	
	(i) (500 mm x 600 mm)	4 Nos.
	(ii) (400 mm x 500 mm)	6 Nos.
	(iii) (300 mm x 375 mm)	6 Nos.
	(iv) (250 mm x 300 mm)	6 Nos.
	(v) (150 mm x 200 mm)	8 Nos.
20.	Plastic developing tank - Universal	16 Nos.
21.	Multiple negative viewer	2 Nos.
22.	Chemical balance	1 No.
23.	Electric kettle one litre	2 Nos.
(B)	<u>TOOLS :</u>	
1.	Scissors 150 mm (100 mm) blade,	4 Nos.
2.	Print forceps stainless steel	6 Nos.
3.	Spotting brushes assorted sizes	12 Nos.
4.	Hanging clips stainless steel	4 Doz.
5.	Polythene gloves	17 Pairs
6.	Water colour booklet	4 Nos.
7.	Print paddle stainless steel	4 Nos.
8.	Measuring zars	4 Nos.
9.	Stock solution Polythene bottles (Collapsible type) one litre	2 Doz.
10.	Plastic funnels	6 Nos.
11.	Glass stirring rods	2 Doz.

SYLLABUS FOR THE TRADE OF PHOTOGRAPHER UNDER APPRENTICESHIP TRAINING SCHEME.

Period of Training : 2 Years

PRACTICAL TRAINING :

First Year Basic Training :

Same as that for Craftsman Training in the trade of Photographer.

Second Year Shop Floor Training

1. Handling various types of cameras. Use of electrical and electronic accessories.
2. Use of natural light, tungsten light, fluorescent light single and multiple electronic flash, sun gun, reflectors and exposure meters.
3. Use of Panchromatic, orthochromatics and colour films of various speeds.
4. Taking photographs of portrait, flowers, groups, slow and fast moving objects, functions, machines and processes and pictorial photographs using different types of lenses, filters and camera movement techniques.
5. Processing of panchromatic & orthochromatic black & white negative and reversal films. Use of various types of developers, fixers and techniques.
6. Processing of colour negative and reversal films. Use of pH meter.
7. Study of negatives, faults, correction & retouching.
8. Contact printing, masking, bromide printing and colour printing, making of prints of various sizes. Finishing of prints and enlargements. Quality control.
9. Making 35 mm slides, film strips and transparencies.
10. Colouring and tinting.
11. Mounting of prints, slides & transparencies. Album making.
12. Cataloguing of negatives & prints. Record keeping, costing of material.

13. Customer service and salesmanship.
14. Display of exhibits, equipments, projection and arranging shows etc.
15. Care & maintenance of equipment and material, simple repairs of equipments & machinery.

