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

COMPETENCY BASED CURRICULUM

MULTIMEDIA, ANIMATION & SPECIAL EFFECTS

(Duration: One Year)

CRAFTSMEN TRAINING SCHEME (CTS)

NSQF LEVEL – 3.5

SECTOR – IT & ITES

Directorate General of Training

MULTIMEDIA, ANIMATION & SPECIAL EFFECTS

(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

Directorate General of Training
CENTRAL STAFF TRAINING AND RESEARCH INSTITUTE
EN-81, Sector-V, Salt Lake City,
Kolkata – 700 091
www.cstaricalcutta.gov.in

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1. COURSE INFORMATION

During the one-year duration of Multimedia, Animation & Special Effects 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 and extra-curricular activities to build up confidence. The broad components covered under Professional Skill subject are as below:-

During one year duration the trainee learns about safety and environment, use of fire extinguishers. They learn about computer peripherals, Windows interface and its related software installation process. Trainees will work with MS Office package for basic knowledge of computer. Trainees will work with Photography like Adobe Photoshop to edit image, retouch and fixing image using color, filter and for digital painting. They also learn and experience with application software with Adobe Photoshop illustrator for advance editing and graphic design. The trainees also learn Videography to practice the craft of film making, video streaming with advance features of camera. At the mid of the year the trainees can go on industrial visit or projects specified in the syllabus. The trainee learns to browse internet, upload/download video streaming and secure data from different cyber attack. They will work with Adobe Premier for video editing, mixing audio, text, image and video. Trainees will work with Adobe after effect to add special effect and compositing on video. They will work with Flash to create 2D animation, graphic illustration and compositing sound animation. The trainees will learn and experience in 3Ds Max to create 3D architectural Design, 3D modeling and texturing. Finally, the trainees will work with Maya to create 3D animation, 3D modeling, Texturing, Rigging, Lighting, Rendering artist. At the end of the year trainees can go on industrial visit or projects specified in the syllabus.

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 programmes of DGT for strengthening vocational training.

Multimedia, Animation and Special Effect trade under CTS is one of the popular course delivered nationwide through a network of ITIs. The course is of one-year duration. It mainly consists of Domain area and Core area. In the Domain area (Trade Theory & Practical) impart 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 DGT which is recognized worldwide.

Trainees broadly need to demonstrate that they are able to:

- Read and interpret technical parameters/ documentation, plan and organize work processes, identify necessary materials and tools;
- Perform task with due consideration to safety rules, accident prevention regulations and environmental protection stipulations;
- Apply professional knowledge & employability skills while performing the job and repair & maintenance work.
- Check the system specification and application software as per requirement of the design of job.
- Document the technical parameter related to the task undertaken.

2.2 PROGRESSION PATHWAYS

- Can join industry as Technician and will progress further as Senior Technician, Supervisor and can rise up to the level of Manager.
- Can become Entrepreneur in the related field.

- Can join Apprenticeship programme in different types of industries leading to National Apprenticeship certificate (NAC).
- Can join Crafts Instructor Training Scheme (CITS) in the trade for becoming instructor in ITIs.
- 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 DGT from 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 individual *trainee portfolio* as detailed in assessment guideline.The marks of internal assessment will be as per the formative assessment template provided onwww.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 basis for setting question papers for final assessment. The examiner during final examination will also check** 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 one year 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 assessment. Due consideration should be given while assessing for teamwork, avoidance/reduction of scrap/wastage and disposal of scrap/wastage as per procedure, behavioral attitude, sensitivity to 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 and records of internal (Formative) assessments are to be preserved until forthcoming examination for audit and verification by examination body. The following marking pattern to be adopted for formative assessment:

Performance Level	Evidence

(a) Marks in the range of 60 -75% to be allotted during assessment	
For performance in this grade, the candidate should produce work which demonstrates attainment of an acceptable standard of craftsmanship with occasional guidance, and due regard for safety procedures and practices.	• Demonstration of good skills and accuracy 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 above 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 above 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.

Multi-Media Artists and Animators; create special effects, animation, or other visual images using film, video, computers, or other electronic tools and media for use in products or creations, such as computer games, movies, music videos, and commercials. Apply story development, directing, cinematography, and editing to animation to create storyboards that show the flow of the animation and map out key scenes and characters. Assemble, typeset, scan and produce digital camera-ready art or film negatives and printer's proofs. Convert real objects to animated objects through modelling, using techniques such as optical scanning. Create and install special effects as required by the script, mixing chemicals and fabricating needed parts from wood, metal, plaster, and clay. Create basic designs, drawings, and illustrations for product labels, cartoons, direct mail, or television. Create pen-and-paper images to be scanned, edited, coloured, textured or animated by computer. Create two-dimensional and three-dimensional images depicting objects in motion or illustrating a process, using computer animation or modelling programmes. Design complex graphics and animation, using independent judgment, creativity, and computer equipment. Develop briefings, brochures, multimedia presentations, web pages, promotional products, technical illustrations, and computer artwork for use in products, technical manuals, literature, newsletters and slide shows.

Cameraman (Animation); operates special camera to make animated cartoon motion picture film. Discusses with Director and Producer, (Film) and renders advise about can era movements and feasibility of variety of shot; envisages in script and chart and suggests alternatives wherever necessary. Receives animation charts and drawings. Sets and adjusts camera and lighting exposure appropriate to type of film used and mood and effect to be emphasized. Installs frame on camera table for exposure and positions overhead camera suspended securely over frame. Shoots frame by frame in a predetermined sequence and regulates exposure and aperture to obtain special effect such as fade out or fade in. Instructs Laboratory Technicians about method of processing of films, which need special treatment for effective development of striking feature of certain shots.

Reference NCO-2015:

   i)   2166.0201 - Multi Media Artist and Animator/Animator

   ii)   3521.0300 - Cameraman, Animation

Reference NOS:
   i)   MES/N0703,
   ii)   MES/N3501,
   iii)   MES/N0702,
   iv)   MES/N3503,
   v)   MES/N0703
   vi)   MES/N0704
   vii)   MES/N0705

       viii)   MES/N0706

       ix)   MES/N0603

       x)   MES/N0604

Name of the Trade	MULTIMEDIA, ANIMATION & SPECIAL EFFECTS
NCO - 2015	2166.0201, 3521.0300
NOS Covered	MES/N0703, MES/N3501, MES/N3503, MES/N0702, MES/N0703, MES/N0704, MES/N0705, MES/N0706, MES/N0603, MES/N0604
NSQF Level	Level-3.5
Duration of Craftsmen Training	One Years (1200 Hours + 150 Hours OJT/Group Project)
Entry Qualification	Passed 10th class examination
Minimum Age	14 years as on first day of academic session.
Eligibility for PwD	LD, CP, LC, DW, AA, LV, AUTISM, SLD
Unit Strength (No. Of Student)	24 (There is no separate provision of supernumerary seats)
Space Norms	80 Sq. m Lab & 50 Sq. m. Studio
Power Norms	6 KW
Instructors Qualification for	
1. Multimedia, Animation and Special Effect trade	B.Voc/Degree in Multimedia and Animation from a UGC recognised University with one year working experience in the relevant field. **OR** Diploma (Minimum 2 years) in Multimedia and Animation from recognized board of technical education or relevant Advanced Diploma (Vocational) from DGT with two years working experience in the relevant field. **OR** NTC/NAC holder in Multimedia Animation & Special Effects trade with three years working experience in the relevant field. <u>Essential Qualification:</u> 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.*

2. 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.
3. Minimum Age for Instructor	21 Years
List of Tools & Equipment	As per Annexure-I

5. LEARNING OUTCOME

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. Apply Computer basics and perform installation, customization of Operating System, related software in a computer for Multimedia purpose following safety precaution. (NOS: MES/N0703)

2. Perform safe handling of Multimedia devices Video Camera, Digital Camera, Microphone, Webcam and Basics of Digital Photography, Video Recording and data transfer. (NOS: MES/N3501)

3. Perform Photo editing and apply special effects by using Adobe Photoshop and Adobe Illustrator. (NOS: MES/N3503)

4. Carry out Web browsing, Video streaming, uploading and downloading of video, audio, image on internet and secure information from cyber attacks. (NOS: MES/N0702)

5. Implement Video editing and apply special effects by using Adobe Premier and Adobe After Effect. (NOS:MES/N3503)

6. Create Graphics Animation and sound effect by using Flash and Maya, 3Ds Max. (NOS: MES/N0703, MES/N0704, MES/N0705, MES/N0706, MES/N0603, MES/N0604)

LEARNING OUTCOMES	ASSESSMENT CRITERIA
1. Apply Computer basics and perform installation, customization of Operating System, related software in a computer for Multimedia purpose following safety precaution. (NOS:MES/N0703)	Demonstrate internal component and peripheral of Computer.
	Working on Windows Interface and customize the system properties.
	Install and configure Windows OS and application software.
	Install the printer and other peripheral devices.
	Burn CD/DVD.
	Install Photoshop, Flash, Maya and 3Ds Max.
	Practice on MS Office package.
2. Perform safe handling of Multimedia devices Video Camera, Digital Camera, Microphone, Webcam and basics of Digital Photography, Video Recording and data transfer. (NOS:MES/N3501)	Identify Photo capturing and storing devices and accessories.
	Digital Photography, Basic techniques.
	Transferring of files to a Computer and storing.
	Conversion of data into different formats.
	Video shooting, practicing the craft of film making.
3. Perform Photo editing and apply special effects by using Adobe Photoshop and Adobe Illustrator. (NOS:MES/N3503)	Editing of Images using essential basic tools of Adobe Photoshop.
	Edit pictures applying selection, transforming layer, filter, color correction mode.
	Edit image with different types of palettes and layer.
	Apply 3D Effect using Layer, mixing of Layers.
	Creation of Digital Painting.
	Photo retouching, applying mask.
4. Carry out Web browsing, Video streaming, uploading and downloading of video, audio, image on internet and secure information from cyber attacks. (NOS:MES/N0702)	Downloading and Installation of latest Web browsing Software – Fire Fox, Google Chrome, Internet Explorer.
	Familiarise with social Networking websites – You tube, Face Book.
	Down load Pictures, Audio, Video from different websites.
	Create image, video streaming with sound and Upload on web.
	Understand and familiarise – Computer virus, Antivirus, Copy right, web security.

		Provide firewall security for Internet connection and Network System.
		Secure your Wi-Fi networks using wireless security features.
5.	Implement Video editing and apply special effects by using Adobe Premier and Adobe After Effect. (NOS:MES/N3503)	Editing of video clippings and footage by using Adobe Premier and Adobe After Effect.
		Addition of Captions, Sequence, Titles, Audio timeline.
		Refining sequence, practice with transition.
		Saving in different video formats.
		Creating and using compositions, applying special effect.
		Practice on Animate 3D transformations, Rotoscoping.
6.	Create Graphics Animation and sound effect by using Flash and Maya, 3Ds Max. (NOS: MES/N0703, MES/N0704, MES/N0705, MES/N0706, MES/N0603, MES/N0604)	Create Graphics and Animation by using Hand Drawing and Adobe Flash.
		Create Graphics and Animation by using Autodesk Maya, 3D Studio Max.
		Creation of basic modelling.
		Applying Rigging and skinning.
		Working with Lighting and creation of rendering artist.

		SYLLABUS FOR MULTIMEDIA, ANIMATION & SPECIAL EFFECTS TRADE	
		DURATION: ONE YEAR	
Duration	**Reference LearningOutcome**	**Professional Skills (Trade Practical)**	**Professional Knowledge (Trade Theory)**
Professional Skill 98 Hrs.; Professional Knowledge 24 Hrs.	Apply Computer basics and perform installation, customization of Operating System, related software ina computer for Multimedia purpose following safety precaution.	**Safe working practices** 1. Visit MASE Lab. of the institutes and locate the power supply to computer and its peripherals. 2. Identifying safety symbols and hazard identification. 3. Practice safe methods of fire fighting in case of electrical fire. 4. Use of fire extinguishers. **Computer Components** 5. Demonstrate of various parts of computer system such as mother board, RAM, CPU, serial and parallel ports. 6. Power on start button of a computer system and check power supply to computer and all the connected peripherals of the system.	**Safe working practices** • Scope of the MASE trade. • Safety rules and safety signs. • Types and working of fire extinguishers. **Introduction to Computer components** • Introduction to computer system. Concepts ofHardware and Software. • Function of motherboard components and various processors. • Various Input/ Outputdevices in use and their features.
		Using Operating System and Software Installation 7. Practice on Windows interface using start menu, task bar, title bar, Windows help, My computer, Recycle Bin. 8. Customize the desktop settings and manage user accounts.	**Introduction to OperatingSystem and Software Installation process** • Introduction to Windows Operating System. • Main features of WindowsOS. • File Management through Windows explorer. • Introduction and applications of essential

		9. View system properties and customize the same using control panel details. 10. Work with keyboard shortcut commands. 11. Create, delete, copy, move, rename, view, sort, zip and unzip of files & folders. 12. Use Multimedia tools and windows media player for image, audio and video. 13. View the BIOS settings and their modifications. 14. Install Windows operating system. 15. Format hard disk and create partition. 16. Install necessary application software for Windows i.e. Office Package, PDF Reader, Media Player, Antivirus etc. 17. Install Drivers for printer, scanner, webcam and DVD etc. 18. Burn data, video and audio files on CD/DVD using application software. 19. Install Photoshop, Flash, Maya and 3Ds Max.	Accessories, Multimedia players. • Introduction to the booting process. • Introduction to various types of memories and their features. • Concept of installation process of Operating System and software. • Basic Hardware andsoftware issues and theirsolutions. • Usage of Application software and Antivirus.
		Using MS Office 20. Open MS Word, familiarise with basic word components and practiceon creating, saving, closing and renaming of word documents. 21. Edit document using basic formatting tools. 22. Practice Inserting and formatting tables, pictures,	**Introduction to MS Office** • Introduction to the various applications in MS office. • Introduction to Wordfeatures, Office button,toolbars. • Creating, saving andformatting and printingdocuments using Word. • Introduction to Excel features, data types and various functions in all categories of

		videos and other objects. 23. Use Mail merge tool. Use conditional Mail Merge, External Data Source. Practice Letters, Label & Envelop printing using Mail Merge. 24. Open MS Excel, familiarise with basic application components and practice creating, saving and formatting excel spread sheets. 25. Practice Excel functions of all major categories i.e. Financial, Logical, Text, date & time, Lookup, Math, Statistical etc. 26. Use various data types in Excel, sorting, filtering and validating data. 27. Modify Excel page setup and print a worksheet. 28. Open power point presentation, familiarise with basic application components and practice on creating Slide shows, Inserting picture and theme. 29. Add new slide, format text, link with word and excel documents. 30. Practice animating slide transitions and objects. 31. Create slide shows by inserting audio & video and synchronise with presentation.	Excel. • Concepts of sorting, filtering and validating data. • Introduction to PowerPoint Slide Show creation process. • Fine tuning the presentation and good presentation technique.
Professional	Perform safe	**Digital Photography (photo**	**Digital Photography**

Skill 22 Hrs.; Professional Knowledge 06 Hrs.	Handling of Multimedia devices Video Camera, Digital Camera, Microphone, Webcam and Basics of Digital Photography, Video Recording and data transfer.	**session)** 32. Identify different parts of digital camera; know the operating procedure and internal functions of the camera. 33. Practice to change important settings of camera. 34. Practice on focusing using tools and auto focus. 35. Practice on digital Photo Shooting with shallow depth of field. 36. Practice on using neutral density (ND) filters to correct overexposure. 37. Practice on gain to artificially brighten an underexposed photo shot. 38. Practice on color Caliberation tool for white balancing a shot. 39. Working with reflector and skimmer for light balance, understanding lighting concepts, creating four-point lighting setup for a scene using corrective gels. 40. Data transfer from Camera, SD card to Computer and Vice Versa.	• Learning digital camera anatomy. • Exploring important camera settings. • Understanding how to focus. • Introducing the subject forthe photo shoot. • Understanding lighting setup and working process with lighting instruments.
Professional Skill 217 Hrs.; Professional Knowledge 66 Hrs.	Perform Photo editing and apply special effects by using Adobe Photoshop and Adobe Illustrator.	**Working with Images in Photoshop** 41. Scan images with digital scanner and save with appropriate image format. 42. Open Adobe Photoshop to practice with image editing tool, workspace-navigation,	**Introduction to Photoshop** • Implementation of Scanner • Image Editing techniques • Retouching techniques • Selection technique • Composition and design techniques

| | | palettes, arranging document windows.
43. Crop and rotate an image, change image size, pixelsand resolution, color Depth and apply the color modes- RGB, CMYK and Grayscale.
44. Edit image using bridge, brushes, choosing colors, sampling colors from an image, using Pantone colors, multiple undo and taking Snapshots, use the History palette.
45. Retouch to Fix images using the Clone Stamp.
46. Practice with Healing tools: The history brush, the Red-Eye and colour replacement tools.
47. Practice for selection techniques using the marquee and the lasso tools, the quick selection tool, working in quick mask mode, adding and subtracting selections, saving a selection.
48. Composition and design techniques:
Working with layers moving content to new layer, opacity, transforming layers, creating reflection and other effects.
49. Transformation- Scaling and rotating, using color fill layers, using gradients and patterns, combing images with layer masks, applying a | • Colour correction
• Working with type
• Effects and Filters
• Production |

		Mask to an Adjustments layer.
		50. Practice for Color correction using the levels command histogram, curves and exposure, using the color balance command to modify color casts, adjusting vibrance, Hue and Saturation: general and specific color range adjustment, colorizing.
		51. Working with type layers, formatting type, converting type to pixels.
		52. Applying Effects and Filters: working with layers Styles-Drop shadows, glows, bevels etc., using filters-corrective and creative filtering technique, usingthe filter gallery.
		53. Practice with Production technique: importing and exporting images the main stream file types and their uses, web graphics-Using the Save for Web command-Optimization and file formats.
		54. Printing- recognizing nonprintable colors, converting images to CMYK, saving for print, 3d (Menu), Color Correction (Adjustments), Smart Objects, Content Aware, Puppet Wrap Define(Brush, Pattern, Custom Shape).
		55. Preferences, Masking

		(Layer, Vector, Clipping, Channel), Video Layers, Filters (All), actions (Panel), Animation, Channel, Text (Character /Paragraph (Panels), using Bridge.	
		Advance Image Editing in Photoshop 56. Work with Palettes, i.e., layers palette, navigator palette, info palette, color palette, Swatches palette, Styles palette, History palette, Actions Palette, Tool preset palette, Channels Palette and Path Palette. 57. Work with Layers and edit photo using Image adjustment options - Labels, Auto labels, Auto contrasts, Curves, Color balance, Brightness /Contrast, Posterize, Variations. 58. Prepare the file and work area. 59. Creating different shapes. 60. Create three Dimensional effects using Layers. 61. Work with the magic wand tool and lasso tool. 62. Create images using Symbol Sprayer Tool. 63. Edit the images usingoptions of Warp Tool. 64. Use Dodge tool, Burn tool, Sponge Tool and Clone Stamp Tool. 65. Edit Selections; create images and giving special	**In depth Image Editing** • Exploring new creative options and producing highquality images for print & web. • Creating exceptional imagery with easier accessto file streamlined webdesign. • Photo re-touching, colourful image collages, artistic backgrounds. • Creation of the optimized images with roll over effects and imagemapping. • Special effects on images using.

		effects using Filters. 66. Produce an image by mixing two or more different Layer.	
		Graphics Editing using Adobe Illustrator/Corel draw 67. Fundamental techniques of drawing in pencil, charcoal and ink. Emphasis is on realistic representation and visual observation. 68. Advanced drawing giving emphasis on design and composition and experimental techniques in different media: creating area text, applying basic character settings, paragraph settings, creating text threads, creating text on a path, converting text to outlines. 69. Using the basic selection tools, magic Wand and the Lasso tool, selecting objects by attribute, saving and reusing selections. 70. Appearances-Targeting objects attributes: adding multiple attributes, applying live effects, expanding appearances, creatinggraphic styles.	**Graphics Editing** • Traditional Design concepts • Traditional and digital applications of color,concept and composition. • Making Selections • Understanding Appearances • Working with Groups and Layers • Advanced Drawing and Path Editing • Working with Color • Object Transformation and Positioning • Use of Brushes • Use of Masks • Use of Symbols • Application of Filters andLive Effects • Advanced Text Editing • Designing for the Web • Creation of Blends • Working with Images • Performing Specialized Tasks Saving and printing • Working with Other programs

		71. Modifying graphic styles: appearance palette settings, copying appearance. 72. Working with Groups and Layers: defining and editing groups, working with Layers, Layers and object hierarchy, creating template layers, object, group, and layer attributes. 73. Advanced Drawing and Editing Path: creating Live Paint groups, detecting gaps in Live Paint groups, path editing with Live Paint, using Offset Path, dividing an object into a grid, cleaning up errant paths. 74. Working with Color: defining swatches, creating swatch groups and libraries,working with gradients,patterns, using the ColorGuide, experimenting with color, finding colors withkuler, modifying color in artwork. 75. Transformation and Positioning: Rotating and scaling objects, reflecting and skewing objects, using the free Transform panel, Aligning objects. 76. Distributing objects-Using Brushes: Creating a calligraphic brush, creating a scatter brush, creating an art brush, creating a pattern brush. 77. Working with Masks: Understanding clipping	

masks, using layer clipping masks, creating opacity masks.

78. Using Symbols: Defining and editing symbols, using the symbolism toolset.

79. Applying Filters and Live Effects: Minding your resolution settings, Mapping artwork to 3Dobjects, using the Transform effect.

80. Using the pathfinder effects: Using the Stylize effect, Scribble effect, Warp effect.

81. Advanced Text Editing: taking advantage of Open type fonts, using the Glyphs panel, wrapping text around objects, checking spelling, using the change cash function, Setting tabs and leaders, managing fonts, dealing with legacy text.

82. Web Designing using pixel preview, specifying web slicing, Optimizing web graphics, Creating simple animations.

83. Creating a basic Blends, using a blend to create an airbrush
    Effect, using a blend to create an animation, using a blend to evenly distribute.

84. Working with Images: Placing images, using the Links panel, The Edit Original workflow, Live Trace, Rasterizing artwork, Object mosaic creating graphs,

		creating a lens flare, using gradient Mesh, Envelope Warps, Liquefy distortion tools, saving your Graphics Editing Tool Document, Printing your Graphics Editing Tool Document, Using the Crop Area tools, setting up page tiling. 85. Adding XMP metadata Exporting programs: Exporting files for use in QuarkXPress, In Design, Word /excel /PowerPoint, image Editing Tool, Authoring Tool, Special effects Tool, Effects (Ps-Ai), Preferences.	
Professional Skill 56 Hrs.; Professional Knowledge 18 Hrs.	*P*erform safe Handling of Multimedia devices Video Camera, Digital Camera, Microphone, Webcam and Basics of Digital Photography, Video Recording and data transfer.	**Digital Videography (Practice shooting and Recording)** 86. Safe handling of Multimedia devices: demonstrate how to Keep and carry how to fix in camera stand, how to remove from Stand. 87. Identify different parts of video camera; know the operating procedure and internal functions of the video camera. 88. Practicing important	**Digital Videography** • Introduction to video camera • Learning camera anatomy • Exploring important camera settings • Understanding how to focus using tools to achieve better focus • Introducing the subject forthe video shoot • Learning the craft of

		settings of camera.	filmmaking
		89. Practice on focusing using tools and auto focus.	• Shooting with shallow depth of field
		90. Practice on Shooting with shallow depth of field.	• Understanding exposure
		91. Practice on using neutral density (ND) filters tocorrect overexposure.	• Using neutral density (ND) filters to correct overexposure
		92. Practice on gain to artificially brighten an underexposed shot.	• Using gain to artificially brighten an underexposed shot
		93. Practice on choosing the right shutter speed.	• Choosing the right shutter speed
		94. Practice on color light meter, temperature, Whitebalancing a shot.	• Understanding colour temperature
		95. Practice on choosing the right tripod, gimbal for camera movement ,camera moves and Mastering hand-held shooting.	• White balancing a shot • Data transfer process.
		96. Practice on Audio Essentials for Five sound rules to live by, using the types of microphones for video shooting, setting up microphones for a video shoot, using a boom microphone, setting proper audio levels.	
		97. Practicing the lighting essential: working with lighting instruments, understanding lighting concepts, creating a four-point lighting setup for a scene, using corrective gels.	
		98. Data transfer from Camera to Computer and vice versa using CD, DVD, Hard Disk,	

		Pen Drive, SD card etc.	
Professional Skill 24 Hrs.; Professional Knowledge 06 Hrs.	Carry out Web browsing, Video streaming, uploading and downloading of video, audio, image on internet and secure information from cyber attacks.	**Using Internet and Cyber Security** 99. Browse the Internet for information (use at least 3 popular browsers). 100. Create and use e-mail for communication with attachment, priority setting, and address book. 101. Browse social networking site and communicate with text, audio, video chatting. 102. Practice open broadcaster software for live video streaming with sound and upload/download the same to/from Internet. 103. Protect information, computers and networks from viruses, spyware and other malicious code. 104. Provide firewall security for Internet connection and Network System. 105. Secure your Wi-Fi networks using password, WEP, WPA-PSK, WPA2- PSK, SSID, MAC address filtering. Create individual user accounts for each member.	**Concepts of Internet and Cyber Security** • Introduction to www, Concept of Internet, WebBrowsers, internet servers and search engines. • Concepts of Domain naming Systems and E mail communication. • Upload, download techniques in internet. • Overview of Information Security, SSL, HTTPS, Security threats, information Security vulnerability and Risk management. • Introduction to Directory Services, Access Control, Security, Privacy protection, Audit and Security. • Introduction to IT Act and penalties for cyber crimes.
Professional Skill 137 Hrs.; Professional Knowledge 36 Hrs.	Implement Video editing and apply special effects by using Adobe Premier and	**Using Adobe Premier Project** 106. Practice to change Project settings, Preference settings, Asset Management, Sequences & Clips, Offline On-line Clips. 107. Managing Clips: The Project	**Adobe Premier Project** • Introduction to Adobe Premier Project • Creating a Sequence • Editing in the Timeline • Refining the sequence • Transitions

	Adobe After Effect.	panel, Views, Thepreview area, Organizing clips and bins, Duplicating and copying clips, Renaming clips, Findingclips(search function), Interpreting Footage, Unlinking and Re-linking Media, The Project Manager.	• Audio • Tiles • Effects • Output
		108. Working with Monitor Panels: Viewing Clips, Playback Controls, Audio Clips, Cuing Clips, Time Ruler Controls, Safe Zones, Display Mode, Wave form and Vector scope Options, The Reference Monitor, Ganging source and Program Monitor.	
		109. Creating a Sequence Editing Methods, In And Out Points, Sub Clips, Source And Target Tracks, Overlay And Insert Edits, Adding Clips By Dragging, 3 And 4 Point Edits, Lift And Extract, Storyboard Editing, Multiple And Nested Sequences.	
		110. Editing in the Timeline: The Time Ruler, Adding, Deleting and Renaming Tracks, Markers, Selecting, Splitting Clips, Speed, Duration and Reverse, Multicam Editing, Synchronizing Clips, Replace Clips.	
		111. Refining the sequence:	

		Snapping, Trimming Methods, Trimming Clips, Ripple , Roll, Slip and Slide Edits, the Trim Panel, Split Edits (L And J Cuts).	
		112. Practice with Transitions: The Effects Panel, Understanding Transitions, Applying A Transitions, Editing A Transitions.	
		113. Working with Audio: The audio mixer, recordingwith the audio mixer, Fading panning and balancing Effects,Corrective measures and Routing tracks.	
		114. Practice with Titles: Creating a title Text paths, Roll and crawl titles, Text configuration.	
		115. Working with Effects:Effect Types, EffectProperties, The EffectsControl Panel, Key framing,Motion Effects, Opacityand Volume, LightingEffects, Time warp (pixel motion Blending), Special effect Tool and Premiere.	
		116. Making Output: Creating DVDs, Blu-Ray, SWF, MP4 and FLV Files, Media Encoder for DVD Makers using Clip Notes.	
		Applying Adobe After Effects	**Introduction to Adobe After Effects**
		117. Practice on User interface.	• Special effect Techniques
		118. Creating and using compositions.	• Introduction to User interface
		119. Practice on Key framing	• Concepts of compositions, Key

		and using time line. 120. Practice on Looping animation. 121. Practice on Editing motion path. 122. Create the arrivals Bound Effects. 123. Simulation between Authoring Tool & Special effects Tool. 124. Apply filter effects and mask to components. 125. Practice on Animate 3D transformations.	framing, Looping animation, motion path • Introduction to Bound Effects, Authoring Tool & Special effects Tool, filtereffects and mask to components • 3D Animation transformations, use of common loop sound, simple scripting in specialeffect Tool • Rotoscoping, Chroma, 2D& 3D tracing, Green/Blue
		126. Include a common loop sound. 127. Practice on simple scripting in special effect Tool. 128. Rot scoping, Chroma, 2D & 3D tracing, Green/Blue screen technique/shooting. Colour Correction.	screen technique/shooting. Colour Correction
Professional Skill 286 Hrs.; Professional Knowledge 84 Hrs.	Create Graphics Animation and sound effect by using Flash and Maya, 3Ds Max.	**Using Flash** 129. Practice on Tool Features, User interface, Image Editing Tool and Graphics, Editing Tool integration, Authoring Tool Video Technology, UI components. 130. Practice on Creating and Importing Graphics Assets, Working with different graphic. 131. Practice on formats - Importing bitmap graphics, working with layers and layer folder. 132. Use the drawing tools, Using object and merge	**Introduction to Flash** • About Flash and General overview - Stage and Workarea of Flash, using guides, grid & rulers. • Using frames and key frames, Working with time line. • Using layers - to create a layer, to create a layer folder, to show or hide alayer or folder, to view the contents of the layer as outlines, to change the layer height in the timeline, to change the order of the layers or folders. Using Guide layers. • Drawing in Flash - to raw with a pencil tool, to paint with a

		drawing, Working with the colour panels, Creating and using Graphic symbols, using the Library panel. 133.Practice on Text Effectively- Text tool, Adding and formatting static text, Changing font rendering methods, Adding input text fields, Embedding fonts in input text fields, Using for best practices. 134.Practice on Creation of Animations - Working with the timeline, using key frames, blanks key frames and frames, Creating motion tweens, Creating shape tweens, creating transition effects, using animation best practices. 135.Practice on Basic Action Script - Using Script Assist, Adding actions to a frame, Creating and using Button symbols.	brush tool, to draw with pen tool. • Using colours in Flash, touse a gradient fill. Importing Artwork, Video and Audio. Different file formats in Video & Audio. Flash Compatible Audio & Video file formats.
		Working with 3Ds MAX 136.Practice on creating projects and Scenes. 137.Practice on Transform tool basics, Pivot points, Grouping and parenting, Modelling with primitives. 138.Practice on User Interface - Setting up project, Views/panels, Hotbox, Viewing Geometry, Channel Box, Layer Box, Attributes Editor, QWERTY	**Introduction to 3ds Max** • Fundamentals & conceptsof Animation • 3D Animation Techniques • User Interface • Modelling • Lighting /Rending • Character Setup & Animation • Dynamics

		Navigation.	
		139. Working with the camera, over view of MEL, Outliner/ Hyper graph, Grouping /parenting Shelf Marking Menus.	
		140. Practice on Modelling – Curve Tools /snapping, Revolving, History, Duplicating, Working with NURBS, Detaching surfaces, Grouping /Duplicating.	
		141. Working with polygons, Sub-divisional surfaces, Split polygon Tool, Lofting, Extruding.	
		142. Practice on MODELLING, POLYGON TOOLS, WITH PROXY, NORMALS, Lighting /Rendering.	
		143. Practice on Hyper shade, Materials, Apply Materials, Making Shader Networks, Combining Ramps, Layered Textures, Intro to lights, Making Bump Maps.	
		144. Working with Shadows, UV Mapping, Specular Maps, Paints FX, Render View, Camera Settings, Render Globals, TOON SHADER.	
		Working with MAYA 145. Practice on navigation with view port, view port menu, forms and grids, selecting objects, move rotate and scale, manipulating pivote, channel box, attributed editor, Marking menu.	**Introduction to MAYA** • Introduction to Mayainterface and functions of port menu, forms and grids,objects, move rotate and scale, pivote, channel box, attributed editor, Marking menu

		146. Practice on Polygon modelling: Ploygon components, soft selection, extrude tools, extruding curves, polygon vevels, subdivide surface, character body.	• Concept of Ploygon components, soft selection, extrude tools, extruding curves, polygon vevels, subdivide surface, character body
		147. Practice on NURBS Modeling: NURBS primitive NURBS carv tools, Text creations, NURBS revolve, NURBS loft, NURBSextrude, NURBS planner.	• Introduction to NURBS, NURBS primitive NURBS carv tools, Text creations,NURBS revolve, NURBS loft,NURBS extrude, NURBS Planner
		148. Practice on Organising Maya scene, out liner, group object, hierarchies, duplicating objects, hypergraph, hide /show object, players.	• Organising Maya scene, out liner, group object, hierarchies, duplicatingobjects, hypergraph,players
		149. Practice on usingMaterials: Render Material, basics of material, applying of maps, BIP map picture, hyper shade, mental ray material, bump mapping, ramp shader, 3d paint tools.	• Basics of Render Material, BIP map picture, hyper shade, mental ray material,bump mapping, rampshader, 3d paint tools
		150. Animation, time line animation, adjusting key, editing key, graph editor, dope sheet, break down keys, path animation, play blast, constrains, animation cycles, adding sound.	• Animation, time lineanimation, adjusting key,editing key, graph editor, dope sheet, break down keys, path animation, play blast, constrains, animationcycles, adding sound.
		151. Practice on Rendering: Lights, depth map shadow, raterace shadows, basics of camera, depth of field, mental ray, software	• Rendering: Lights, depthmap shadow, raterace shadows, basics of camera,depth of field, mental ray, software rendering,reflection and refraction,IPR rendering, lighting to scene Batch rendering. (36 hrs.)

		rendering, reflection and refraction, IPR rendering, lighting to scene, Batch rendering.	
Industrial Visit/Project work			
Broad Areas:			
a) Create and host a web site of at least 6 web pages using Front Page.			
b) Create a multimedia project with 3D MAX.			
c) Create an animation Project with MAYA.			

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

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

		LIST OF TOOLS & EQUIPMENT	
		MULTIMEDIA, ANIMATION AND SPECIAL EFFECTS (For batch of 24 candidates)	
S No.	**Name of the Tools and Equipment**	**Specification**	**Quantity**
A. TRAINEES TOOLS/ EQUIPMENT			
1.	Desktop 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.	12 Nos. (For Trainee) + 1 No. for Instructor
2.	Server for LAN	CPU: 32/64 bit i7 processor or Higher with PCI Express Video Card, RAM:-8 GB DDR-III or Higher Hard Disk Drive: 1 TB or Higher 22" TFT Monitor, Keyboard, Mouse, DVD OR BLU-RAY WRITER , Licensed of OS - Server Edition Internet, Antivirus / Total Security - Server Edition & UPS for Power Back up..	1 No.
3.	Wi–Fi Router	With Wireless Connectivity	1 No.
4.	Switch	24 Port	1 No.
5.	Structured cabling in Lab	to enable working with Wired Networks for Practical	As required
6.	Internet Connectivity	Broadband connection with min. 2 mbps speed	As required
7.	Registered Domain	at least 100 MB Web Space	As required
8.	Colour Laser Printer	Colour A4 Size	1 No.
9.	Network Laser Printer	Monochrome A4 Size	1 No.
10.	Optical Scanner	Flatbed A4	1 No.
11.	Digital Web Cam	High Resolution (3.1 mp or higher)	4 Nos.
13.	Smart TV	72"	1 No.
14.	UPS		As Required
15.	Crimping Tool	RJ-45	5 Nos.
16.	Network Rack	4U for 24 port	1 No.
17.	Digital Multimeters	3.5 digit handheld type.	4 Nos.
18.	Screw Driver Set	Standard	4 Sets

19.	Mini Dongle for Bluetooth devices Connection	USB	4 Nos.
20.	Headphone & mic. set	Wired	5 Nos.
21.	Sound System	4:1	2 Nos.
22.	External Hard Disk	2 TB	2 Nos.
23.	Patch Panel	24 Port	2 Nos.
24.	LAN Tester	UTP cat5 cable tester (RJ 45)	5 Nos.
25.	Punching Tool	for punching RJ 45 socket with cat 5 cable	5 Nos.
26.	Digital SLR Camera/Mirror less	24 MB, LCD Viewer, Memory card, Zoom Lens (Optical) Normal, wide & Tele Lens	1 No
27.	Digital Video Camera/Mirror less SLR	Semi professional with XLR Audio I/P Video O/P – SDI, Composite, DVI, HDMI	1 No
28.	Audio Cable	Balanced XLR, Umbrella, Stereo and Mono	As required
29.	Video Cable	BNC, HDMI, USB, VGA	As required
B. SOFTWARE			
30.	MS Office	2010 (professional) or the latest version available at the time of procurement	13 Licenses
31.	Antivirus for – clients / workstations in profile	validity of an year or more which should be renewed upon expiry	13 Licenses
32.	Open Office or equivalent	Latest version	Open source software
33.	GIMP / IrfanView Image editor or equivalent	Latest version	Open source software
34.	Adobe Photoshop CC version	Adobe Photoshop (academic edition with 10 user license)	1 No.
35.	3D STUDIO Max	3D STUDIO Max (academic edition with 10 user license)	1 No.
36.	Maya	Maya (academic edition with 10 user license)	1 No.
37.	Adobe Flash	Adobe Flash (academic edition with 10 user license)	1 No.
38.	Adobe premier Suite	Adobe premier Suite (academic edition with 10 user license)	1 No.
39.	Front Page Editor	Front Page Editor (Academic edition with 10 user license)	1 No.
C. LIST OF OTHER ITEMS/ FURNITURE			

40.	Vacuum cleaner	Hand Held	1 No.
41.	Pigeon hole cabinet	20 compartments	1 No.
42.	Chair and table for the instructor	with armrest mounted on castor wheels, adjustable height/Standard	1 each(for class room & laboratory)
43.	Dual Desk or Chair and Tables for Trainees	Standard	12 / 24 Nos
44.	Computer table	laminated top 150X650X750 mm with sliding tray for key board and one shelf of storage	13 Nos.
45.	Operators chair	without arms mounted on castor wheels, adjustable height	24 Nos.
46.	Printer table	650X500X750 mm can be varied as per local specifications	3 Nos.
47.	Air conditioner		As Required
48.	Storage cabinet	60X700X450mm	1Nos.
49.	White Board	minimum 4X6 feet	1 No.
50.	Steel Almirah	2.5 m x 1.20 m x 0.5 m	1 No.
51.	Fire Extinguisher CO2	2 KG	2 Nos.
52.	Fire Buckets	Standard size	2 Nos.
D. RAW MATERIALS			
53.	Photo Copy Paper	A4	As required
54.	Full Scarp Paper	White	2 reams
55.	Cartridges for printer	Colour/monochrome as per model of the printer	As required
56.	I/O Box with socket	RJ 45	As required
57.	RJ 45 connector	For connecting utp cat 5 cable	200 Pcs.
58.	Optical Mouse	USB/PS2	As required
59.	Key Board	USB/PS2	As required
60.	Cable	Cat 5/5e	100 meter
61.	Pen drive	8 GB	2 Nos.

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	Mentor Council Designation
1.	H. V. Samvatsar Director	CSTARI, Kolkata	Chairman
2.	Sanjay Kumar Joint Director of Trg.	CSTARI, Kolkata	Member
3.	L. K. Mukherjee Dy. Director of Trg.	CSTARI, Kolkata	Member
4.	B. Das Asst. Director of Trg.	CSTARI, Kolkata	Member
5.	Smt. Sudakshina Ghosal Master	Govt. ITI for PCBG, Kolkata	Member
6.	Shri. Ananta Paul Instructor	DIT Head Quarter , West Bengal	Member
7.	S. K. Altaf Hossain Training Officer	ATI Kolkata	Member
8.	Budhaditya Biswas Training Officer	RDAT, Kolkata	Member
9.	Arijit Bhattacharya Founder & CEO	Virtual Infocom, Kolkata	Member
10.	Somanath De Director	IMAGIC, Kolkata	Member
11.	Ranjan Sen Business Development Executive	Motion Pallate, Kolkata	Member
12.	Ravish Pandey Compositing Head	Motion Pallate, Kolkata	Member
13.	Sanjeev Shah Marketting & Training Director	AFX Animation, Kolkata	Member
14.	Manoj Bise Production Head	Hitech Animation, Kolkata	Member
15.	Sanjoy Adhikary Academic Head	Hitech Animation, Kolkata	Member
16.	Ashis Kumar Mandal	CSTARI, Kokata	Member

	Asst. Director of Trg.		
17.	B. K. Nigam Training Officer	CSTARI, Kokata	Member
18.	Anurag Vats Training Officer	CSTARI, Kokata	Member
19.	Akhilesh Pandey Training Officer	CSTARI, Kokata	Member

MEMBERS OF SECTOR MENTOR COUNCIL			
S No.	Name of the member with Post (Shri /Smt/Ms)	Organisation	Position in SMC
1.	Dr. Sanjeev Kumar Gupta, Head, Technical Wing	National Institute of Electronics and Information Technology, Electronics Niketan, 6, CGO Complex, New Delhi 110 003	Chairman
2.	R Chandrasekaran, Chief Executive, Technology & Operations	Cognizant Technology Solutions India Pvt. Ltd., 12th & 13th Floor, "A" wing, Kensington Building Hiranandani Business Park, Powai, Mumbai - 400 076	Member
3.	Srikantan Moorthy, SVP & Head, Education & Research	Infosys Electronics City, Hosur Road, Bangalore 560 100	Member
4.	Deepak Jain, Senior VP & Global Head-Work Force Planning	WIPRO, Doddakannelli, Sarjapur Road, Bangalore - 560 035	Member
5.	K. Ganesan Vice President -Global Head Talent Acquisition Group TCS House, Raveline street Fort, Mumbai - 400 001	TCS, TCS House, Raveline street, Fort, Mumbai - 400 001	Member
6.	Avinsh Vashishta, Chairman & GU Managing Director	Accenture Services Pvt. Ltd., 71, Cunningham Road, Bangalore – 560052	Member
7.	Ravi Shankar B.	Mindtree Ltd, Global Village, RCVE Post, Mysore Road, Bangalore 59	Member
8.	Mr. Umesh Gupta, Network of ICT Entrepreneurs and Enterprises	USO House, USO Road, 6 Special Institutional Area, New Delhi-110067	Member
9.	Prof. S.C. De Sarkar	Indian Institute of Technology Bhubaneswar, Bhubaneswar-751 013	Member
10.	Dr. Arti Kashyup, Associate Professor	Academic Block, Indian Institute of Technology Mandi, PWD Rest House, Near Bus Stand, Mandi - 175 001, Himachal Pradesh	Member

11.	Dr. B. Mahanty, Professor	Indian Institute of Technology Kharagpur, Kharagpur, India - 721302	Member
12.	Dr. Narayanaswamy N S, Associate Professor	D/o Computer Science and Engg Indian Institute of Technology Madras IIT P.O., Chennai 600 036	Member
13.	Ms. Koushalya Barik,AD (VE)	National Institute of Open Schooling, Noida	Member
14.	Prof. Ashis.K. Pani, Professor, XLRI Jamshedpur	XLRI Jamshedpur	Member
15.	Shri S.K. Prasad	National Institute of Open Schooling, Noida	Member
16.	P N Nayak, Head - Organizational Training	HCL Services Ltd., (A subsidiary of HCL INFOSYSTEMS LTD.), Hyderabad Campus, Road No 2, Hardware Technology Park, Kancha Imarat, Pahadi Shareef, Hyderabad – 500005	Member
17.	Hemant Darbadi, Ex. Director	CDAC, Pune University Campus, Pune-411007	Member
18.	Arnab Bhattacharya, Associate Professor	Department of Computer Science and Engineering, IIT, Kanpur	Member
19.	Ms. Sheetal Chopra, Dy. Director	NIELIT,Delhi, 2nd Floor Parshwanath Mero Mall, Indralok Metro Station, New Delhi	Member
20.	Dr Vijayarajeswaran, Managing Director	VI Micro Systems Pvt. Ltd, Chennai	Member
21.	Pramod Tripathi, SEO	National Institute of Open Schooling, Noida	Member
22.	Shri Naresh Chandra, Jt. Director, DGT, HQ	DGT, New Delhi	Mentor
23.	B.K. Singha, DDT	CSTARI, Kolkata	Representative of CSTARI
24.	Shri Sundar Rajan, DPA Gr. B	NIMI, Chennai	Representative of NIMI
25.	Dr. M. Jayprakasan, DDT	ATI, Chennai	Champion Master Trainer
26.	V. Babu, DDT	DGT, New Delhi	Member
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35.	Narmada, VI	RVTI, Bangalore	Member
36.	Rohit Sama, ATO	ITI Shantinagar, Hyderabad	Member
37.	J. Herman, Assistant Training Officer	Govt. ITI (W), Nagarkoil, TN	Member
38.	P. Parthiban, Assistant Training Officer (ITESM)	Govt ITI(W),Salem, TN	Member
39.	S. Raja, ADT	DET, Telangana	Member
40.	Mohd. Akram,	ITI, Shanthi Nagar, Hyderabad	Member
41.	Geeta Sikhen , VI	RVTI, Panipat	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