GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT & ENTREPRENEURSHIP
DIRECTORATE GENERAL OF TRAINING

COMPETENCY BASED CURRICULUM

PHOTOGRAPHER

(Duration: One Year)

CRAFTSMEN TRAINING SCHEME (CTS)

NSQF LEVEL- 3.5

SECTOR –MEDIA AND ENTERTAINMENT

Directorate General of Training

PHOTOGRAPHER

(Non-Engineering Trade)

(Revised in March 2023)

Version: 2.0

CRAFTSMEN TRAINING SCHEME (CTS)

NSQF LEVEL -3.5

Developed By

Ministry of Skill Development and Entrepreneurship

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1. COURSE INFORMATION

During the one-year duration of "Photographer" trade, a candidate is trained on Professional Skill, Professional Knowledge and Employability Skill related to job role. In addition to this, a candidate is entrusted to undertake project work, extracurricular activities and on-the-job training to build up confidence. The broad components covered under Professional Skill subject are as below:

The trainee learns about elementary first-aid, firefighting, environment regulation and housekeeping, etc. The trainee identifies trade tools, digital cameras, compact and SLR. The trainee will be able to do the practical by the use of natural light, tungsten light, fluorescent light, single and multiple electronic flash reflectors, exposure meters, studio flash and its accessories. They will also be able to do the practical on various lighting techniques for different lenses and will do practice on special areas of photography in outdoor and indoor conditions .They will be able to do practical on computer system by digital editing software, printing the photographs taken by digital cameras and will be able to do the image transportation to the storage media, sending photographs through E-mail and to Scan photographs, capture frames and analysis of images. There will be a visit to studio where they will be able to handle the digital Video cameras, Tape, DVD, HDD, accessories and exposure to take different common shots, dimension of images and movements as per requirement. The trainee will be able to do lighting of different areas of video shooting, practice on three point lighting indoor and outdoor. Taking photographs using different types of lenses using different aperture, shutter speed setting for still, Video camera, CCTV and spy camera. Taking photographs of portrait, studio photography, commercial/Advertisement photography, sports photography, fashion photography, slow and fast moving objects, functions, machines and processes ,landscape, architecture, night photography children, animal, birds, shooting spot etc. By digital camera. They will have the concept of audio video recording, mixing, editing, dubbing of sound, using different types of microphones. Shooting of different areas and topic such as sports , wildlife, modeling, drama, documentary, serial, story board making, news, interview, seminar/ workshop, industrial, live broadcasting, musical event ,Advertisement etc. The trainee also undergoes four weeks on-the- job training in various studios/labs at the end of the year which gives them more practical exposure to the professional working environment.

2.1 GENERAL

The Directorate General of Training (DGT) under Ministry of Skill Development & Entrepreneurship offers a range of vocational training courses catering to the need of different sectors of economy/ Labour market. The vocational training programmes are delivered under the aegis of Directorate General of Training (DGT). Craftsman Training Scheme (CTS) with variants and Apprenticeship Training Scheme (ATS) are two pioneer schemes of DGT for strengthening vocational training.

'Photographer' trade under CTS is one of the professional courses delivered nationwide through a network of ITIs. The course is of one-year duration. It mainly consists of Domain area and Core area. The Domain area (Trade Theory & Practical) imparts professional skills and knowledge. While the core area(Employability Skill) imparts requisite core skills, knowledge, and life skills. After passing out the training program, the trainee is awarded National Trade Certificate (NTC) by DGTwhich is recognized worldwide.

Candidates broadly need to demonstrate that they are able to:

- Read and interpret technical parameters/documents, plan and organize work processes, identify necessary materials and tools;
- Perform tasks with due consideration to safety rules, accident prevention regulations and environmental protection stipulations;
- Apply professional skill, knowledge & employability skills while performing jobs.
- Document the technical parameters related to the task undertaken.

2.2PROGRESSION PATHWAYS

- Can join industry as Photographer and will progress further as Senior Photographer, Editor and can rise up to the level of Art director.
- Can become Entrepreneur in the related field.
- Can join Apprenticeship programs in different types of industries leading to a National Apprenticeship certificate (NAC).
- Can join Crafts Instructor Training Scheme (CITS) in the trade for becoming instructor in it is.
- Can join Advanced Diploma (Vocational) courses under DGT as applicable.

2.3 COURSE STRUCTURE

Table below depicts the distribution of training hours across various course elements during a period of one-year: -

S No.	Course Element	Notional Training Hours
1.	Professional Skill (Trade Practical)	840
2.	Professional Knowledge (Trade Theory)	240
3.	Employability Skills	120
	Total	**1200**

Every year 150 hours of mandatory OJT (On the Job Training) at nearby industry, wherever not available then group project is mandatory.

4	On the Job Training (OJT)/ Group Project	150
5	Optional Courses (10th/ 12th class certificate along with ITI certification or add on short term courses)	240

Trainees of one-year or two-year trade can also opt for optional courses of up to 240 hours in each year for 10th/ 12th class certificate along with ITI certification, or, add on short term courses.

2.4 ASSESSMENT & CERTIFICATION

The trainee will be tested for his skill, knowledge and attitude during the period of course through formative assessment and at the end of the training programme through summative assessment as notified by the DGTfrom time to time.

a) The **Continuous Assessment** (Internal)during the period of training will be done by **Formative Assessment Method** by testing for assessment criteria listed against learning outcomes. The training institute has to maintain an individual trainee portfolio as detailed in assessment guideline. The marks of internal assessment will be as per the formative assessment template provided on www.bharatskills.gov.in.

b) The final assessment will be in the form of summative assessment. The All India Trade Test for awarding NTC will be conducted by Controller of examinations, DGT as per the guidelines. The pattern and marking structure is being notified by DGT from time to time. **The learning outcome and assessment criteria will be the basis for setting question papers for final**

assessment. The examiner during final examination will also check the individual trainee's profile as detailed in assessment guideline before giving marks for practical examination.

2.4.1 PASS REGULATION

For the purposes of determining the overall result, weightage of 100% is applied for six months and oneyear duration courses and 50% weightage is applied to each examination for two years courses. The minimum pass percent for Trade Practical and Formative assessment is 60% & for all other subjects is 33%.

2.4.2 ASSESSMENT GUIDELINE

Appropriate arrangements should be made to ensure that there will be no artificial barriers to assessment. The nature of special needs should be taken into account while undertaking the assessment. Due consideration should be given while assessing for teamwork, avoidance/reduction of scrap/wastage and disposal of scrap/waste as per procedure, behavioral attitude, sensitivity to the environment and regularity in training. The sensitivity towards OSHE and self-learning attitude are to be considered while assessing competency.

Assessment will be evidence based comprising some of the following:

- Job carried out in labs/workshop
- Record book/ daily diary
- Answer sheet of assessment
- Viva-voce
- Progress chart
- Attendance and punctuality
- Assignment
- Project work
- Computer based multiple choice question examination
- Practical Examination

Evidences of internal (Formative)assessments are to be preserved until forthcoming examination for audit and verification by examining body. The following marking pattern to be adopted for formative assessment:

Performance Level	Evidence
(a) Marksin the range of 60%-75% to be allotted during assessment	
For performance in this grade, the candidate	• Demonstration of good skills and accuracy

should produce work which demonstrates attainment of an acceptable standard of craftsmanship with occasional guidance, and due regard for safety procedures and practices	in the field of work/ assignments. • A fairly good level of neatness and consistency to accomplish job activities. • Occasional support in completing the task/ job.
(b) Marks in the range of 75%-90% to be allotted during assessment	
For this grade, a candidate should produce work which demonstrates attainment of a reasonable standard of craftsmanship, with little guidance, and regard for safety procedures and practices	• Good skill levels and accuracy in the field of work/ assignments. • A good level of neatness and consistency to accomplish job activities. • Little support in completing the task/job.
(c) Marks in the range of more than 90% to be allotted during assessment	
For performance in this grade, the candidate, with minimal or no support in organization and execution and with due regard for safety procedures and practices, has produced work which demonstrates attainment of a high standard of craftsmanship.	• High skill levels and accuracy in the field of work/ assignments. • A high level of neatness and consistency to accomplish job activities. • Minimal or no support in completing the task/ job.

Photographer, General; takes photograph of persons, places, or other subjects, using various kinds of photographic equipment. Measures day light using exposing meter or arranges artificial lighting and holds or places camera at desired angle and distance from subject to be photographed. Focuses lens and adjusts lens opening and exposure time. Loads camera with film or plate. Presses lever to open lens shutter and exposes film or plate by pressing lever, allowing time, if for publication. Supplies series of pictures on selected topics, for writing feature articles in magazines. May develop films and print copies. Photographers and Image and Sound Recording Equipment Operators, Other take photographs of persons, places and objects and record sound for different purposes and include Photographers, Image and Sound Recording Equipment Operators not elsewhere classified.

Photographer News; Press Photographer photographs news events, persons or objects for use in news-papers, magazines and other publications. Receives instructions from News Editor or Chief Reporter regarding nature of pictures to be taken. Travels to location; loads camera with film, waits for suitable moment and takes photographs. Attends State functions and parties and takes photographs of important persons arousing special interest of news value for publication. Accompanies important visitors and dignitaries and takes photographs of significant events associating important persons. Removes exposed film for developing and printing. Examines print, gives appropriate title or heading, and hands it over to News Editor.

Photographer, Aerial; photographs objects, places and areas of vital importance from aeroplanes in flight, for use in surveys, planning, development and other scientific and military purposes. Determines number of exposures and time lapse between them by making necessary calculations. Loads camera, adjusts exposure-time and exposes film by opening shutter at calculated intervals. Operates and maintains automatic camera and photo equipment for aerial photographs. Develops aerial films of various types in automatic, semi-automatic or manual tank developers. Makes prints for photo interpretation.

Digital photographical institutions: it will provide the familiarization with the institution, its importance of trade training & professional use of Digital camera into different types of uses into variety of interests of the Govt. and public sectors. After getting trained, the trainee will be able to do the job for making short documentary, news items, and interviews of great personalities of different areas, music videos and professional photography for wild life, modeling, drama documentary, serial, story board making news, live broadcasting, seminar/workshop industrial, musical event, advertisement as well as domestic purposes etc.

Reference NCO-2015:

       (i)   3431.0100–PhotographerGeneral

       (ii)   3431.0200–Photographer News

       (iii)   3431.0300 – Photographer, Aerial

       (iv)   3431.9900–Photographer & Others

Reference NOS:

       (i)   MES/N0909

       (ii)   MES/N0507

       (iii)   MES/N3503

       (iv)   MES/N0910

       (v)   MES/N0603

       (vi)   MES/N0912

       (vii) MES/N9406

       (viii) MES/N0913

       (ix)   MES/N0914

       (x)   MES/N3412

4. GENERAL INFORMATION

Name of the Trade	PHOTOGRAPHER
NCO - 2015	3431.0100,3431.0200, 3431.0300, 3431.9900
NOS Covered	MES/N0909, MES/N0507, MES/N3503, MES/N0910, MES/N0603, MES/N0912, MES/N9406, MES/N0913, MES/N0914, MES/N3412
NSQF Level	Level-3.5
Duration of Craftsmen Training	One Year (1200 Hours +150 OJT/Group project)
Entry Qualification	Passed 10th class examination or its equivalent.
Minimum Age	14 years as on first day of academic session.
Eligibility for PwD	LD, CP, LC, DW, AA, DEAF, HH, AUTISM
Unit Strength (No. of Student)	24 (There is no separate provision of supernumerary seats)
Space Norms	48 Sq. m
Power Norms	6.35 KW
Instructors Qualification for:	
(i) Photographer Trade	Diploma (Minimum 2 years) in Photography/ Cinematography / Videography from recognized board of education or relevant Advanced Diploma (Vocational) from DGT with two years' experience in the relevant field. **OR** NAC/NTC passed in the trade of Digital Photographer/ Photographer with three years' experience in the relevant field. **Essential Qualification:** Relevant Regular / RPL variants of National Craft Instructor Certificate (NCIC) under DGT. *Note:* *Out of two Instructors required for the unit of 2 (1+1), one must have Degree/Diploma and other must have NTC/NAC qualifications. However, both of them must possess NCIC in any of its variants.*
(ii) Employability Skill	MBA/ BBA / Any Graduate/ Diploma in any discipline with Two years' experience with short term ToT Course in Employability Skills.

	(Must have studied English/ Communication Skills and Basic Computer at 12th / Diploma level and above) **OR** Existing Social Studies Instructors in ITIs with short term ToT Course in Employability Skills.
(iii) Minimum Age for Instructor	21 Years
List of Tools and Equipment	As per Annexure – I

Learning outcomes are a reflection of total competencies of a trainee and assessment will be carried out as per the assessment criteria.

5.1 LEARNING OUTCOMES

1. Identify different types of lenses and their uses following safety precautions. (NOS: MES/N0909)
2. Demonstrate the application of various types of lights, lighting techniques, taking indoor and outdoor photographs and use of special areas of photography, type of object lighting: Daylight, Artificial light and their combination. (NOS: MES/N0507)
3. Work with the basics of visual aesthetics. (NOS: MES/3503)
4. Work with the basics of lighting for portrait, studio photography, Commercial/Advertisement photography, Sports photography, fashion photography, slow and fast moving objects, functions, machines and processes, landscape, architecture, night photography children, animal, birds, shooting spot etc. by digital camera, candid photography. (NOS: MES/N0507)
5. Apply the basics of visual aesthetics and art appreciation. (NOS: MES/N3503)
6. Apply Computer Fundamentals, Monitor Calibration and Interfaces. (NOS: MES/N0909)
7. Work with Image & image Graphics identifying various kinds of Graphics. (NOS: MES/N0910, MES/N0603)
8. Apply Image transportation by using editing software, taking printouts of photographs by using computer system from digital camera. (NOS: MES/N0910, MES/N0603)
9. Apply the use of multimedia and photo post-processing software. (NOS: MES/N0912)
10. Demonstrate four Key Skills of a Successful Photographer and procurement of a good quality camera and its accessories. (NOS: MES/N9406)
11. Demonstrate how motion pictures work. (NOS: MES/N0909)
12. Work with the fundamentals of shot taking and mise-en-scene. (NOS: MES/N0909)
13. Identify various principles, quality and types of Light. (NOS: MES/N0507)
14. Apply different shooting techniques with a DSLR camera. (NOS: MES/N0913, MES/N0914)
15. Apply audio recording and mixing. (NOS: MES/N3412)
16. Work with three point lighting for video shooting in a studio and demonstrate the selection of shooting camera, studio light accessories for field lighting. (NOS: MES/N0507)
17. Apply and work with the production and planning of a documentary film. (NOS: MES/N0914)

LEARNING OUTCOMES	ASSESSMENT CRITERIA
1. Identify different types of lenses and their uses following safety precautions. (NOS: MES/N0909)	Identify different types of lenses for different types of digital camera
	Use the lenses with wide angle, Normal, telephoto and zoom range.
	Identify and understand the focal length of the different types of lenses
	Demonstrate disposal procedure of wastage/electronic materials.
	Identify and practice the different types of lenses to take variety of photo.
2. Demonstrate the application of various types of lights,lighting techniques, taking indoor and outdoor photographs and use of special areas of photography, type of object lighting: Daylight, Artificial light and their combination. (NOS: MES/N0507)	Work on different types of composition using various lighting techniques.
	Take photographs by varying aperture, shutter speed and use of different types of lenses.
	Take photographs in outdoor and Indoor conditions by the use of Digital camera.
	Take photographs on different locations/ lighting situations.
3. Work with the basics of visual aesthetics. (NOS: MES/3503)	Take photographs in natural light, tungsten light and fluorescent light.
	Take photographs with single & multiple electronic flash.
	Take photographs with Reflectors, exposure meters, studio flash.
	Take photographs with different accessories (Lux Meter, Slave Unit) and guide number.
4. Work with the basics of lighting for portrait, studio photography, Commercial/Advertisement photography, Sports photography, fashion photography, slow and fast moving objects,	Perform kind of photography of your choice ex. Fashion, food, sport etc. Take a series of ten pictures on any genre and make a presentation.

	functions, machines and processes, landscape, architecture, night photography children, animal, birds, shooting spot etc. by digital camera, candid photography. (NOS: MES/N0507)	
5.	Apply the basics of visual aesthetics and art appreciation. (NOS: MES/3503)	Make a presentation on any visual artist of your choice.
6.	Apply Computer Fundamentals, Monitor Calibration and Interfaces. (NOS: MES/N0909)	Work on multimedia platform for internet and its functions.
		Work on operating software with accessories and configuration of multimedia PC with other application software, Monitor Calibration.
7.	Work with Image & image Graphics identifying various kinds of Graphics. (NOS: MES/N0910, MES/N0603	Scan photographs and capture frames and making still images in multimedia application.
		Work on Digital IMAGE: methods of storing & processing (Raster method, Vector method) – Factors influencing quality (Resolution, Pixel depth, Pixel aspect ratio) – Colour models.
		Perform capturing: Scanner – Digital Camera – Frame Grabber and IMAGE COMPRESSION.
8.	Apply Image transportation by using editing software, taking printouts of photographs by using computer system from digital camera. (NOS: MES/N0910, MES/N0603)	Perform editing by using bit map and vector based image editing software.
		Take printouts of photographs taken by a digital camera from computer printer.
		Transportimages to storage media.
		Send photographs through internet/E-mail.

9.	Apply the use of multimedia and photo post-processing softwares. (NOS: MES/N0912)	Work with Adjustment Layers.
		Perform blending modes for layers using filters, styles, and effects, working with text layers.
		Work with repair and retouch tools and techniques with the Smart Brush and adjustment layers.
		Colour spaces, colour management, and printing.
		Work with resolution and pixels for printing image with the web and working with old photos. Scanning, colorizing, black & white.
		Work on slide shows with adding music and titles to old photographs and old video.
		Use the Photo merge tools to combine the best parts of photos/video.
10.	Demonstrate four Key Skills of a Successful Photographer and procurement of a good quality camera and its accessories. (NOS: MES/N9406)	Work on hard skill: Technical.
		Work on hard : Artistic.
		Soft skills to be checked.
		Communication skill andbody language to be checked.
11.	Demonstrate how motion pictures work. (NOS: MES/N0909)	Work on digital video cameras on tripod, tape, VTR, Camcorder, Monitor.
		Set up a single camera unit: Black balance and White balance, Adjustment of viewfinder and monitor, Familiarization of in- camera filters and other in-camera controls, Day-for-night Videography.
		Perform operations of various camera movements.
12.	Work with the fundamentals of shot taking and mise-en- scene. (NOS: MES/N0909)	Explain basic shot terminology : Close up, Mid shot, Long shot, Big close up, Mid-long shot, Extreme long shot, Point of view (POV) shot, Over-the Shoulder(OSS) shot, high angle and low angle shot, top angle shot.
		Work on Action Axis(180 degree rule); matching of action, Static and Dynamic Continuity Reverse angle.
		Perform operations and Camera movements Pan, tilt, trolley, dolly, crane, steady – cam and usage of other camera support.
13.	Identify various	Explain basic principle of light. (i) Electromagnetic spectrum, visible

principles, quality and types of Light. (NOS: MES/N0507)	spectrum. (ii) Behaviour of light (Direct and Indirect)(iii) Inverse square law. (iv)Basic principles of color, Color temperature, CIE diagram, trichromatic theory of vision.
	Work on quality of light: Specular, diffused and bounced. (ii) Types of light: Natural day light, Incandescent, (tungsten- halogen, LED and PAR etc.
	Work with Low key and High key technique of lighting, use of back light, kicker and background light. Practice to light up 2-point and 3-point lighting in an indoor situation. Light source filters and gels for mixed lighting situation.
	Use the reflectors, mirrors, skimmers as fill light in an outdoor situation.
14. Apply different shooting techniques with a DSLR camera. (NOS: MES/N0913, MES/N0914)	Handle DSLR camera and their accessories, camera movement – Pan – tilt- Zoom. Dimension of image.
	Explain basic camera do's and "dont's before and after the shoot.
	Work with DSLR and video camera. Assignment must be given at week end and monitored regularly.
15. Apply audio recording and mixing. (NOS: MES/N3412)	Explain the concept of audio video recording using External Microphone and Line recording.
	Perform mixing and editing.
16. Work with three point lighting for video shooting in a studio and demonstrate the selection of shooting camera, studio light accessories for field lighting. (NOS: MES/N0507)	Demonstrate lighting of different areas of video shooting.
	Work on three point lighting, indoor and outdoor lighting etc.
	Work on hard and soft lighting. Single camera lighting, bounce lighting.
	Use of reflectors & skimmer.
17. Apply and work with the production and planning of a documentary film. (NOS: MES/N0914)	Explain Planning, writing. Location recce, story boarding, budgeting, scheduling etc.

SYLLABUSFOR PHOTOGRAPHER TRADE			
DURATION: ONE YEAR			
Duration.	**Reference Learning Outcome**	**Professional Skills (Trade Practical)**	**Professional Knowledge (Trade Theory)**
Professional Skill 63Hrs; Professional Knowledge 18 Hrs	Identify different types of lenses and their uses following safety precautions.	1. Identification of basic first aid devices and use them in different circumstances. 2. Identification of different fire Extinguishers and its use as per requirement and also the use of safety alarms. 3. To identify, handle and disposed off dangerous goods according to policy and procedures and also know how to report to supervisor/ competent authority in case of any incident. 4. To identify and observe evacuation procedure according to site policy. 5. To identify different types of Analog and digital cameras and its different parts. 6. To identify different types of lenses for different types of cameras 7. To use the lenses with wide angle, Normal, telephoto and zoom range and practice taking pictures at different focal lengths and	Importance of safety and general precautions. Observed in the trade by the Institution. Care &maintenance of equipment& material. **Introduction to photography** Definition of photography. Evaluation of camera (from pin hole camera to digital cameras) Introduction to Cameras &it's History. Types of Lenses Four basic types of lenses, they are: •Normal •Wide angle •Telephoto •Zoom Introduction to Focal length. Depth-of-field in comparison with human eye, Depth of focus. Perspective, aberrations of Lens.

		group discussion on them.	
Professional Skill 42Hrs; Professional Knowledge 12 Hrs	Demonstrate the application of various types of lights, apply different Lighting techniques, take indoor and outdoor photographs and use special areas of photography, work with different Types of object lighting: Daylight, Artificial light and their combination.	8. Practice on different types of composition using various lighting techniques 9. To do practice on taking photographs by varying aperture, shutter speed and use of different types of lenses. 10. To do practice of taking photographs in outdoor and Indoor conditions by the use of Digital camera 11. To do practice of taking photographs on different locations/ lighting situations.	Exposure, Colour temperature &colour balance in kelvin temperature Conception of aperture, shutter speed, ISO. Knowledge of Pixels&their uses. Use of lens hood, tripod and modes. Knowledge of Exposure meters.
Professional Skill 42Hrs; Professional Knowledge 12 Hrs	Work with the basicsof visual aesthetics.	12. To practice of taking photographs in natural light, tungsten light and fluorescent light. 13. To practice of taking photographs withsingle & multiple electronic flash. 14. To practice of taking photographs with Reflectors, exposure meters, studio flash. 15. To practice of taking photographs with different accessories (Lux Meter, Slave Unit) and guide number.	Understanding visual communication and aesthetics in Photography. ('rule' of photographic composition), Theory of light and sources. Knowledge of Lux meters (Exposure meter)
Professional Skill 84Hrs;	Work with the basics of lighting	16. Exercise Module on any special kind of photography	Understand of special & professional shooting

Professional Knowledge 24Hrs	for portrait, studio photography, Commercial/Advertisement photography, Sports photography, fashion photography, slow and fast moving objects, functions, machines and processes, landscape, architecture, night photography children, animal, birds, shooting spot etc. by digital camera, candid photography	of your choice ex. Fashion, food, sport etc. Take a series of ten pictures on any genre and make a presentation.	techniques. Learning & usage of various filters (viz. UV-Ultra violet filter, ND-Neutral Density, Gradient Filters and other filters) Group Discussion and Presentation on practical Exercises.
Professional Skill 42Hrs; Professional Knowledge 12 Hrs	Apply the basics of visual aesthetics and art appreciation.	17. Making a presentation on any visual artist of your choice.	Art appreciation, visual aesthetics, study of paintings, photographers' works, understanding basic principles of composition, lighting, Chiaroscuro, creation of mood etc.
Professional Skill 42Hrs; Professional Knowledge 12 Hrs	Apply Computer Fundamentals, Monitor Calibration and Interfaces.	18. Practice on multimedia platform for internet and its functions. (20 Hrs) 19. Practice on operating software with accessories and configuration of multimedia PC with other application software, Monitor Calibration.	Basics of Computers, OS, RAM, ROM and Graphic cards, Concept of operating software, functions and its uses. Basics of Internet, different image editing software & its application. Multimedia platform, accessories and configuration of multimedia PC.

Professional Skill 21Hrs; Professional Knowledge 06 Hrs	Work with Image & image Graphics identifying various kinds of Graphics.	20. Practice to scan photographs and capture frames and making still images in multimedia application. 21. DIGITAL IMAGE: Practice on the methods of storing & processing (Raster method, Vector method) – Factors influencing quality (Resolution, Pixel depth, Pixel aspect ratio) – Colour models. (15 Hrs) 22. PRACTICE ON METHODS OF CAPTURING: Scanner – Digital Camera – Frame Grabber and IMAGE COMPRESSION	Knowledge of other different types through scanner& capture card, editing of capturing Methods through scanners frame grabber with digital camera. Knowledge of photo editing through different types of updated photo editing softwares.
Professional Skill 42Hrs; Professional Knowledge 12 Hrs	Apply Image transportation by using editing software, taking printouts of photographs by using computer system from digital camera.	23. Practice on digital editing by using bit map and vector-based image editing software. 24. Practice on ability of taking printouts of photographs taken by a digital camera from computer printer. 25. Practice on the concept of image transportation to storage media. 26. Practice of sending photographs through internet/E-mail.	Knowledge of image editing software. Knowledgeof different types of printing media, for hard copy. Knowledge of different types of printer in respect of their resolution.
Professional Skill 42Hrs; Professional Knowledge 12 Hrs	Apply the use of multimedia and photo post-processing software.	27. Practice on ability to Work with Adjustment Layers. 28. Practice on blending modes for layersusing filters, styles, and effects, working with text layers. 29. Practice on repairing and	Workflow steps for editing photos in Photo editing software & Elements, learning the tools and techniques in a natural way.

		retouching tools and techniques with the Smart Brush and adjustment layers. 30. Practice on colour spaces, colour management, and printing. 31. Practice on resolution and pixels for printing image with the weband working with old photos. Scanning, colorizing, black & white. 32. Practice on slide shows with adding music and titles to old photographs and old video. 33. Practice by using the Photo merge tools to combine the best parts of photos/video.	
Professional Skill 42Hrs; Professional Knowledge 12 Hrs	Demonstrate four Key Skills of a Successful Photographer and procurement of a good quality camera and its accessories.	34. Practice on hard skill: Technical. 35. Practice on hard: Artistic. (10 Hrs) 36. Practice on soft skills. 37. Practice on Communication, Body Language.	External Soft skills. Internal Hard Skills. Knowledge for the selection criteria for a good quality camera and its accessories. Etiquette of Photography Basic Rule for Photographer Corporate Etiquette Ethics of Photographer (NPPA) The combination of skilled photographer and the empathic communicator is what makes a successful photographer.
Professional Skill 42Hrs; Professional Knowledge	Demonstrate how motion pictures work.	38. Practice with digital video cameras on tripod, tape,VTR, Camcorder,Monitor. 39. To set up a single camera unit: Black balance and	Persistence of Vision, Optical imagination Understanding how motion picture cameras work.

12 Hrs		White balance, adjustment of viewfinder and monitor, Familiarization of in-camera filters and other in-camera controls, Day-for-night Videography. 40. Operational practice of various camera movements.	History of cinematography.
Professional Skill 84Hrs; Professional Knowledge 24Hrs	Work with the fundamentals of shot taking and mise-en-scene.	41. Practice on basic shot terminology: Close up, Mid shot, Long shot, Big close up, Mid-long shot, Extreme long shot, Point of view (POV) shot, Over-the Shoulder (OSS) shot, high angle and low angle shot, top angle shot. 42. Practice on Action Axis(180 degree rule); matching of action, Static and Dynamic Continuity Reverse angle. 43. Operations and Camera movements Pan, tilt, trolley, dolly, crane, steady – cam and usage of other camera support.	Understanding basics of composition, movement, visual balance, continuity, axis matching, mise-en-scene.
Professional Skill 84Hrs; Professional Knowledge 24Hrs	Identifyvarious principles, quality and types of Light.	44. Practice on basic principle of light. (i) Electromagnetic spectrum, visible spectrum. (ii) Behaviour of light (Direct and Indirect) (iii) Inverse square law.(iv) Basic principles of color,Color temperature, CIE diagram, trichromatic theory of vision. 45. Practice on quality of light : Specular, diffused and	1. Basic principle of light. (i) Electromagnetic spectrum, visible spectrum. (ii) Behaviourof light falling on an object – absorption, reflection refraction, transmission, diffraction, dispersion, scattering of light, refractive index. (iii) Inverse square law. (iv) Basic principles of color, CIE diagram, trichromatic theory of vision. 2. (i)Quality of light : Specular,

		bounced. (ii) Types of light : Natural day light, Incandescent, (tungsten-halogen, LED and PAR etc. 46. Practice on Lowkey and Highkey technique of lighting, use of back light, kicker and background light. Practice to light up 2-point and 3-point lighting in an indoor situation. Light source filters and gels for mixed lighting situation. 47. Practice to use the reflectors, mirrors, skimmers as fill light in an outdoor situation.	diffused and bounced. (ii) Types of light: Natural day light, Incandescent, (tungsten-halogen, [Tenner (10K), Senior (5K), Junior (2K), Baby (1K), Inkie Multi 10, Multi 20 etc], photoflood), fluorescent, (Kino Flo) Metal Halide enclosed AC arc (HMI) etc. 3. Basic understanding of lighting ratio (key + fill : fill alone) use of back light, kicker and background light. How to lit up an indoor situation. Use of light source filters. 4. Use of reflectors, and soft boxes, mirrors, skimmers as fill light in an outdoor situation. 5. Knowledge of symbols (icon) to identify the various lighting equipments.
Professional Skill 84Hrs; Professional Knowledge 24Hrs	Apply different shooting techniques with a DSLR camera.	48. Handling of DSLR camera and their accessories, camera movement – Pan – tilt- Zoom. Dimension of image. 49. Practice on some basic camera do's and don'ts before and after the shoot. 50. Practice on DSL Rand video camera. Assignment must be given at week end and monitored regularly.	Introduction to DSLR cameras technology. Working principle of an image sensor, shutter, aspect ratios, resolution, SD, HD, UHD. Understanding Gamma, contrast and dynamic range. Understanding compression and types of file formats.
Professional Skill 21Hrs; Professional Knowledge 06 Hrs	Apply audio recording and mixing.	51. Practice on the concept of audio video recording using External microphone and Line recording. 52. Practice on mixing, editing.	**Video and Audio productions.** Knowledge of sound techniques. Use of different microphones, Mono, Stereo and Surround sound techniques. Recording methods, sound

			mixing, editing.
Professional Skill 42Hrs; Professional Knowledge 12 Hrs	Work withthree-point lighting for video shooting in a studio and demonstrate the selection of shooting camera, studio light accessories for field lighting.	53. Practice for Lighting of different areas of video shooting. 54. Practice on three-point lighting, indoor and outdoor lighting etc. 55. Practice on hard and soft lighting. Single camera lighting, bounce lighting. 56. Use of reflectors& skimmer.	**Lighting for still &video photography.** Knowledge of different types of video lighting. Concept of power distribution depending upon the requirement of the light output. Detailed light source including natural and studio lights instruments, Field lighting instruments. Usage of Light meter(Lux meter), Interval meter.
Professional Skill 21Hrs; Professional Knowledge 06 Hrs	Apply and work with the production and planning of a documentary film.	57. Thinking of ideas of your film. Planning, writing. Location recce, story boarding, budgeting, scheduling etc.	Understanding documentary films, types of documentary films, ethnographic, observational, experimental, personal. Cinema-verite principle. Viewing of documentary films and discussion.
Project on Documentary Film with Proper Story Script			

SYLLABUS FOR CORE SKILLS
1. Employability Skills(Common for all CTStrades) (120Hrs)

Learning outcomes, assessment criteria, syllabus and Tool List of Core Skills subjects which is common for a group of trades, provided separately inwww.bharatskills.gov.in/www.dgt.gov.in

	List of Tools & Equipment		
	PHOTOGRAPHER (for batch of 24 Candidates)		
SNo.	**Name of the Tools and Equipment**	**Specification**	**Quantity**
A. TOOLS AND EQUIPMENT			
1.	Digital HD Video Camera		2 Nos.
2.	Digital SLR Camera with standard accessories.		3 Nos.
3.	Digital SLR Camera with detachable recorder (Latest model)	Only recorder	1 No.
4.	15" HD monitor as Viewer		2 Nos.
5.	Multimedia speaker	2.1	2 sets
6.	Prime lens (Normal/wide/telephoto), Macro lens kit		2 sets each
7.	Dolly and gimbal		1 No each
8.	Camera stand for still camera		2 Nos.
9.	Camera stand for video		2 Nos.
10.	Mono pod Camera stand for video camera		1 No.
11.	Different types of filters, (10 types) match able with camera	UV filter Graduated, Star filter, multi image, ND, Skylight, polarizer, colour filter set, both for video &still.	1 No.
12.	Extension ring (4 rings)		1 No.
13.	Electronic flash gun (Manual & auto) with slave unit		2 Nos.
14.	Drone with accessories		1 Nos.
15.	Umbrella soft box, Diffusers,back drop screen with stands, Colour Gels, Scrim, 18 % Greycard		2 Nos.
16.	Air conditioner for studio		As required
17.	Lux Meter (Flash and light Meter)		2 Nos.
18.	Studio room (30ft. x 30ft. x 18ft. height) fitting with cataract system, light grid, sound proof, AC, with cyclorama		1 Room
19.	Studio & Classroom furniture a) Steel chairs folding type with arm rest for		24 Nos.

	trainees		24 Nos.
	b) Working table molded		
20.	Computer	CPU: 32/64 Bit i3/i5/i7 or latest processor, Speed: 3 GHz or Higher. RAM:-4 GB DDR-III or Higher, Wi-Fi Enabled. Network Card: Integrated Gigabit Ethernet, with USB Mouse, USB Keyboard and Monitor (Min. 17 Inch.) Licensed Operating System and Antivirus compatible with trade related software	8 Nos.
21.	Laser/Inkjet/Scanner printer with colour cartridge	1200 dpi or higher	1 No.
22.	Online UPS orOffline UPS		As required
23.	Windows operating system	latest version	8 Licenses
24.	Photo editing software like Photoshop CS etc.	latest version	As required
25.	MS-Office	latest version	8 Licenses
26.	Macro media Free Hand	latest version	8 Licenses
27.	Flash	latest version	8 Licenses
28.	Sound Forge/ cool edit pro	latest version	1 Licenses
29.	Digi-Mix	latest version	1 License
30.	Adobe premier	available version	1 License
31.	Portable hard disk	4 TB	1 No.
32.	Pen drive	8 GB, 16 GB	5 Nos.
33.	Multiple card reader		5 each
34.	Reflectors	Folding Portable	3 Nos.
35.	Cool light		2 Nos.
36.	Multi 10 & Multi 20		Each 2 Nos.
37.	Sun Gun		4 Nos.
38.	Battery for digital video camera		2 Nos. each.
39.	Microphone (boom)		1 No.

40.	Microphone (lapel)		2 Nos.
41.	Power Cable		As required
42.	Extension Board		As required
43.	BNC cable with various connectors	80 ohms	As required
44.	LCD Projector /Interactive Smart Board		1 No.
B. SHOP FLOOR FURNITURE AND MATERIALS			
45.	Steel almirah		2 Nos.
46.	Pigeon hole steel almirah		1 No.
47.	Chairs for computer classes		24 Nos.
48.	Table for computer		8 Nos.
49.	Studio room (30ft. x 30ft. x 18ft. height) fitting with cataract system, light grid, sound proof, AC, with cyclorama		1 Room
50.	Studio & Classroom furniture a) Steel chairs folding type with arm rest for trainees b) Working table molded		24 Nos. 24 Nos.
51.	Instructor Chair and instructor Table		1 No. Each
52.	Fire extinguisher	Arrange all proper NOCs and equipment from Municipal/Competent authorities	

Note: -
1. *All the tools and equipment are to be procured as per BIS specification.*
2. *Internet facility is desired to be provided in the class room.*

The DGT sincerely acknowledges contributions of the Industries, State Directorates, Trade Experts, Domain Experts, trainers of ITIs, NSTIs, faculties from universities and all others who contributed in revising the curriculum. Special acknowledgement is extended by DGT to the following expert members who had contributed immensely in this curriculum.

S No.	Name & Designation Sh/Mr/Ms	Organization	Remarks
	List of Expert Members contributed/ participated for finalizing the course curriculum of Digital Photographer held on 07.02.2018 at FTI, Bangalore		
1.	B. V. S. Sesha Chari, Director	CSTARI, Kolkata	Chairman
2.	N.R. Arvindan , Director	FTI, Bangalore	Member
3.	V. Sukumaran, Chief Cameraman	Films Division, Govt. of India, Kendriya Sadan, Bangalore	Expert
4.	Mahendar, Director of Photography	Ryan International School, Bangalore	Expert
5.	G. Palani, Cameraman	Doordarshan, Bangalore	Expert
6.	R. K. Narendra Kumar, Chief	Ahobila Photography, Bangalore	Expert
7.	Prakash Y.D. , Cameraman	Photo Care, Bangalore	Expert
8.	Chandra Prabhu, Cameraman/Film Editor	Viedo Came, Bangalore	Expert
9.	Malathi M., J.T.O.	Govt. I.T.I., Tumkur Road, Bangalore-22	Member
10.	Rajendra C., DOP. Film & Media	DOP Freelancer, Bangalore-104	Expert
11.	Vijaya Kumar R., Principal	Govt. Film & TV Institute, Heseraghata, Bangalore	Expert
12.	Prof. Hitesh Liya	SRFTI, Kolkata	Member
13.	Utpal Moitra	Cameraman Grade1, DDK, Golf Green, Kolkata.	Member
14.	Sanjay Khanande	Photographer cum Projectionist, FTI, Bangalore	Expert
15.	V. Babu, DDT	Apex-Hitech, Bangalore	Member
16.	R.C. Mandal, DDT	CSTARI, Kolkata	Member
17.	P.K. Ghosh, Sr, D'man	CSTARI, Kolkata	Member

ABBREVIATIONS

CTS	Craftsmen Training Scheme
ATS	Apprenticeship Training Scheme
CITS	Craft Instructor Training Scheme
DGT	Directorate General of Training
MSDE	Ministry of Skill Development and Entrepreneurship
NTC	National Trade Certificate
NAC	National Apprenticeship Certificate
NCIC	National Craft Instructor Certificate
LD	Locomotor Disability
CP	Cerebral Palsy
MD	Multiple Disabilities
LV	Low Vision
HH	Hard of Hearing
ID	Intellectual Disabilities
LC	Leprosy Cured
SLD	Specific Learning Disabilities
DW	Dwarfism
MI	Mental Illness
AA	Acid Attack
PwD	Person with disabilities

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