

GENERAL BACKGROUND INFORMATION FOR ACCOUNTS ASSISTANT USING

Sector		ICT	
Coordinator		Naresh Chandra, DGE&T	
Scheme		MES	
Existing course name		1. Computer Fundamentals, MS-Office, Internet & Soft Skills 2. Tally 9.0 3. E Commerce – Start an Online Business	
Seating Capacity		20	
Entry Qualification		Passed 10 th Class examination	
NCO CODE		4112.20, 4112.9	
MES CODE		ICT 701	
Duration		500 Hours	
Additional Course Proposed		-	
Course proposed to be deleted		-	
Structure	Practical	Existing	NA
		Proposed	400
		Reason	80% - 20% Ratio Maintained
	Theory	Existing	NA
		Proposed	100
		Reason	80% - 20% Ratio Maintained
Infrastructure Development	Equipment(Existing)	Yes	
	New Equipment(Desirable)	Minor Changes	
Instructor Eligibility	Existing	NA	
	Proposed	B. Tech. in CS/IT, MCA with knowledge in Tally and min. one year Experience in Accounting OR Diploma in Computer Engineering, BCA, A Level, Graduate with Certificate Course in Tally with min. two years of Experience in Accounting OR NTC/ NAC with knowledge in Tally and min. three years of Experience in Accounting	
Instructional Material	Book	Available	NA
		Additional	
	Teachers manual	Available	NA
		Additional	
	Question bank	Available	NA
		Additional	
Distance Learning	To be developed	Yes	
	Not required for this course	-	
On-the-job training /field work / in house project work including no. of hours		NA	



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SYLLABUS FOR THE TRADE

OF

ACCOUNTS ASSISTANT USING TALLY

UNDER

MODULAR EMPLOYABLE SCHEME (MES)

Designed in : 2014

GENERAL INFORMATION

1. Name of the Module : ACCOUNTS ASSISTANT USING TALLY
2. N.C.O. Code No. : 4112.20, 4112.9
3. MES Code : ICT 701
4. Duration of Training : 500 Hours
5. Entry Qualification : Passed 10th class examination
6. Unit strength : 20 Trainees
7. Space norms : 70 Sq.M.
8. Power norms : 3.45 kW
9. Instructor Qualification :
B Tech in CS/IT, MCA with knowledge in Tally and min. one year experience in Accounting
OR
Diploma in Computer Engineering, BCA, NIELIT A Level, Graduate with Certificate Course in Tally with min. two years of experience in Accounting
OR
NTC/ NAC with knowledge in Tally and min. three years of experience in Accounting
10. Desirable qualification : Preference will be given to candidates with CITS.

Job Roles:

After completion of the course the trainees shall be qualified for one or more of the following job roles:

1. Office Assistant.
2. Accounting using Tally
3. Using E Commerce Sites.

Course Contents for ACCOUNTS ASSISTANT USING TALLY

Name: **ACCOUNTS ASSISTANT USING TALLY**

Terminal Competency: After completion of the training, Participants would be able to:

1. Use MS-WORD, EXCEL & POWERPOINT.
2. Use Internet & E- mail, Data Entry for transactions in Tally. Create Financial Statements. Generate Financial Reports for MIS.
3. Assist to run an online business.

Contents given below.

Week No.	Practical Competencies	Underpinning Knowledge (Theory)
1-4	<p>Computer Fundamentals</p> <ul style="list-style-type: none"> • Identification of Different parts of a Computer System. • Turning a computer system on and off <p>Windows OS</p> <ul style="list-style-type: none"> • Identifying different Desktop Icons. My Computer, My Documents • Changing Desktop Backgrounds, Mouse Pointer, Screen Saver • Notepad , WordPad, MS Paint <p>MS Word</p> <ul style="list-style-type: none"> • Document formatting options • Tables, Bullets and Numbering • Font, Alignment, paragraph formatting • Insert Picture, Clipart, Shapes, WordArt • Header & Footer, Text Box • Page Layout, Mail Merge • Spelling & Grammar <p>MS Excel</p> <ul style="list-style-type: none"> • Cell Formatting Options • Formulas and Functions • Charts • Sort, Filter, What if Analysis, Grouping • Subtotal • Pivot Table 	<p>Computer Fundamentals</p> <ul style="list-style-type: none"> • History and Generations of Computer • Advantage and disadvantage of Computer • Block Diagram of a Computer • Description of Different parts of a Computer. • System Software and Application Software <p>MS Office</p> <ul style="list-style-type: none"> • Introduction to MS Office • Word Processing Software • Electronic Spreadsheet
5-9	<p>Introduction to Tally</p> <ul style="list-style-type: none"> • Tally Fundamentals (Learning how to use of Tally) Processing Transactions in Tally. 	<p>Introduction to Accounting</p> <ul style="list-style-type: none"> • Basics of Accounting, Accounting Concepts, Double Entry Concept, Golden Rule of Accounting,

	<ul style="list-style-type: none"> • Report Generation (Creating statements like Invoice, Bill, Profit & Loss account etc.) • Cost Centre & Cost Category <p>Practical on Features of Tally</p> <ul style="list-style-type: none"> • Features of Tally (Company creation etc.) Recording Transactions. • Budgeting Systems, Scenario management and Variance Analysis, Use Tally for Costing Ratio Analysis. • Cash Flow Statement and Funds Flow Statement Analyzing and Managing Inventory. • Point of Sale, Taxation, Multilingual Functionality Payroll Accounting, Systems Administration and Other Utilities, Backup & Restore of Company. User Creation. 	<p>Voucher Entry, Ledger Posting, Final Account Preparation. Cash Book. Ratio Analysis</p> <ul style="list-style-type: none"> • Depreciation, Stock Management, • Analysis of VAT. Cash Flow, Fund Flow <p>Features of Tally</p> <ul style="list-style-type: none"> • Accounting on Computers • Introduction – Reports. • Business Organizations (Different areas like Schools, Colleges, Shops, Factory etc) Double entry system of bookkeeping. • Budgeting Systems, Scenario management and Variance Analysis. • Costing Systems, Understanding Ratios, and Analysis of financial statements. • Inventory Basics, POS Invoicing, TDS, TCS, VAT & Service Tax Processing in Tally. Interface in Different Languages. • Processing Payroll Functions in Tally what is Management Control Systems.
<p><u>10</u></p>	<p>Internet Practical</p> <ul style="list-style-type: none"> • Study of Internet Explorer or Latest Browser. Internet Explorer Settings. • Study of different web sites, multilingual language sites <p>Practical related to Theory</p>	<p>Internet Basics</p> <ul style="list-style-type: none"> • What is Internet? How Internet works? Types of Internet Browsers and Web pages. • Types of different web sites. Cyber Laws. <p>Cyber Security Module 1 Overview of Information Security</p> <ul style="list-style-type: none"> • Understanding Information Security • Need of the Information security • Basics of IS (CIA) • History and evolution of IS • Dimensions of Information Security

	<p>Practical related to Theory</p>	<p>Information Security Vulnerabilities</p> <ul style="list-style-type: none"> • Why do Information Security Vulnerabilities exist • Types of Technical Vulnerabilities • Types of Native Vulnerabilities • Understanding Security Vulnerabilities • Flaws in Software or Protocol Designs • Weaknesses in How Protocols and Software Are Implemented • Weaknesses in System and Network Configurations • Weaknesses in Web or Cloud applications • Weaknesses in Online e-transactions • Browser Security and Role of cookies and pop-ups • Security holes in Browser, Web Applications, OS, and Smartphones • Identifying role of Social sites and media in cyber security and vulnerability • Understanding Vulnerability Assessment Tools and Techniques • Techniques to Exploit Vulnerabilities • Techniques to Fix the Vulnerabilities • Identify security vulnerabilities on a regular basis using requisite tools and processes. • How to fix the security gaps and holes • Identifying liabilities of service providers, software vendors, Software authors, system owners, and third parties • Best Practices and Guidelines to mitigate security Vulnerabilities <p>Module 4</p> <p>Risk Management</p> <ul style="list-style-type: none"> • What is Risk?
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Practical related to Theory

- Relationship between Threat, Vulnerability, and Risk
- What Is the Value of an Asset?
- What Is a Threat Source/Agent?
- Examples of Some Vulnerabilities that Are Not Always Obvious
- What Is a Control?
- What Is Risk Likelihood and consequences?
- What Is Impact?
- Control Effectiveness
- Risk Management
- Purpose of Risk Management
- Risk Assessment (Phases)
- Why Is Risk Assessment Difficult?
- Types of Risk Assessment
- Different Approaches to Risk Analysis
- Best Practices and Guidelines in Assessing and Calculating Risks
- Develop and implement policies and procedures to mitigate risks arising from ICT supply chain and outsourcing.
- Best Practices and Guidelines in Mitigating Risks

Module 5

Legal Framework

- Need for Legal Framework and its enforcement
- Types of Law
- Foundational Concepts of Law
- Common Laws – Criminal
- Common Laws – Civil
- Common Laws – Administrative
- Intellectual Property Laws
- More Intellectual Property Laws
- Software Licensing
- Historic Examples of Computer Crimes
- Who Perpetrates These Crimes?
- IT (Amendment) Act 2008
- Cyber crimes

	<p>Practical related to Theory</p>	<ul style="list-style-type: none"> • Authorities • Enforcement and Penalties • Security measures and Privacy protection • Digital Signature legal ecosystem • Intermediary Guidelines • National Cyber Security Policy Identification Protection & Prosecution • Computer Crime and Its Barriers • Countries Working Together • Security Principles for International Use • Determine if a Crime Has Indeed Been Committed • When Should Law Enforcement Get Involved? • Citizen versus Law Enforcement Investigation • Investigation of Any Crime • Role of Evidence in a Trial • General Rules for Evidence • Evidence Requirements • Evidence Collection Topics • Chain of Custody • How Is Evidence Processed? • Evidence Types • Hearsay Rule Exception • Privacy of Sensitive Data • Privacy Issues • Section 43A, 72 of IT (Amendment) Act, Justice A.P. Shah Report • European Union Principles on Privacy • US Laws on Privacy • Routing Data Through Different Countries • Employee Privacy Issues • Sets of Ethics • Ethics – Mile2 • Ethics – Computer Ethics Institute • Ethics – Internet Architecture Board
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	<p>Practical related to Theory</p>	<ul style="list-style-type: none"> • GAISP- Generally Accepted Information Security Principles <p>Module 6</p> <p>Privacy Protection</p> <ul style="list-style-type: none"> • Understanding Privacy as a Domain • Relationship between security and privacy • Revitalizing security program to enable Privacy Protection • Assess privacy implications of security technologies • Privacy impact assessment • Develop and implement privacy protection measures within the organization <p>Module 7</p> <p>Information Security Policy and Procedures</p> <ul style="list-style-type: none"> • Understanding Security Frameworks • Security Standards • Understanding organizational requirements from an information security point of view • Security Policy, Procedures, and Practices • Security Policy • Security-Related Procedures • Security Practices • Security Compliances • Develop information security policies and procedures • implement information security policies and procedures • Collaborate with other departments within the organization for effective implementation of security provisions. • Understand the organization and individual behaviors for information security • Enforcing and maintaining strategies for effective
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		<p>implementation of security practices</p> <ul style="list-style-type: none"> • Update and upgrade Key Performance Indicators for security implementation • Best practices and Guidelines in developing information security policies and procedure
11	<p>Marketing Practical</p> <ul style="list-style-type: none"> • Surfing of different web sites. Study to create e-mail account. Study of chatting. • Practical related with e-bay and similar open source tools 	<p>Internet Marketing</p> <ul style="list-style-type: none"> • What is Internet Marketing? What is chatting? • e-bay and similar open source tools • Types of basic modules. • Types of advanced modules. • What is international selling?
12	Project Work	
13	Examination	

List of Tools & Equipment for module ACCOUNTS ASSISTANT USING TALLY

Hardware

SI No	Name of Tool/ Equipment	Quantity (nos)
1	Computer with Latest Configuration	20
2	Laptop i3 or higher	01
3	Network Printer Laser A4	01
4	24 Port Switch	01
5	Broad band Internet Connectivity	As Required
6	500 VA or Higher UPS	20
7	Network Rack	01
8	CAT 5 Cable (Consumable Item)	As Required
9	RJ 45 Connector (Consumable Item)	As Required
10	LCD/LED Projector	01
11	AC 1.5 Ton	02
12	Pen Drive 8GB	04

Software

SI No	Name of Tool/ Equipment	Quantity (nos)
1	Node OS Windows 7 or Higher	20
2	Tally ERP 9 or Higher Multiuser	01
3	Antivirus	21
4	Open source ecommerce software (may be down loaded from internet)	21

Raw materials

<u>Raw materials</u>		
1	White Board Marker	1 Dozens
2	Duster Cloth(2' by 2')	20 Pcs
3	Cleaning Liquid 500 ML	2 Bottles
4	Xerox Paper (A4)	As required

5	Full Scape Paper (White)	1 reams
6	Cartridges for printer	As required
8	Optical Mouse P/S2 or USB	As required
9	P/S2 OR USB Key Board	As required
10	SMPS	As required
11	CMOS Battery	As required
12	3 Pin Power Chord	As required
13	Cat 5/5e cable	100 meter
14	Stapler Small	2 pcs
15	Stapler Big	1 pcs
16	AAA battery for remote	As required
17	AA battery for clock	As required
18	8 GB pen drives	2 Nos
19	CDs	10 Nos
20	DVDs	10 Nos.
21	Wall Clock	1 pcs

GENERAL INFORMATION FOR DTP & PRINT PUBLISHING ASSISTANT

Sector		ICT	
Coordinator		Naresh Chandra, DGE&T	
Scheme		MES	
Existing course name		4. Computer Fundamentals, MS-Office, Internet & Soft Skills 5. Desk Top Publishing 6. Internet Kiosk Operator 7. Print Publishing	
Seating Capacity		20	
Entry Qualification		Passed 10 th Class examination	
NCO CODE		3121.5	
MES CODE		ICT 702	
Duration		500 Hours	
Additional Course Proposed		-	
Course proposed to be deleted		-	
Structure	Practical	Existing	NA
		Proposed	400
		Reason	80% - 20% Ratio Maintained
	Theory	Existing	NA
		Proposed	100
		Reason	80% - 20% Ratio Maintained
Infrastructure Development	Equipment(Existing)		Yes
	New Equipment(Desirable)		Minor Changes
Instructor Eligibility	Existing		NA
	Proposed		Degree in Print Technology with one year Experience OR Diploma in Print Technology with two years of Experience OR NTC/ NAC in DTPO Trade with three years of Experience
Instructional Material	Book	Available	NA
		Additional	
	Teachers manual	Available	NA
		Additional	
	Question bank	Available	NA
		Additional	
Distance Learning	To be developed		Yes
	Not required for this course		-
On-the-job training /field work / in house project work including no. of hours		15	NA



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SYLLABUS FOR THE TRADE

OF

DTP & PRINT PUBLISHING ASSISTANT

UNDER

MODULAR EMPLOYABLE SCHEME (MES)

Designed in : 2014

GENERAL INFORMATION

1. Name of the Module : DTP & PRINT PUBLISHING ASSISTANT
2. N.C.O. Code No. : 3121.5
3. MES Code : ICT 702
4. Duration of Training : 500 Hours
5. Entry Qualification : Passed 10th class examination
6. Unit strength : 20 Trainees
7. Space norms : 70 Sq.M.
8. Power norms : 3.45 kW
9. Instructor Qualification : Degree in Print Technology with one year Experience
OR
Diploma in Print Technology with two years of Experience
OR
NTC/ NAC in DTP Trade with three years of Experience
10. Desirable qualification : Preference will be given to candidates with CITS.

Job Roles:

After completion of the course the trainees shall be qualified for one or more of the following job roles:

4. Desk Top Publishing Assistant
5. Internet Kiosk Operator

Course Contents for Module DTP & PRINT PUBLISHING ASSISTANT

Name: **DTP & PRINT PUBLISHING ASSISTANT**

Terminal Competency: After completion of the training, Participants would be able to:

1. Write, Edit & Print documents using MS-WORD & EXCEL.
2. Understand various software used for Desktop Publishing and would be able to create and design documents with text and graphics like news paper ad, wedding cards, visiting cards, greeting cards etc. using PageMaker, CorelDraw & Photoshop.
3. Understand Colour concept in Printing

Contents given below.

Week No.	Practical Competencies	Underpinning Knowledge (Theory)
1-4	<p>Computer Fundamentals</p> <ul style="list-style-type: none"> • Identification of Different parts of a Computer System. • Turning a computer system on and off <p>Windows OS</p> <ul style="list-style-type: none"> • Identifying different Desktop Icons. My Computer, My Documents • Changing Desktop Backgrounds, Mouse Pointer, Screen Saver • Notepad , WordPad, MS Paint <p>MS Word</p> <ul style="list-style-type: none"> • Document formatting options • Tables, Bullets and Numbering • Font, Alignment, paragraph formatting • Insert Picture, Clipart, Shapes, WordArt • Header & Footer, Text Box • Page Layout, Mail Merge • Spelling & Grammar <p>MS Excel</p> <ul style="list-style-type: none"> • Cell Formatting Options • Formulas and Functions • Charts • Sort, Filter, What if Analysis, Grouping <p>Subtotal</p> <p>MS PowerPoint</p> <ul style="list-style-type: none"> • Creating Slide Show by using 	<p>Computer Fundamentals</p> <ul style="list-style-type: none"> • History and Generations of Computer • Advantage and disadvantage of Computer • Block Diagram of a Computer • Description of Different parts of a Computer. • System Software and Application Software <p>MS Office</p> <ul style="list-style-type: none"> • Introduction to MS Office • Word Processing Software • Electronic Spreadsheet

	<p>Animation Technique.</p> <ul style="list-style-type: none"> • Slide Master. • Clip Art. Picture Editing 	
5-10	<p>PageMaker</p> <ul style="list-style-type: none"> • Creating new Filets • Entering text • Defining style • Saving files • Creating Frame • Inserting and removing pages • Adding shapes • Creating header and footer • Using story Editor • Developing long documents • Using colour • Printing • Practice on Multilingual software like INDIC <p>CorelDraw</p> <ul style="list-style-type: none"> • Drawing –lines, shapes .inserting-pictures, objects, tables, templates, • Use of various tools such as Pick tools, Zoom tools, Free hand tool, square tool, rectangle tool, Text tool, Fill tool etc. and all fonts used in designing of monograms, logos, posters, stickers, greeting cards, wedding cards, visiting cards, etc. • Adding special effects, Exporting drawings, outlining & filling objects, • Inserting symbols & Clip arts. • Exporting file 	<p>PageMaker</p> <ul style="list-style-type: none"> • Introduction to various versions, concepts and applications of PageMaker • Guides & rulers. Drawing tools. Fills & outlines. <p>CorelDraw</p> <p>Print Design Basics</p> <ul style="list-style-type: none"> • Study Printing technology and uses <p>Design Principles & Color Harmony</p> <ul style="list-style-type: none"> • Introduction to colors – • Primary and Secondary in both RGB & CMYK schemes/modes. • Importance of each primary and secondary color. • Proper Application of colors. • Analyze colors applied in different print media. • Visualize look and feel of a print or a web to apply colors <p>Typography</p> <ul style="list-style-type: none"> • Study different fonts and typo issues with Web design

	<ul style="list-style-type: none"> • Use features of Corel draw to create artistic characters and shapes. <p>Photo Shop</p> <ul style="list-style-type: none"> • Photoshop-History & introduction, the file menu, the tools, Drawing lines & shapes. • Photo editing /inserting starting with Setting Up, introduction of layers • The Interface Managing Palettes • Working With Photoshop Tools Working With Layers • WEB & WEB GALLERY using internet explorer in photo shop. • creating animations using image ready, creating animations & presentations . • Tips and tricks in Photoshop. • and formats, Working with Creating Illustrations apply different color scheme Palettes Digital Imaging • Working with Images in Photoshop. Working with Palettes, i.e., layers palette, 	<p>Layout Design</p> <p>Study Designing standards, Print layout Design and creative visualization for intuitive layouts</p> <p>Computer Graphics</p> <ul style="list-style-type: none"> • Introduction to various versions, concepts and applications of Corel Draw • Know the difference between Vector Graphics and Raster Graphics. Know the difference between Screen Graphics and Pixel Graphics. Understand the following formats :- .pdf, .eps, .svg, .svgz, .psd, mp, .gif, .jpg, .pcx, .pct, .png, .raw, .sct, .tga, .tiff, .vst <p>Photo Shop</p> <ol style="list-style-type: none"> 4. Introduction to various versions, concepts and applications of Photoshop 5. Understanding the Print Industry, Printing technology and uses 6. Understanding Design principles and color theory 7. Understanding the use of various fonts and typo issues with Web design 8. Understanding Designing standards, Print layout Design and creative visualization for intuitive layouts <p>Understanding and using the computer and Operating System</p>
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	<p>navigator palette, info palette, color palette, Swatches palette, Styles palette, History palette, Actions Palette, Tool preset palette, Channels Palette and Path Palette. Working with Layers.</p> <ul style="list-style-type: none"> • Photo editing. • Image adjustment options – Labels, Auto labels, Auto contrasts, Curves, Color balance, Brightness / Contrast, Posterize , Variations. • Preparing the file and work area. Creating different shapes. • Creating three Dimensional effects using Layers. • Working with the magic wand tool and lasso tool. • Creating images using Symbol Sprayer Tool. • Edit the images using options of Warp Tool. Using Dodge tool, Burn tool, Sponge Tool and Clone Stamp Tool. • Editing Selections. • Creating images and giving special effects using Filters. • Using Layer Styles. • Produce an image by mixing two or more different images using Layer Masking & Vector Masking. 	
11	<p>Print Technology & Print Publishing using Pagemaker</p> <ul style="list-style-type: none"> • Designing layouts for print, integrating media elements on print layouts and saving files for print compatibility • Understanding how images 	<p>Print Technology & Print Publishing using Pagemaker</p> <ol style="list-style-type: none"> 9. Types of Printing an Introduction- Letterpress printing-lithography- offset 10. printing- different printing process-machines for letterpress, offset, gravure, 11. flexography and screen printing-

	<p>are formed, image file formats and their properties Creating Illustrations for visual media with good understanding of colors and formats</p> <ul style="list-style-type: none"> • Designing for different visual medium and create professional images especially for Print Advertising media • Designing layouts for print, integrating media elements on print layouts and saving files for print compatibility 	<p>printing materials.</p> <p>12. planning a printing, design factors, color application-film assembly and</p> <p>13. plate making-binding & finishing.</p> <p>14. Image editing, color correction, color management, poly master, methods of</p> <p>15. color proofing.</p> <p>16. Different types of font, text file formats, vector & raster graphics, graphics</p> <p>17. file formats.</p>
12	Project Work	
13	Examination	

List of Tools & Equipment for module DTP & PRINT PUBLISHING ASSISTANT

Hardware

SI No	Name of Tool/ Equipment	Quantity (nos)
1	Computer Latest Configuration	20
2	Laptop i3 or higher	01
3	Network Printer Laser A4	01
4	24 Port Switch	01
5	Broad band Internet Connectivity	As Required
6	500 VA or Higher UPS	20
7	Network Rack	01
8	CAT 5 Cable (Consumable Item)	As Required
9	RJ 45 Connector (Consumable Item)	As Required
10	LCD/LED Projector	01
11	AC 1.5 Ton	02
12	Pen Drive 8GB (Consumable item)	04
13	Scanner Flatbed ADF A4	01

Software

SI No	Name of Tool/ Equipment	Quantity (nos)
1	Node OS Windows 7 or Higher	21
2	MS Office 2010	21
3	Antivirus	21
4	Corel Draw 12 or latest	21
5	Adobe Photoshop CS3 or latest	21
6	Adobe Pagemaker 7 or latest	21

Raw materials

Raw materials		
1	White Board Marker	1 Dozens
2	Duster Cloth(2' by 2')	20 Pcs
3	Cleaning Liquid 500 ML	2 Bottles
4	Xerox Paper (A4)	As required
5	Full Scape Paper (White)	1 reams
6	Cartridges for printer	As required

8	Optical Mouse P/S2 or USB	As required
9	P/S2 OR USB Key Board	As required
10	SMPS	As required
11	CMOS Battery	As required
12	3 Pin Power Chord	As required
13	Cat 5/5e cable	100 meter
14	Stapler Small	2 pcs
15	Stapler Big	1 pcs
16	AAA battery for remote	As required
17	AA battery for clock	As required
18	8 GB pen drives	2 Nos
19	CDs	10 Nos
20	DVDs	10 Nos.
21	Wall Clock	1 pcs

GENERAL INFORMATION FOR COMPUTER HARDWARE ASSISTANT Under MES

Name of Sector	ICT
Name of Module	<i>COMPUTER HARDWARE ASSISTANT</i>
MES Code	ICT 703
Competency as per N C O Code	3121.1
Duration of Course	500 Hours
Entry Qualification of Trainee	10 th Pass
Unit size (No. Of trainees)	20
Power Norms	3.45 KW
Space Norms (Workshop and Class Room)	70 Sq. Mtrs.
Instructors Qualification	<p>B.E. / B.Tech. in Computer Engineering /IT, MCA, B Level with one year Experience</p> <p align="center">OR</p> <p>Diploma(three years) in Computer Engineering/IT, BCA,NIELIT A Level with two years of Experience</p> <p align="center">OR</p> <p>NTC/ NAC in Computer Hardware & Network Maintenance/ICTSM Trade with three years of Experience</p>
Desirable	Craft Instructor Certificate(CIC)

Job Role:

The role of a **Computer Hardware Assistant** is to support and maintain computer systems, desktops, and peripherals. This includes installing, diagnosing, repairing, maintaining, and upgrading all hardware and equipment while ensuring optimal workstation performance. The person will also troubleshoot problem areas in a timely and accurate fashion, and provide end user training and assistance where required.

In a Nutshell :

- Installing, maintaining and repairing software or hardware
- Troubleshooting different computer issues
- Determining and installing appropriate protection/security measures
- Providing technical support on-site or via phone or email
- Install, configure, and maintain common end user application software. May train and provide assistance to end users.
- Troubleshoots software and hardware problems related to Internet applications.

Terminal Competency: After completion of the training, Participants would be able to:

- Plan and prepare for installation
- Install software/equipment/device system
- Plan and prepare for diagnosis of faults of computer systems
- Diagnose faults of computer systems
- Repair defects in computer systems
- Test systems
- Plan and prepare for configuration
- Configure computer systems
- Inspect and test configured computer systems
- Plan and prepare for the maintenance of computer systems
- Maintain computer systems
- Inspect and test configured/repaired computer system

Syllabus for the Trade of
“COMPUTER HARDWARE ASSISTANT”
Under MES
Duration : 500 Hours. / 13 Weeks / 3 months

Week No.	Practical	Theory
1	<p><u>Familiarization with the Institute and Safety</u></p> <p>a) Visits to workshops, labs, office, stores etc., of the institute. b) Demonstration of safety precaution. c) Demo of first aid practice. d) Demo of artificial respiration and practice. e) Demo of electrical safety precautions.</p> <p><u>Basic concepts of Electricity –</u></p> <p>a) Identify specification of types of fuses. Identification and specification of type of switches. b) Identification of meter types and measuring range. c) Measure voltage and current using Multi-meter (analog-digital). d) Measure DC and AC power using V-I method and using power meter.</p>	<p>a) Punctuality and Discipline expected of trainees. Course duration, methodology and structure of the training program. b) About the institute and infrastructure. c) Safety in moving and shifting heavy and delicate equipments. d) First aid. e) Artificial respiration. f) Electrical safety. g) Concept of current and voltage. AC, DC Supply indicating lamps. Different types of Fuses and their applications. Different types of connectors used in electrical and electronic applications. Different types of switches used in electrical and electronic applications. h) Measuring instruments, MC, MI type, Ammeter, Voltmeter, Multimeter for measuring voltage and current. Construction, characteristics/ features and specification. Digital Multimeter i) Meaning of resistance, continuity and continuity testers. Multimeter for checking continuity. j) Concept of Power and measurement using V&I meter and Power meter.</p>
2	<p><u>Resistors, Inductance, Capacitance and Soldering & De-soldering.</u></p> <p>a) Identify different types of resistors from physical appearance. b) Identify resistor value and tolerance using colour code. c) Measuring resistance using Multimeter. d) Soldering and desoldering techniques, practice using hook-up wires. Soldering</p>	<p>a) Classification, characteristics and application of different types of resistors.- carbon film, metal film, wire wound, cermet and surface mounted. b) Colour coding of resistors. Calculating measuring resistance value and its tolerance value. Wattage of resistors, specific resistance and their importance. c) Resistors in series and parallel. d) Soft soldering and precautions to be taken for making a good solder joint. Types of solder and need of</p>

	<p>resistors on Tag board.</p> <p>e) Verification of Ohms Law and Kirchhoff's Laws.</p> <p>f) Soldering resistors on PCB.</p> <p>g) De-soldering practice.</p> <p>h) Experiment using P.T.C and NTC resistors.</p> <p>i) Experiment to check VDR's.</p> <p>j) Experiment to check LDR's.</p> <p>k) Test Pots, Presets.</p> <p>l) Identification of different types of inductors and its specifications.</p> <p>m) Measure inductance using LCR meter. Calculate inductive reactance at different input signal frequencies.</p> <p>n) Demo on self and mutual induction.</p> <p>o) Check step down transformers.</p> <p>p) Rewind a transformer to given specification using winding machine.</p> <p>q) Finding losses and efficiency of given transformers.</p> <p>r) Identifying and testing high frequency transformers used in electronic circuits.</p> <p>s) Identify of different types of capacitors from colour code and typographic code.</p> <p>t) Test working condition of capacitor. Measure capacitance using RLC meter.</p> <p>u) Measure capacitive reactance at different frequencies.</p> <p>v) Measure capacitance and capacitive reactance of, capacitors in series and capacitors in parallel.</p> <p>w) Find the resonance frequency of a given Series and parallel resonance circuit.</p>	<p>soldering paste.</p> <p>e) Ohms law and Kirchhoff's Laws.</p> <p>f) Printed circuit boards and its application.</p> <p>g) De-soldering tools.</p> <p>h) Temperature dependent resistors and their applications.(PTC and NTC) .</p> <p>i) Voltage dependent resistors (VDR).</p> <p>j) Photoelectric effect, Light Dependent resistors.</p> <p>k) Variable resistors, pots, presets, types and application. Log and Linear resistors.</p> <p>l) Definition of inductance. Properties. Types of inductors and their application.</p> <p>m) Inductive reactance, measuring inductance and inductive reactance. Meaning of lead, lag. Effect of inductor on power factor. Frequency dependence of inductive reactance.</p> <p>n) Self and Mutual inductance. Coefficient of coupling.</p> <p>o) Transformers. Turns ratio. Transformer winding. Winding machines.</p> <p>p) Transformer losses and efficiency.</p> <p>q) Uses, losses, efficiency type of cores and uses for LF, HF, VHF transformer.</p> <p>r) Transformers used in high frequency applications.</p> <p>s) Working principle of capacitors. Electrostatic action, dielectric constant. Unit of capacitance and capacitive reactance. Types of Capacitors-electrolytic, ceramic, polyester, tantalum, mica, surface mounted. Colour coding, and tolerance.</p> <p>t) Measuring capacitance and capacitive reactance.</p> <p>u) Behavior of capacitance at different frequencies.</p> <p>v) Capacitors in series and parallel.</p> <p>w) Meaning of Resonance. Application of resonance. Series and parallel resonance circuits</p>
3	<p><u>Electronic Components</u> –</p> <p>a) Identify terminals of different types of diodes. Record its specifications referring to diode data sheet.</p> <p>b) Plot forward and reverse</p>	<p>a) Semiconductor, intrinsic and extrinsic semi conductors, P and N type semiconductor. Development of P.N. junction barrier potential. Effect of temperature. Breakdown voltage.</p>

	<p>characteristics of diode Testing working condition of diodes.</p> <p>c) Construct and test a half wave and full wave diode rectifiers.</p> <p>d) Construct and test a Bridge rectifier with and without filter</p> <p>e) Construct a bridge rectifier with capacitance input filter.</p> <p>f) Draw Zener diode characteristics, Simple voltage regulator using zener diode.</p> <p>g) Identify types transistors based on their physical appearance. Identify the leads of the given assorted types of transistors.</p> <p>h) Quick test given transistors using Multimeter. Identify opens, shorted junctions .</p> <p>i) Wire and find the gain of amplifiers in – CB, CE, CC configurations.</p> <p>j) Practice on identifying and using the controls on a regulated power supply.</p> <p>k) Assemble and test a series regulated power supply.</p> <p>l) Assemble and test a shunt regulated power supply.</p> <p>m) Assemble and test a fixed voltage regulator using 3pin IC.</p> <p>n) Assemble and test a variable voltage regulator using IC.</p> <p>o) Assemble a simple inverter and converter for use with emergency lamp.</p> <p>p) Identify the parts and controls of a UPS. Practice switch-on and switch-off procedures.</p>	<p>b) Different types of Diodes. Diode terminals. Diode specifications using data book.</p> <p>c) Forward and reverse characteristics of diode. Testing diodes using Multimeter.</p> <p>d) Half wave and Full wave rectifiers using diodes. Transformer requirements. Calculating output DC, ripple factor.</p> <p>e) Bridge rectifier. Calculating output DC, ripple factor.</p> <p>f) Filters for rectifiers. Calculating output DC, ripple factor.</p> <p>g) Zener diode-Its characteristics and application for voltage regulation. Calculating the series resistor for required current rating.</p> <p>h) Specifications of a regulated power supply and testing a power supply for its specifications.</p> <p>i) Working principle of PNP, Bipolar transistors. Types of transistors and applications. Leads of transistors and their identification.</p> <p>j) Forward and reverse bias of transistor Junction. General values of junction resistances.</p> <p>Quick testing a transistor-using Multimeter.</p> <p>k) Transistor configuration – CB, CE, CC, alpha, beta. Types of Biasing of transistor amplifiers, comparison and applications. Thermal runaway. Steady and Dynamic characteristics. Testing- get frequency response, gain bandwidth product, signal to noise ratio.</p> <p>l) Unregulated, regulated DC Power supply specifications. Application of different types of power supply for specific application types.</p> <p>m) Series regulator using transistor. Short circuit protection. Overload protection.</p> <p>n) Shunt regulators using transistors.</p> <p>o) Fixed Voltage regulators using IC's.</p> <p>p) Variable voltage regulators using IC's.</p> <p>q) Mains voltage stabilizers.</p> <p>r) Inverters and converters.</p> <p>s) Un-interrupted power supply, types and applications.</p>
4	<p><u>DIGITAL ELECTRONICS</u></p> <p>a) Identify the specifications of given digital IC's referring to data books.</p> <p>b) Verify the truth table of two input OR, NOR, AND, NAND, NOT gates.</p>	<p>a) Number systems and conversions. Classification of digital IC's. Use of data book for identification of digital IC's.</p> <p>b) Basic LOGIC GATES and truth table. Boolean algebra.</p>

<p>c) Verify of truth table of multiple input logic gates.</p> <p>d) Verify the truth table of XOR and XNOR Gates.</p> <p>e) Realization of different gate type using NAND gates.</p> <p>f) verification of Boolean laws.</p> <p>g) Realization of half adder & full adder using NAND gates. Realization half subtractor and full subtractor using NAND gates.</p> <p>h) Verification of truth table of 7483- 4bit adder.</p> <p>i) Verifying encoder/ decoder/ multiplexer/ demultiplexer IC truth tables.</p> <p>j) Realization and verification of truth table of RS, JK and MS- JK flip-flop.</p> <p>k) Realization and verification of D- flip flop.</p> <p>l) Realization and verification of up & down (sync/async) counter.</p> <p>m) Verification of A/D & D/A converter.</p> <p>n) Realization of shift registers using FF.</p> <p>o) Verification of Right-shift, Left- shift registers.</p> <p>p) Verification of Serial-in-parallel out and parallel in serial out of data.</p>	<p>c) Logic families, logic levels, propagation delay. Multiple input gates.</p> <p>d) XOR, XNOR gates and application.</p> <p>e) Simplification of Boolean equations.</p> <p>f) Combinational logic circuits. g) Half adder, full adder, parallel binary adder, half subtractor, full subtractor.</p> <p>h) Commercially available adders/subtractors.</p> <p>i) Comparator, decoders, encoders, multiplexer, demultiplexer.</p> <p>j) Parity generators/checkers. RS Flip - Flop, JK flip-flop, Master- Slave flip-flops.</p> <p>k) Types of triggering and applications. D flip-flops.</p> <p>l) Counters, ripple, synchronous, up-down, scale-n counters.</p> <p>m) Principles of A/D & D/A converter. Commercially available A/D & D/A converters. Applications.</p> <p>n) Shift registers. Types, applications.</p> <p>o) Commercially available shift registers and applications.</p> <p>p) Conversion of serial data into parallel and vice-versa.</p>
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5	<p><u>Other Mechanical, Electrical & Electronics Accessories.</u> Working with Gears, Belts, Stepper Motor, Drive. Identification and Testing of Sensors. Working with Relays. Identification of different advanced Intel microprocessor chips. Identification of different advanced microprocessor chips other than from Intel.</p> <p><u>DeskTop :</u> <u>PC Repair Safety:</u></p> <ul style="list-style-type: none"> • <i>Important Safety Basics</i> • <i>Identification, specification and application of basic hand tools.</i> • <i>How to handle components to ensure their longevity</i> • <i>What one shouldn't wear while working inside a computer</i> • <i>The danger of static electricity</i> • <i>How to protect a PC from lightning strikes and power outages</i> 	<p>Basics of gears, Belts, Stepper Motor, Drive. Sensors, its types and working principles. Relays, types and its working principles. Introduction to Microprocessor, Pentium processor architecture basics. Timing Circuits, Electronic Display (7 segment, LED, LCD, Plasma, LED matrix.</p> <p><i>a) Introduction to computers, classification, generations, applications. Basic blocks of a digital computer.</i> <i>b) Hand Tools Basics and Specifications.</i> a) Types of cabinets, relation with mother board form factor. Precautions to be taken while opening and closing PC cabinet. b) Main devices, components, cards, boards inside a PC(to card or device level only). c) Types and specifications of the cables and connectors used for interconnecting the devices, boards, cards, components inside a PC. d) Precautions to be taken while removing and/or re-connecting cables inside a PC.</p>
6	<p><u>Hardware Identification</u></p> <ul style="list-style-type: none"> • <i>Identify the front and rear panel controls and ports on a PC</i> • <i>Cases</i> • <i>Cooling</i> • <i>Power Supplies</i> • <i>Power Supply Connections</i> • <i>Motherboard Connections</i> • <i>Motherboard Components</i> • <i>CPU (Processor)</i> • <i>RAM (Memory)</i> • <i>Hard Drive Connections</i> • <i>Mechanical vs. Solid State Drives</i> • <i>ROM Drives</i> • <i>Video Cards</i> • <i>Sound Cards</i> 	<p><i>(a) Types of I/O devices and ports on a standard PC for connecting I/O devices.</i> <i>b) Function of keyboard, brief principle, types, interfaces, connectors, cable.</i> <i>c) Function of Mouse, brief principle, types, interfaces, connectors, cable.</i> <i>d) Function of monitor, brief principle, resolution, size, types, interfaces, connectors, cable.</i> <i>e) Function of Speakers and Mic, brief principle, types, interfaces, connectors, cable.</i> <i>f) Function of serial port, parallel port, brief principle of communication through these ports, types of devices that can be connected, interface standards, connectors, cable.</i> <i>g) Precaution to be taken while connecting/removing connectors from PC ports. Method of ensuring firm connection.</i></p>
7-8	<p><u>Hardware Remove-Test-Replace/ Install</u></p> <ul style="list-style-type: none"> • <i>Removing RAM</i> • <i>Installing RAM</i> 	<p><i>Types of Processors and their specifications (Intel: Celeron, P4 family, Xeon, and AMD).</i> a) Memory devices, types, principle of storing. Data organization 4 bit, 8 bit, word. b) Semiconductor memories, RAM,</p>

<ul style="list-style-type: none"> • Removing a ROM Drive • Installing a ROM Drive • Removing a Hard Drive • Installing a Hard Drive • Defects related to SMPS, its cable, connector and servicing procedure. • Removing a Power Supply • Installing a Power Supply • Removing a Video Card • Installing a Video Card • Install Expansion Cards • Removing Fans • Installing Fans • Removing the Motherboard • Installing the Motherboard • Removing the Processor • Installing the Processor • Installing a CPU Cooler • Troubleshooting • Checking the Power Switch • Removing the CMOS Battery • Seating Expansion Cards 	<p>ROM, PROM, EPROM, EEPROM, Static and dynamic.</p> <p>c) Example of memory chips, pin diagram, pin function of</p> <p>b) Concept of track, sector, cylinder. FD Drive components- read write head, head actuator, spindle motor, sensors, PCB.</p> <p>c) Precaution and care to be taken while dismantling Drives.</p> <p>d) Drive bay, sizes, types of drives that can be fitted. Precautions to be taken while removing drive bay from PC.</p> <p>f) HDD, advantages, Principle of working of Hard disk drive, cylinder and clusture, types, capacity, popular brands, standards, interface, jumper setting. Drive components- hard disk platens, and recording media, ,air filter, read write head, head actuator, spindle motor, circuit board, sensor, features like head parking, head positioning, reliability, performances, shock mounting capacity. HDD interface IDE, SCSI-I/2/3 comparative study. Latest trends in interface technology in PC and server HDD interface.</p> <p>g) Precautions to be taken while fitting drives into bays and bay inside PC cabinet.</p> <p>h) CMOS setting.(restrict to drive settings only).</p> <p>i) Meaning and need for using Scan disk and defrag.</p> <p>h) Basic blocks of SMPS, description of sample circuit.</p>
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<p>9</p>	<p><u>Windows Installation</u></p> <p>A walkthrough of installing Windows 7 / 8 A walkthrough of installing Windows XP Imaging: create a Windows system image How to Backup/Restore your Windows partition with the bootable image disk Duplicating a partition (creating a multiboot system) A multiboot system: the Windows bootmanager vs. an alternative bootmanager Setting up a multiboot/dualboot system Dual Boot Ubuntu and Windows Windows XP registry tweaks</p> <p><u>Hardware Troubleshooting</u></p> <ul style="list-style-type: none"> • The danger in not diagnosing problems first • Learn how to test your RAM • Check your hard drive for errors <p><u>PC Cleaning</u></p> <ul style="list-style-type: none"> • The best cleaning supplies to use • How to increase airflow and increase your computer's lifespan • How to clean your computer 	<p>Types of software. System software-OS, Compiler. Application software-like MS office. Functions of an operating system. Disk operating system.</p> <ol style="list-style-type: none"> Concept of GUI, Modes of starting on different occasions. Desktop, Icon, selecting, choosing, drag and drop. My computer, network neighbourhood / network places. Recycle bin, briefcase, task bar, start menu, tool bar, and menus. Windows Explorer. Properties of files and folders. Executing application programs. Properties of connected devices. Applications under windows accessories. Windows Help. Finding files, folders, computers. Control panel. Installed devices and properties. <p>Utilities for recovering data from defective/bad hard disks.</p> <ol style="list-style-type: none"> Introduction to removable storage devices, Bulk data storage devices-magnetic, optical, magneto optical drives, WORM drives. CD ROM drives- Technology, Types of CD drives, working principle application. Minor repairs and maintenance of CD ROM drives. Technology, working principle, capacity, media of DVD ROM drive . Important parts and functions of DVD ROM drive. Minor repair works on a DVD ROM drive. Technology, working principle, capacity, media of CD WRITER and use different modes of writing on a CD. Using of utility for CD writing. Minor repair works on a CD WRITER. Latest trends in backup devices/media.
<p>10</p>	<p><u>Hard Drives</u></p> <ul style="list-style-type: none"> • Partitioning hard disk (primary and extended partitions) • Hard Drive Failures • How To Troubleshoot a Noisy Hard Drive • How to Format a Hard Drive 	<ul style="list-style-type: none"> • What's Inside a Hard Drive? • How Hard Disks Work • Inside: Hard Drive Motherboard • Desktop Hard Drive Buyer's Guide • What is RAID? Using Multiple Hard Drives for Performance and Reliability • Partitioning hard disk (primary and

<ul style="list-style-type: none"> • How to Completely Erase a Hard Disk Drive • How to check to see if your hard drive has bad sectors • Fix the master boot record • Installation and configuration of storage devices. Integration of PATA and SATA drivers. • Recover emails, files, and data from a crashed hard drive or computer <p><u>Virus Removal</u></p> <ul style="list-style-type: none"> • How to run a full system scan • How to fix your browser from redirecting to other websites (browser hijack) • Using a modern anti-virus utility • When utilities don't fix everything, how to manually remove a virus • 2 specific things to disable when trying to get rid of a nasty virus • 2 special utilities that work wonders 	<p>extended partitions)</p> <ul style="list-style-type: none"> • Bad Sectors in Hard disk, Master Boot Record, in-place installation, Registry fixing, performance level check, Shortcut fixing, Fixing Startup process, log, etc. • Learn how to prevent your PC from getting malware • All the different types of malware and how they attack your PC <p>The difference between Anti-Virus and Anti-Spyware software</p>
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11	<p><u>Windows Update & Device Driver</u></p> <ul style="list-style-type: none"> • How to find your system version in Windows, Linux • Installing a service pack • How to perform a Windows Update <p><u>Software Installation</u></p> <ul style="list-style-type: none"> • Installing a software program in windows • How to run a file from MS-DOS • Extracting or uncompressing a compressed file • How to compress or make files into one file • Extracting files from the Windows cabinets • Uninstalling Windows software • Unable to remove a program from Windows Add/Remove programs <p><u>Installing Hardware Drivers</u></p> <ul style="list-style-type: none"> • How To Update Drivers in Windows • How To Roll Back a Driver in Windows • Familiarization with Device manager. • Interfacing with cellphone, tablet PC, synchronization of contacts. <p><u>Windows Utilities</u></p> <ul style="list-style-type: none"> • How to Repair Corrupted Files Problems • How to check for corrupted files • Restore your machine back to normal • Hard disk is filling up, what should one do? • Where's the disk space ? • Top 15 Ways to Speed Up the Computer • How to Automatically Clean and Organize the Desktop, Downloads, and Other Folders • 5 Simple Rules To Keep Files Organized • 5 Reasons - Computer Is Running Slow 	<p>Version of a software, Service pack, Updating of OS, Different configurations of Computer system and its peripherals, Compatible with different hardware/software.</p> <p><u>Software Installation</u> –</p> <p>Pre-installation - Prerequisites, Install procedure, Rollback or Un-install procedure, Tests.</p> <p>Post-installation – Backup procedure & specifications, Restore procedure, Periodical view check.</p> <p>Awareness of legal aspects of using computers such as copyright, patent etc.</p> <ul style="list-style-type: none"> • What is a Driver? • What hardware device drivers should be updated • What is a Device manager? <ul style="list-style-type: none"> • Computer Maintenance Tips and Tricks to Backup, Scan and Clean <p>Power on self test, Peripheral diagnostics, general purpose diagnostics, Operating system diagnostics. Hardware boot process, Windows boot process.</p>
12	Project Work	
13	Examination	

TRADE : *COMPUTER HARDWARE ASSISTANT*
LIST OF TOOLS AND EQUIPMENT

A. TRAINEES TOOL KIT FOR 16 TRAINEES +1 INSTRUCTOR

Sl.No	Specification	Quantity
1	Connecting screwdriver 100 mm	21 nos.
3	Screw driver set (set of 5)	21 nos.
4	Insulated combination pliers 150 mm	21 nos.
5	Insulated side cutting pliers 150 mm	21 nos.
6	Long nose pliers 150 mm	21 nos.
7	Soldering iron 25 W. 240 V.	21 nos.
8	Electrician knife	21 nos.
9	Tweezers 100mm	21 nos.
10	Digital Multimeter	21 nos.
11	Soldering Iron Changeable bits 15 W	21 nos.
12	De- soldering pump	21 nos.

B. Tools & Equipments

Tools and Equipment: (Computer Hardware: Installation and Maintenance)		
Sl. No.	Name of the Equipment	Qty
HARDWARE		
3	Desktop Computer	20 nos
5	Intel Mobile Desktop based PC with LCD monitor	01 no
6	Printers: Laserjet, deskjet,	01 each
9	5KVA online UPS	01 no
11	LCD/DLP Projector	01 no
12	Power Meter	02 nos
14	Computer Toolkits	06 Nos.
15	Computer Spares:	As required
16	Motherboards (of different make)	4 nos
17	Cabinets	4 nos
18	Processors (of different make)	4 nos
19	Hard Disk (500 GB or better)	4 nos
20	Optical Drives	4 nos
21	LCD/LED Monitors	2 nos
22	Pen Drives	4 nos
23	External Hard disk	2 nos
24	External DVD Writer	2 nos
25	Keyboards	4 nos
26	Mouse	4 nos
27	Anti static pads	4 nos
28	Anti static wrist wraps	4 nos
29	SMPS	4 nos
30	Digital Multimeters	10 nos
31	Blu-Ray drive and player	2 nos
37	Card Reader	2 nos
38	Game video card	2 nos
39	Web Cam	2 nos

40	Headset microphone	2 nos
42	Different types of memory cards	2 nos each
47	SMPS Trainer kit	2 nos
49	Power electronics Trainer kit	2 nos
50	Post error debugging card	4 Nos
51	SMPS Tester	4 Nos.
52	PCI slot Testing tool	4 Nos.

SOFTWARE		
2	Windows Operating System	21 licenses
5	MS Office	21 nos
6	Anti virus software	21 nos
7	Data recovery software	21 nos
FURNITURE and Other Equipments		
1	Computer Tables	20 nos
2	Computer Chairs	20 nos
3	Printer Table	1 no
4	Class room chairs	20 nos
5	Air conditioners (optional)	2 nos
6	Scanner	1 no
7	Modem	1 no
8	Telephone Line	1 no
9	Broadband Internet connection	1 no
10	Fire fighting equipments	As required

Raw materials		
1	White Board Marker	1 Dozens
2	Duster Cloth(2' by 2')	20 Pcs
3	Cleaning Liquid 500 MI	2 Bottles
4	Xerox Paper (A4)	As required
5	Full Scape Paper (White)	1 reams
6	Cartridges for printer	As required
8	Optical Mouse P/S2 or USB	As required
9	P/S2 OR USB Key Board	As required
10	SMPS	As required
11	CMOS Battery	As required
12	3 Pin Power Chord	As required

13	Cat 5/5e cable	100 meters
14	Stapler Small	2 pcs
15	Stapler Big	1 pcs
16	AAA battery for remote	As required
17	AA battery for clock	As required
18	8 GB pen drives	4 Nos
19	CDs	20 Nos
20	DVDs	10 Nos.
21	Wall Clock	1 pcs
22	Anti static pads	As required
23	Anti static wrist wraps	As required
24	Soldering wire and paste	As required
25	RJ-45 connector	As required

**GENERAL INFORMATION FOR COMPUTER NETWORK ASSISTANT Under
MES**

Name of Sector	ICT
Name of Module	COMPUTER NETWORK ASSISTANT
MES Code	ICT 704
Competency as per N C O Code	3212.3
Duration of Course	500 Hours
Entry Qualification of Trainee	10 th Pass
Unit size (No. Of trainees)	20
Power Norms	3.45 KW
Space Norms (Workshop and Class Room)	70 Sq. Mtrs.
Instructors Qualification	<p>B.E. / B.Tech. in Computer Engineering /IT, MCA, NIELIT B Level with one year Experience</p> <p align="center">OR</p> <p>Diploma(three years) in Computer Engineering/IT, BCA, NIELIT A Level with two years of Experience</p> <p align="center">OR</p> <p align="center">NTC/ NAC in Computer Hardware & Network Maintenance/ICTSM/IT Trade with three years of Experience</p>
Desirable	Craft Instructor Certificate(CIC)

Job Role:

The role of a **Computer Network Assistant** is to support and maintain computer network systems and its peripherals. This includes installing, diagnosing, repairing, maintaining, and upgrading basic network hardware and equipment while ensuring optimal network performance. The person will also troubleshoot problem areas in a timely and accurate fashion, and provide end user training and assistance where required. Install, maintain and setup LAN with Internet Connection and protection / security.

In a Nutshell :

- Installing, maintaining and repairing network software or hardware
- Troubleshooting different computer network issues
- Determining and installing appropriate protection/security measures
- Installing & Configuring basic computer networks
- Providing technical support on-site or via phone or email
- Install, configure, and maintain common end user network application software. May train and provide assistance to end users.
- Troubleshoots software and hardware problems related to Internet applications.
- Install, maintain and setup network with computers, printers and other peripheral equipment as well as configure broadband equipment.

Terminal Competency: After completion of the training, Participants would be able to:

- Plan and prepare for installation
- Install software/equipment/device/network system
- Plan and prepare for diagnosis of faults of computer network systems
- Diagnose faults of computer network systems
- Repair defects in computer systems and networks
- Test systems and networks
- Plan and prepare for network configuration
- Configure computer network systems
- Inspect and test configured computer network systems
- Plan and prepare for the maintenance of computer network systems
- Maintain network systems
- Plan and prepare for the security of computer network systems
- Maintain Network security
- Inspect and test configured/repaired computer network system

**Syllabus for the Trade of
“COMPUTER NETWORK ASSISTANT”**

Under MES

Duration : 500 Hours. / 13 Weeks / 3 months

Week No.	Practical	Theory
1	<p><u>Components of the Computer Network, Crimping & Punching and Cabling</u></p> <p>Familiarization with various Network devices, Connectors and Cables.</p> <p>Understanding the Layout of network.</p> <p>Crimping practice with straight and cross CAT 5 cables. Punching practice in IO Box and patch panel. Crimping and making cables.</p> <p>Create cabling in a lab with HUB/Switch and IO Boxes and patch panel. Fitting Switch Rack.</p>	<p>Introduction to Computer Networks – Advantages of Networking, Peer-to-Peer and Client/Server Network.</p> <p>Network Topologies – Star, Ring, Bus, Tree, Mesh, Hybrid.</p> <p>Type of Networks – Local Area Networks (LAN), Metropolitan Area Networks (MAN), Wide Area Networks (WAN) and Internet, Ethernet, Wi-Fi, Bluetooth, Mobile Networking, Wire and wireless Networking.</p> <p>Difference between Intranet and Internet.</p> <p>Communication Media & Connectors – Unshielded twisted-pair (UTP), shielded twisted-pair (STP), Fiber Optics and coaxial cable: RJ-45, RJ-11, BNC. Understanding color codes of CAT5 cable. 568A and 568B convention.</p> <p>Introduction to Data Communication – Analog and Digital Signals, Simplex, Half-Duplex and Full-Duplex transmission mode.</p>
2	<p><u>Install & configure a Network,</u> Installing & Configuring a Peer-to-Peer Network using Windows Software. Making cables by crimping. Connect computers using Bluetooth. Connecting computers using Wi-Fi configuration. Basic Programmable switch Configuration</p>	<p>OSI Model - The functions of different layers in OSI model</p> <p>Network Components – Modems, Firewall, Hubs, Bridges, Routers, Gateways, Repeaters, Transceivers, Switches, Access point, etc. – their functions, advantages and applications.</p>
3	<p><u>IP Addressing & TCP/IP</u> IP Addressing technique(IP4/IP6) and Subnetting and Supernetting the network.</p>	<p>Protocols, TCP/IP, FTP, Telnet etc., Theory on Setting IP Address(IP4/IP6) & Subnet Mask, Classes of IP Addressing.</p>
4	<p><u>Other Network Protocols</u></p> <p>Working with SMTP, TELNET, FTP, HTTP, SNMP etc. Practice on configuring DHCP.</p>	<p>Simple Mail Transfer Protocol (SMTP), Telnet, File Transfer Protocol (FTP), Hyper Text Transfer Protocol (HTTP), Simple Network Management Protocol (SNMP). Network Security Concept of Dynamic Host Control Protocol</p>
5	<p><u>Sharing Resource & Internet connection.</u> Sharing Resource and Advance Sharing Setting. Installing Proxy Server. Exposure and using Internet. Setting E-mail accounts. Conferencing.</p>	<p>Concept of Internet. Architecture of Internet. DNS Server. Internet Access Techniques, ISPs and examples(Broadband/Dialup/Wifi). Concept of Social Networking Sites, Video Calling & Conferencing.</p>

	Installing and Configuring Internet Connection on a PC using Broadband or Dongle.	Concept of VIRUS and its Protection using Anti Virus, UTM and Firewall.
6	<u>Network Protection and troubleshooting.</u> Setting up basic protection using public keys and MAC address filters. Integrate wired with wireless network. Power over Ethernet(PoE). Troubleshooting wired and wireless network.	Collaborating using wired and wireless networks, Protecting a Network, Network performance study and enhancement.
7	<u>Control & monitoring of network devices.</u> Setting up of basic collaboration tool like NetMeeting for activities like chat, application sharing, remote desktop access and control, VoIP. Setup IP camera for basic surveillance scenario, logging and monitoring of devices / locations.	Surveillance using network devices, collaboration on network for team optimization and support activities. Remote management of devices.
8-9	<u>Server Installation & Basic Configuration.</u> Install and configure Windows Server Configure services like Active Directory, DNS and DHCP. Configuration of broadband modem and sharing internet connection. Linux Network Tools to Check / Maintain / Manage Network.	Server concepts, Installation steps, configuration of server. Concept of Active Directory and DNS. Setting up of DHCP, Routing and remote access.
10	<u>Network Security</u> Practice on firewall technologies to secure the network perimeter. Practice LAN security considerations and implement endpoint and Layer 2 security features. Wi-fi configuration to implement security considerations.	<u>Network Security</u> Modern Network Security Threats and the basics of securing a network. Secure Administrative Access, LAN security considerations. Cryptography. Wi-fi security considerations.
11	<u>Internet and Web Browser</u> Practice web browsing using popular web browsing software, Configuring web browser. Search for content using popular search engines. Use favourite folder for browsing quickly. Downloading & Printing Webpages. Using e-mail – Opening & configuring email client, mailbox: inbox and outbox, Creating and sending e-mail, Replying to an e-mail message, Forwarding and e-mail message, Sorting and searching emails. Sending document/softcopy by email, activating spell checking, using address book, Handling SPAM, Removal of Cookies.	<u>Internet and Web Browser</u> World wide web and website Web Browsing and popular web browsing software. Introduction to Search Engines, Popular Search engines. Concept of Favourites Folder. What is an Electronic Mail. Email Addressing, BCC and CC, Inbox, Outbox, Address book, SPAM.
12	Project Work	
13	Examination	

TRADE : **COMPUTER NETWORK ASSISTANT**

LIST OF TOOLS AND EQUIPMENT

B. TRAINEES TOOL KIT FOR 20 TRAINEES +1 INSTRUCTOR

SI.No	Specification	Quantity
1	Connecting screwdriver 100 mm	21 nos.
3	Screw driver set (set of 5)	21 nos.
4	Insulated combination pliers 150 mm	21 nos.
5	Insulated side cutting pliers 150 mm	21 nos.
6	Long nose pliers 150 mm	21 nos.
8	Electrician knife	21 nos.
9	Tweezers 100mm	21 nos.
10	Digital Multimeter	21 nos.

B. LIST OF TOOLS REQUIRED

SI.No	Specification	Quantity
1.	Crimping tool (pliers)	2 Nos.
2.	Screw driver 150mm	4 Nos.
3.	Allen key set (set of 9)	2 Nos.
4.	Tubular box spanner (set of 6nos)	1 No
5.	Magnifying lenses 75mm	3 Nos.
6.	Continuity tester	6 Nos.
7.	Scissors 200mm	1 No.

B. Tools & Equipments

SI. No.	Name of the Equipment	Qty
HARDWARE		
1	Server Computer	01 no
3	Desktop Computer	20 nos
4	Laptop, Notebook	01
6	Printers: Laserjet, deskjet	01 each
7	Network Printer	01 no
9	5KVA online UPS	02 nos
10	LAN Cards, Wi-fi LAN Cards	06 nos each.
11	LCD/DLP Projector	01 no
13	Crimping Tools	06 nos
14	Network Toolkits	06 Nos.
15	Network Spares:	As required
22	Pen Drives	4 nos
23	External Hard disk	2 nos
24	External DVD Writer	2 nos
27	Anti static pads	4 nos
28	Anti static wrist wraps	4 nos
30	Digital Multimeters	10 nos
34	IP Camera	2 nos
36	Network storage	2 nos
37	Card Reader	2 nos
39	Web Cam	2 nos
40	Headset microphone	2 nos

SOFTWARE		
1	Windows Server Operating System	21 licenses
2	Windows Operating System	21 licenses
3	Linux Operating System	2 nos.
4	Network Management Software	01 No.
5	MS Office	21 nos
6	Anti virus software	21 nos
7	Data recovery software	21 nos
FURNITURE and Other Equipments		
1	Computer Tables	20 nos
2	Computer Chairs	20 nos
3	Printer Table	1 no
4	Class room chairs	20 nos
5	Air conditioners (optional)	2 nos
6	Scanner	1 no
7	Modem	1 no
8	Telephone Line	1 no
9	Broadband Internet connection	1 no
10	Fire fighting equipments	As required
11	Hardware and Network Trainer Kit	6 nos

C.Tools & Equipments

(Computer Networking)		
Sl. No.	Name of the Equipment	Qty
HARDWARE		
1.	Wireless Network Adapter	20 nos
2.	Wireless Access Point	6 nos
3.	Router	6 nos
4.	Managed Layer 2 Ethernet Switch 24 port	2 nos
5.	Managed Layer 3 Ethernet Switch 24 port	2 nos
6.	Network Training System	2 nos
7.	LAN Protocol Simulation and Analyser Software	2 nos
8.	Network and Internet security trainer	2 nos
9.	LAN cable tester	2 nos
10.	Network cables – UTP	As required
11.	Network Cables – coaxial, flat, ribbon	As required
12.	LAN Cards, wi-fi LAN Card	05 nos each
13.	Connectors for cables	As required
14.	Power Meter	2 nos
15.	Media Convertor	4 each
16.	24 port UTP jack panel	2 nos
17.	SC Couplers	12 nos
18.	SC Pigtails	12 nos
19.	RJ-45 connector	As required
20.	Fluke Meter	2 nos
21.	Crimping Tools	6 nos
22.	Switch with POE ports	2 nos
23.	POE adapters	2 nos
24.	Network Camera (Outdoor / Indoor)	2 no each
25.		

Raw materials		
1.	White Board Marker	1 Dozens
2.	Duster Cloth(2' by 2')	20 Pcs
3.	Cleaning Liquid 500 MI	2 Bottles
4.	Xerox Paper (A4)	As required
5.	Full Scape Paper (White)	1 reams
6.	Cartridges for printer	As required
7.	Optical Mouse P/S2 or USB	As required
8.	P/S2 OR USB Key Board	As required
9.	SMPS	As required
10.	CMOS Battery	As required
11.	3 Pin Power Chord	As required
12.	Cat 5/5e cable	300 meters
13.	Stapler Small	2 pcs
14.	Stapler Big	1 pcs
15.	AAA battery for remote	As required
16.	AA battery for clock	As required
17.	8 GB pen drives	4 Nos
18.	CDs	20 Nos
19.	DVDs	10 Nos.
20.	Wall Clock	1 pcs
21.	Anti static pads	As required
22.	Anti static wrist wraps	As required
23.	Soldering wire and paste	As required

24.	RJ – 45 Connector	As required
25.	Telephone cable	As required
26.	Keystone jack	As required
27.	Patch / Jack Panel	As required
28.	Patch / Mounting cord	As required
29.	RJ-45 Info outlet with faceplate	As required
30.	RJ-45 I/O Box	As required
31.	8-port HUB	04 Nos.
32.	Wi-fi LAN Card both PCI and USB	02 Nos.each

GENERAL INFORMATION FOR NON VOICE BUSINESS PROCESS OUTSOURCING

Sector		ICT	
Coordinator		Naresh Chandra, DGE&T	
Scheme		MES	
Existing course name		8. Computer Fundamentals, MS-Office, Internet & Soft Skills 9. Domestic BPO 10. BPO Non-Voice Business Training	
Seating Capacity		20	
Entry Qualification		Passed 10 th Class examination	
NCO CODE		342	
MES CODE		ICT 705	
Duration		500 Hours	
Additional Course Proposed		-	
Course proposed to be deleted		-	
Structure	Practical	Existing	NA
		Proposed	400
		Reason	80% - 20% Ratio Mentained
	Theory	Existing	NA
		Proposed	100
		Reason	80% - 20% Ratio Mentained
Infrastructure Development	Equipment(Existing)		Yes
	New Equipment(Desirable)		Minor Changes
Instructor Eligibility	Existing		NA
	Proposed		Degree in Business Administration and Knowledge in English Or Diploma in Business Administration and Knowledge in English
Instructional Material	Book	Available	NA
		Additional	
	Teachers manual	Available	NA
		Additional	
	Question bank	Available	NA
		Additional	
Distance Learning	To be developed		Yes
	Not required for this course		-
On-the-job training /field work / in house project work including no. of hours			NA



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SYLLABUS FOR THE TRADE

OF

NON VOICE BUSINESS PROCESS OUTSOURCING

UNDER

MODULAR EMPLOYABLE SCHEME (MES)

Designed in : 2014

GENERAL INFORMATION

1. Name of the Module : NON VOICE BUSINESS PROCESS OUTSOURCING
2. N.C.O. Code No. : 342
3. MES Code : ICT 705
- 4 Duration of Training : 500 Hours
5. Entry Qualification : Passed 10th class examination
6. Unit strength : 20 Trainees
7. Space norms : 70 Sq.M
8. Power norms : 3.45 kW
9. Instructor Qualification : Degree in Business Administration
and Knowledge in English
Or
Diploma in Business Administration
and Knowledge in English
10. Desirable qualification : Preference will be given to candidates with CITS.

Job Roles:

After completion of the course the trainees shall be qualified for one or more of the following job roles:

6. Call centre support Executive
7. Transcription Job
8. Data Conversion Job
9. CRM Console Management

COURSE CONTENTS FOR MODULE NON VOICE BUSINESS PROCESS OUTSOURCING

Name: Non Voice Business Process Outsourcing

Terminal Competency: After completion of the training, Participants would be able to:

18. Write, Edit & Print documents using MS-WORD & EXCEL.
19. Recognize the importance of personal grooming and Etiquette for corporate life
20. Enhance his awareness on current affairs and how to stay In touch on a shoestring budget
21. Understand the concept of BPO operations and to use them effectively as Customer Relationship Exec in a domestic BPO.

Contents given below.

Week No.	Practical Competencies	Underpinning Knowledge (Theory)
1-4	<p>Computer Fundamentals</p> <ul style="list-style-type: none"> • Identification of Different parts of a Computer System. • Turning a computer system on and off <p>Windows OS</p> <ul style="list-style-type: none"> • Identifying different Desktop Icons. My Computer, My Documents • Changing Desktop Backgrounds, Mouse Pointer, Screen Saver • Notepad , WordPad, MS Paint <p>MS Word</p> <ul style="list-style-type: none"> • Document formatting options • Tables, Bullets and Numbering • Font, Alignment, paragraph formatting • Insert Picture, Clipart, Shapes, WordArt • Header & Footer, Text Box • Page Layout, Mail Merge • Spelling & Grammar <p>MS Excel</p> <ul style="list-style-type: none"> • Cell Formatting Options • Formulas and Functions • Charts • Sort, Filter, What if Analysis, Grouping 	<p>Computer Fundamentals</p> <ul style="list-style-type: none"> • History and Generations of Computer • Advantage and disadvantage of Computer • Block Diagram of a Computer • Description of Different parts of a Computer. • System Software and Application Software <p>MS Office</p> <ul style="list-style-type: none"> • Introduction to MS Office • Word Processing Software • Electronic Spreadsheet

	<ul style="list-style-type: none"> Subtotal 	
5-6	<p>CRM (CUSTOMER RELATIONSHIP MANAGEMENT)</p> <ul style="list-style-type: none"> What is CRM, sales management functionality, important modules in CRM, differences between CRM and SFA, double opt-in, How can CRM handle emails from customers, some examples of organizations can benefit from CRM, How can the CRM benefit my business, What is social CRM, What is the 'cloud, difference between on premise and cloud based CRM solutions, difference between CRM and ERP 	<p>Concept of Business Process Outsourcing</p> <ul style="list-style-type: none"> Back office management What is Outsourcing. Administrative ,Financial & HR Administrative outsourcing : Text Processing, claim processing, assets management, Transcription & translation, document management. Financial outsourcing: billing services, accounting, transactions, general accounting, tax consultancy & compliance, risk management. HR outsourcing: benefits at the station, recruiting & staffing, parole services, hiring administration, records management, team building etc. Front office management
7-8	<p>Related Practical</p>	<p>Maintain a healthy, safe and secure working environment</p> <ul style="list-style-type: none"> Safety signs & color at work, Causes for accidents, Safe attitudes, Sign categories Sign types, Safe lifting and carrying techniques, Causes of injury, Types of injury and methods to prevent them, Points that make an object/load difficult to carry, Preparation before lifting or shifting heavy loads, Correct body posture, Fire and fire extinguishers Controlled and uncontrolled fire, Preventing fire, controlling and extinguishing fire, Fire extinguishers types, General procedure to be adopted in the event of a fire, Hazard identification, Risk assessment and risk control, Common hazards at office,

	<p>Related Practical</p>	<p>Workstation</p> <ul style="list-style-type: none"> • layout and ergonomic guideline, Signs and symptoms of injury, aches and pains, • Suggested workstation dimensions and adjustment ranges, Chair position, rearrange • your workstation layout, General office safety, Types of office accidents, Hazards from • electrical equipment, Emergency action plan. <p>What is a Call Center</p> <ul style="list-style-type: none"> • According to location of process- International & Domestic. • According to process: Inbound, outbound & blended. • According to characteristic :Voice Based & Web Based • According to functionality : Real Call Center & Virtual Call center • Key Technical Support • Provide technical support to customers within And outside organization: troubleshooting for Customers using products & services like PC"s, Printers, ,Internet ,etc. <p>Soft Skills</p> <ul style="list-style-type: none"> • Listening Skills • Stress / Change Management • Telemarketing Skills • Typing Skills
<p>9-10</p>	<p>Practice of English language</p> <ul style="list-style-type: none"> • Past, present & future continuous, perfect, simple, perfect continuous tenses, • affixes, active to passive, comparative & superlative adjectives and adverbs • Phrasal and modal verbs, singular and plural nouns, direct to indirect 	<p>Detailed knowledge and usage</p> <ul style="list-style-type: none"> • past, present & future continuous, perfect simple, perfect continuous tenses, • affixes, active to passive, comparative & superlative adjectives and adverbs • Phrasal and modal verbs, singular and plural nouns, direct to indirect speech • Recognize and produce, compound and

	<p>speech Recognize and produce, compound and complex sentences, quantifiers.</p> <p>Letter writing and Email:</p> <ul style="list-style-type: none"> • Microsoft Word & Letter writing practice. Email ID creation. • Sending letters by email. 	<p>complex sentences, quantifiers.</p> <ul style="list-style-type: none"> • Common grammatical errors. • Business writing etiquette emails, letters. Understanding and responding to mails from customers and team members using appropriate Formats. • Common email and letter writing errors.
11	<p>Team Work:</p> <ul style="list-style-type: none"> • Do's and don'ts while working in a team. • Reading and Interpreting/Analyzing data and forms • Spotting trends / issues. Creating MIS. • Problem Solving Skills. <p>Control and Management:</p> <ul style="list-style-type: none"> • Learning to keep emotions under control Time Management • Conflict Management Stress Tolerance. 	<ul style="list-style-type: none"> • Principles of Team work • Do's and don'ts while working in a team. • Reading and Interpreting/Analyzing data and forms • Spotting trends / issues. Creating MIS. • Problem Solving Skills. <p>Control and Management:</p> <ul style="list-style-type: none"> • Learning to keep emotions under control(Human • Psychology, study of Perceptual Images) Time Management • Conflict Management • Stress Tolerance.
12	Project Work / Industrial Visits	
13	Examinations	

List of Tools & Equipment for module NON VOICE BPO

Hardware

SI No	Name of Tool/ Equipment	Quantity (nos)
1	Computer Latest Configuration	20
2	Laptop i3 or higher	01
3	Network Printer Laser A4	01
4	24 Port Switch	01
5	Broad band Internet Connectivity	As Required
6	500 VA or Higher UPS	20
7	Network Rack	01
8	CAT 5 Cable (Consumable Item)	As Required
9	RJ 45 Connector (Consumable Item)	As Required
10	LCD/LED Projector	01
11	AC 1.5 Ton	02
12	Pen Drive 8GB	04
13	Scanner Flatbed ADF A4	01

Software

SI No	Name of Tool/ Equipment	Quantity (nos)
1	Node OS Windows 7 or Higher	21
2	MS Office 2010	21
3	Antivirus	21

Raw materials

Raw materials		
1	White Board Marker	1 Dozens
2	Duster Cloth(2' by 2')	20 Pcs
3	Cleaning Liquid 500 Ml	2 Bottles
4	Xerox Paper (A4)	As required
5	Full Scape Paper (White)	1 reams
6	Cartridges for printer	As required
8	Optical Mouse P/S2 or USB	As required
9	P/S2 OR USB Key Board	As required
10	SMPS	As required

11	CMOS Battery	As required
12	3 Pin Power Chord	As required
13	Cat 5/5e cable	100 meter
14	Stapler Small	2 pcs
15	Stapler Big	1 pcs
16	AAA battery for remote	As required
17	AA battery for clock	As required
18	8 GB pen drives	2 Nos
19	CDs	10 Nos
20	DVDs	10 Nos.
21	Wall Clock	1 pcs

GENERAL INFORMATION FOR VOICE BUSINESS PROCESS OUTSOURCING

Sector		ICT	
Coordinator		Naresh Chandra, DGE&T	
Scheme		MES	
Existing course name		11. Computer Fundamentals, MS-Office, Internet & Soft Skills 12. BPO Voice Business Training 13. Advance Behavioral Basics	
Seating Capacity		20	
Entry Qualification		Passed 10 th Class examination	
NCO CODE		3429.1	
MES CODE		ICT 706	
Duration		500 Hours	
Additional Course Proposed		-	
Course proposed to be deleted		-	
Structure	Practical	Existing	NA
		Proposed	400
		Reason	80% - 20% Ratio Mentained
	Theory	Existing	NA
		Proposed	100
		Reason	80% - 20% Ratio Mentained
Infrastructure Development	Equipment(Existing)		Yes
	New Equipment(Desirable)		Minor Changes
Instructor Eligibility	Existing		NA
	Proposed		Degree in Business Administration and Knowledge in English Or Diploma in Business Administration and Knowledge in English
Instructional Material	Book	Available	NA
		Additional	
	Teachers manual	Available	NA
		Additional	
	Question bank	Available	NA
		Additional	
Distance Learning	To be developed		Yes
	Not required for this course		-
On-the-job training /field work / in house project work including no. of hours			NA



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SYLLABUS FOR THE TRADE

OF

VOICE BUSINESS PROCESS OUTSOURCING

UNDER

MODULAR EMPLOYABLE SCHEME (MES)

Designed in : 2014

GENERAL INFORMATION

1. Name of the Module : VOICE BUSINESS PROCESS OUTSOURCING
2. N.C.O. Code No. : 3429.1
3. MES Code : ICT 706
4. Duration of Training : 500 Hours
5. Entry Qualification : Passed 10th class examination
6. Unit strength : 20 Trainees
7. Space norms : 70 Sq.M
8. Power norms : 3.45 kW
9. Instructor Qualification : Degree in Business Administration
and Knowledge in English
Or
Diploma in Business Administration
and Knowledge in English
10. Desirable qualification : Preference will be given to candidates with CITS.

Job Roles:

After completion of the course the trainees shall be qualified for one or more of the following job roles:

10. Call centre Executive

COURSE CONTENTS FOR MODULE VOICE BUSINESS PROCESS OUTSOURCING

Name: **Voice Business Process Outsourcing**

Terminal Competency: After completion of the training, Participants would be able to:

4. Write, Edit & Print documents using MS-WORD & EXCEL.
5. Recognize the importance of personal grooming and Etiquette for corporate life
6. Enhance his awareness on current affairs and how to stay In touch on a shoestring budget
7. Understand the concept of BPO operations and to use them effectively as Customer Relationship Exec in a domestic BPO and Call Centres.

Contents given below.

Week No.	Practical Competencies	Underpinning Knowledge (Theory)
1-2	<p><u>Computer Fundamentals</u></p> <ul style="list-style-type: none"> • Identification of Different parts of a Computer System. • Turning a computer system on and off <p><u>Windows OS</u></p> <ul style="list-style-type: none"> • Identifying different Desktop Icons. My Computer, My Documents • Changing Desktop Backgrounds, Mouse Pointer, Screen Saver • Notepad , WordPad, MS Paint <p><u>MS Word</u></p> <ul style="list-style-type: none"> • Document formatting options • Tables, Bullets and Numbering • Font, Alignment, paragraph formatting • Insert Picture, Clipart, Shapes, WordArt • Header & Footer, Text Box • Page Layout, Mail Merge 	<p><u>Computer Fundamentals</u></p> <ul style="list-style-type: none"> • History and Generations of Computer • Advantage and disadvantage of Computer • Block Diagram of a Computer • Description of Different parts of a Computer. • System Software and Application Software <p><u>MS Office</u></p> <ul style="list-style-type: none"> • Introduction to MS Office • Word Processing Software • Electronic Spreadsheet

	<ul style="list-style-type: none"> • Spelling & Grammar <p><u>MS Excel</u></p> <ul style="list-style-type: none"> • Cell Formatting Options • Formulas and Functions • Charts • Sort, Filter, What if Analysis, Grouping • Subtotal 	
3-4	<p><u>Practice of English Language 1:</u></p> <p>22. Past, Present & future continuous, perfect</p> <p>23. simple, perfect continuous tenses,</p> <p>24. affixes, active to passive, comparative & superlative adjectives and adverbs</p> <p>25. Phrasal and modal verbs, singular and plural nouns, direct to indirect speech Recognize and produce, compound and complex sentences, quantifiers.</p> <p><u>Basics of English 2</u></p> <p>a. Practise on Pronunciation and sentence construction</p> <p>b. Practise on understanding and solving basic problems</p> <p>c. Tips to ensure you look and feel great Breathing and Stretch Exercises</p> <p>d. Demonstration on corporate etiquette in simulated environment</p> <p>e. Visit to a corporate office for better understanding</p> <p>26. Practise on various aspects of current affairs</p>	<p>f. Detailed knowledge and usage of past, present & future continuous, perfect simple, perfect continuous tenses,</p> <p>g. affixes, active to passive, comparative & superlative adjectives and adverbs</p> <p>h. Phrasal and modal verbs, singular and plural nouns, direct to indirect speech Recognize and produce, compound and complex sentences, quantifiers.</p> <p>i. Common grammatical errors.</p> <p><u>Basics of English</u></p> <p>j. Introduction to basics of English</p> <p>k. Sentence Construction</p> <p>l. Pronunciation</p> <p><u>Basics Math and Problem Solving</u></p> <p>m. Basic Mental Arithmetic practice</p> <p>n. Basics of Problem Solving for Quantitative and Verbal Tests</p> <p><u>Personal Grooming</u></p> <p>o. Importance and Aspects of Personal</p> <p>p. Grooming</p> <p>q. Basic Relaxation and Stress Techniques</p> <p><u>Corporate Etiquette</u></p> <p><u>Current Affairs</u></p>

		<ul style="list-style-type: none"> r. Politics, Society, Sports, Business s. World, World Economy and Patterns
5	<p><u>Letter writing and Email:</u></p> <ul style="list-style-type: none"> t. Microsoft Word & Letter writing practice. Email ID creation. u. Sending letters by email. <p><u>Team Work 1:</u></p> <ul style="list-style-type: none"> v. Dos and don'ts while working in a team. w. Reading and Interpreting/Analyzing data and forms x. Spotting trends / issues. Creating MIS. y. Problem Solving Skills. 	<ul style="list-style-type: none"> z. Business writing etiquette emails, letters. Understanding and responding to mails from customers and team members using appropriate Formats. aa. Common email and letter writing errors. bb. Principles of Team work cc. Dos and don'ts while working in a team. dd. Reading and Interpreting/Analyzing data and forms ee. Spotting trends / issues. Creating MIS. ff. Problem Solving Skills.
6	<ul style="list-style-type: none"> gg. Learning to keep emotions under control Time Management hh. Conflict Management Stress Tolerance. 	<p><u>Control and Management:</u></p> <ul style="list-style-type: none"> ii. Learning to keep emotions under control(Human jj. Psychology, study of Perceptual Images) Time Management kk. Conflict Management ll. Stress Tolerance. mm. Business Process Outsourcing – Basics – Benefits of BPO – Growth Drivers – BPO nn. Models and Types of Vendors – Offshore BPO – Evolution Destinations – Challenges of oo. Off shoring – BPO Companies in India pp. BPO Industry – Employment Opportunities – Employee Structure – Skill Set Required – qq. Compensation Levels – Contact Centre BPO – Types of Call Centres – Technology – rr. Components and working of a Call center – Issues and Problems – Case Study – Intelenet ss. Global. tt. Healthcare BPO

		<p>uu. Transaction Processing BPO vv. Human Resource BPO</p> <p><u>Life In BPO:</u></p> <p>ww. Understand concept of working across time Keeping health while working in shifts Managing time xx. Managing clients, customers & target</p>
7	<p><u>Speak Well 1:</u></p> <p>yy. Grammar and Neutral English. zz. Pronunciation. aaa. Sentence Formation and speech Fluency.</p> <p><u>ETYMOLOGY AND INFLECTION</u></p> <p>bbb. Introduction, Etymology, Inflection, Diphthongants, Polyphones, Arabic-Persian sound, ccc. & Minimal Pair Exercise.</p> <p><u>EMPHASIS CONTROL</u></p> <p>ddd. Introduction, Emphasis Control, Intonation, Modulation, Liaison, Listening Skills, Tone eee. and Expression, English Slang</p> <p><u>SPEAKING LIKE A NATIVE</u></p> <p>fff. Introduction, Speaking like a native - assimilations/elisions, Voice Modulation, Stress, ggg. Vocabulary.</p>	<p>hhh. Detailed knowledge and usage of iii. Past, present & future continuous, perfect simple, perfect continuous tenses. jjj. Affixes, active to passive, comparative & superlative adjectives and adverbs. kkk. Phrasal and modal verbs, singular and plural nouns, direct to indirect speech. lll. Recognize and produce compound and complex sentences, quantifiers, appropriate usage of mmm. Pronunciation, right pronunciation of words commonly used in a contact center. nnn. Correction of MTIs and common errors, totochiev errors to achieve neutral spoken English.</p> <p><u>ETYMOLOGY AND INFLECTION</u></p> <p>ooo. Introduction, Etymology, Inflection, Diphthongants, Polyphones, Arabic-Persian sound, ppp. & Minimal Pair Exercise.</p>
8	<p><u>Service Well:</u></p> <p>qqq. Understanding customer service processes and steps for services call. rrr. Listening and understanding customer requirements. Responding to different customer requirements. Dealing with difficulties of customers.</p>	<p>sss. Telephone Etiquette; Brief on American and British Culture / Accent: Political setup, ttt. culture inputs, Geographical Structure; Difference in work habits between US, UK and uuu. India; World Time Zones; Time management; Call Flow and Work Flow; American and vvv. Hispanic names; Interactive videos on US/UK English usage; Inbound /</p>

		<p>Outbound www. operation – an explanation; Telephone Tips; Winning Attributes of a customer service xxx. representative; Structure of a call; Listening and paraphrasing; Effective probing; Rapport yyy. and Empathy zzz. ITES and Back Office function; Workflow Management; Workforce productivity system; aaaa. Scanning ; Call center technology – PBX system features; IVR (Interactive Voice bbbb. Response System); ACD (Automatic Communication Distributor System); Interaction cccc. Mail (unified Messaging and Voice Mail); Interaction Fax; Web Services; Software dddd. Phone; IPLC (International Private Leased Circuit Lines); VOIP; Dialers; Call Logger. eeee. ffff. Importance of Customer Service gggg. Understand Customer Service processes and steps for a service call hhhh. Listening and understanding customer requirements iiii. Responding to different customer requirements. Dealing with difficult customers</p>
9	<p>jjjj. Voice & accent practice Market Survey. kkkk. Importance of collections Basic steps of a collection call Managing your emotions llll. Dealing with challenging customers</p>	<p><u>Speak Well 2:</u> ssss. Questioning Techniques tttt. Selling and Cross Selling techniques based on target audience and situations and types of product. <u>Dealing with customers:</u> uuuu. Importance of collections</p>

	<p>mmmm. Basic data analysis and problem solving skills Logical reasoning</p> <p>nnnn. Principles of team work</p> <p>oooo. Do's and don'ts while working in a team</p> <p>pppp. Learning to keep emotions under control Time management</p> <p>qqqq. Conflict management</p> <p>rrrr. Accurate typing of information while listening.</p>	<p>Basic steps of a collection call Managing your emotions vvvv. Dealing with challenging customers</p> <p><u>Problem Solving Skill:</u> www. Basic data analysis and problem solving skills Logical reasoning</p> <p><u>Team Work 2:</u> xxxx. Principles of team work yyyy. Do's and don'ts while working in a team</p> <p><u>Being Professional:</u> zzzz. Learning to keep emotions under control Time management aaaaa. Conflict management</p> <p><u>Typing Skill:</u> bbbbb. Accurate typing of information while listening.</p>
10	<p><u>Demonstration on various Information source presently used</u></p> <p>ccccc. Presentation on preparation of cards Demonstration on identifying skills-General & dddd. specific , process of performing job, workplace system etc in simulated environment</p> <p>eeee. Demonstration on process for skill analysis Demonstration on Communication, Body</p> <p>ffff. language etc in simulated environment Practice on Communication</p>	<p><u>Information Sources</u> ggggg. Introduction , Types of Information Sources, Print media, Documentary sources hhhhh. Non-Documentary sources, Non-print media, iiii. Electronic media, Conclusion.</p> <p><u>Information Centre</u> jjjj. Introduction, Classification, Services, Conclusion.</p> <p><u>Procedure for Information Search</u> kkkk. Introduction, Need of approach, Types of approach, Steps for Information search ,Preparation of llll. biographic card, Preparation of index card, mmmm. Conclusion.</p> <p><u>Learning</u> nnnn. Introduction, Concept of learning, Basic model of Learning, Principles of learning, Conclusion.</p> <p><u>Memory of Cognition</u> oooo. Introduction, Basic concepts, Dual store model of memory, Sensory register characteristics, Attention: Factors affecting attention, Figure ground rule, Working memory (WM) :</p>

		<p>Characteristics of WM, ppppp. Control processes in WM, Long term memory (LTM): Characteristics of LTM, Control processes in LTM, Organization of Knowledge, and Conclusion.</p> <p><u>Meta Cognition & Study Stratifies</u> qqqqq. Introduction, Meta cognitive knowledge & skills, rrrrr. Self regulated learning, Effective learning & study strategies (Covert) : Selective attention, Maintain Rehearsal, sssss. Meaningful learning reflection, Internal ttttt. organization, Elaborative - ---** Visualization, uuuuu. Effective overt learning strategies: Effective reading, Effective listening, Notes</p> <p><u>Learning on Job</u> vvvvv. Introduction, Definition, Identifying general and specific skills, Work place as a system, Types of system, Conclusion.</p> <p><u>Learning Practical Skills</u> wwwww. Introduction, Process of performing the job, Domains of learning job, Conclusion.</p> <p><u>Testing of Acquired Skills</u> xxxxx. Introduction, Objectives, Process for skill analysis, Conclusion .</p> <p><u>Basics of Communication</u> yyyyy. Definition, Concept of communication, Communication cycle, Communication, Conclusion.</p> <p><u>Techniques of Communications</u> zzzzz. Introduction, Oral communication, Written communication, Body language, Conclusion</p> <p>aaaaa.</p>
11	<p><u>Practice sessions with stress on</u> bbbbbb. Voice & accent :</p>	<p>lllll. Concept of Business Process Outsourcing</p>

		<p>zzzzzz. Listening Skills</p> <p>aaaaaaa. Stress / Change Management Telemarketing Skills</p> <p>bbbbbbb. Typing Skills</p> <p>Maintain a healthy, safe and secure working environment</p> <p>ccccccc. Safety signs & color at work, Causes for accidents, Safe attitudes, Sign categories</p> <p>ddddddd. Sign types, Safe lifting and carrying techniques, Causes of injury, Types of injury and</p> <p>eeeeeee. methods to prevent them, Points that make an object/load difficult to carry,</p> <p>ffffff. Preparation before lifting or shifting heavy loads, Correct body posture, Fire and fire</p> <p>ggggggg. extinguishers</p> <p>hhhhhhh. Controlled and uncontrolled fire, Preventing fire, controlling and extinguishing fire, Fire</p> <p>iiiiiii. extinguishers types, General procedure to be adopted in the event of a fire, Hazard</p> <p>jjjjjjj. identification, Risk assessment and risk control, Common hazards at office,</p> <p>kkkkkkk. Workstation layout and ergonomic guideline, Signs and symptoms of injury, aches and</p> <p>lllllll. pains, Suggested workstation dimensions and adjustment ranges, Chair position,</p> <p>mmmmmmm. rearrange your workstation layout, General office safety, Types of office accidents,</p> <p>nnnnnnn. Hazards from electrical equipment, Emergency action plan.</p>
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12	Project Work / Industrial Visits
13	Examinations

LIST OF TOOLS & EQUIPMENT FOR MODULE VOICE BUSINESS PROCESS OUTSOURCING Hardware

SI No	Name of Tool/ Equipment	Quantity (nos)
1	Computer Latest Configuration	20
2	Laptop i3 or higher	01
3	Network Printer Laser A4	01
4	24 Port Switch	01
5	Broad band Internet Connectivity	As Required
6	500 VA or Higher UPS	20
7	Network Rack	01
8	CAT 5 Cable (Consumable Item)	As Required
9	RJ 45 Connector (Consumable Item)	As Required
10	LCD/LED Projector	01
11	AC 1.5 Ton	02
12	Pen Drive 8GB	04
13	Scanner Flatbed ADF A4	01

Software

SI No	Name of Tool/ Equipment	Quantity (nos)
1	Node OS Windows 7 or Higher	21
2	MS Office 2010	21
3	Antivirus	21

Raw materials		
1	White Board Marker	1 Dozens
2	Duster Cloth(2' by 2')	20 Pcs
3	Cleaning Liquid 500 MI	2 Bottles
4	Xerox Paper (A4)	As required
5	Full Scape Paper (White)	1 reams
6	Cartridges for printer	As required
8	Optical Mouse P/S2 or USB	As required
9	P/S2 OR USB Key Board	As required

10	SMPS	As required
11	CMOS Battery	As required
12	3 Pin Power Chord	As required
13	Cat 5/5e cable	100 meter
14	Stapler Small	2 pcs
15	Stapler Big	1 pcs
16	AAA battery for remote	As required
17	AA battery for clock	As required
18	8 GB pen drives	2 Nos
19	CDs	10 Nos
20	DVDs	10 Nos.
21	Wall Clock	1 pcs

GENERAL INFORMATION FOR WEB DESIGNING & PUBLICATION ASSISTANT

Sector		ICT	
Coordinator		Naresh Chandra, DGE&T	
Scheme		MES	
Existing course name		14. Computer Fundamentals, MS-Office, Internet & Soft Skills 15. Web Designing 16. Web Publishing 17. Advanced Web Publishing	
Seating Capacity		20	
Entry Qualification		Passed 10 th Class examination	
NCO CODE		3121.9	
MES CODE		ICT 707	
Duration		1000 Hours	
Additional Course Proposed		-	
Course proposed to be deleted		-	
Structure	Practical	Existing	NA
		Proposed	800
		Reason	80% - 20% Ratio Maintained
	Theory	Existing	NA
		Proposed	200
		Reason	80% - 20% Ratio Maintained
Infrastructure Development	Equipment(Existing)	Yes	
	New Equipment(Desirable)	Minor Changes	
Instructor Eligibility	Existing	NA	
	Proposed	B Tech in Computer Engineering /IT, MCA OR Diploma in Computer Engineering/IT, BCA,NELIT A Level OR NTC/ NAC in COPA Trade	
Instructional Material	Book	Available	NA
		Additional	
	Teachers manual	Available	NA
		Additional	
	Question bank	Available	NA
		Additional	
Distance Learning	To be developed	Yes	
	Not required for this course	-	
On-the-job training /field work / in house project work including no. of hours		NA	



कौशल बलम्

SYLLABUS FOR THE TRADE

OF

WEB DESIGNING & PUBLICATION ASSISTANT

UNDER

MODULAR EMPLOYABLE SCHEME (MES)

Designed in : 2014

GENERAL INFORMATION

1. Name of the Module : WEB DESIGNING & PUBLICATION ASSISTANT
2. N.C.O. Code No. : 3121.9
3. MES Code : ICT 707
4. Duration of Training : 1000 Hours
5. Entry Qualification : Passed 10th class examination
6. Unit strength : 20 Trainees
7. Space norms : 70 Sq.M.
8. Power norms : 3.45 kW
9. Instructor Qualification : B Tech in Computer Engineering/ IT
, MCA
OR
Diploma in Computer
Engineering/IT, BCA, NIELIT A Level
OR
NTC/ NAC in COPA/Information
Technology Trade
10. Desirable qualification : Preference will be given to candidates with CITS.

Job Roles:

After completion of the course the trainees shall be qualified for one or more of the following job roles:

11. Web Development
12. Office Automation

Course Contents for Module WEB DESIGNING & PUBLICATION ASSISTANT

Name: WEB DESIGNING & PUBLICATION ASSISTANT

Terminal Competency: After completion of the training, Participants would be able:

1. Write, Edit & Print documents using MS-WORD & EXCEL.
2. Open different Internet sites using Search Engine Use different Browsers.
3. Assist to Create Web Pages using HTML Insert animations using DHTML, design interactive Web sites, visually appealing web layouts,
4. Apply basic programming skills to create dynamic websites.

Contents given below.

Week No.	Practical Competencies	Underpinning Knowledge (Theory)
1-3	<p>Computer Fundamentals</p> <ul style="list-style-type: none"> • Identification of Different parts of a Computer System. • Turning a computer system on and off <p>Windows OS</p> <ul style="list-style-type: none"> • Identifying different Desktop Icons. My Computer, My Documents • Changing Desktop Backgrounds, Mouse Pointer, Screen Saver • Notepad , WordPad, MS Paint <p>MS Word</p> <ul style="list-style-type: none"> • Document formatting options • Tables, Bullets and Numbering • Font, Alignment, paragraph formatting • Insert Picture, Clipart, Shapes, WordArt • Header & Footer, Text Box • Page Layout, Mail Merge • Spelling & Grammar 	<p>Computer Fundamentals</p> <ul style="list-style-type: none"> • History and Generations of Computer • Advantage and disadvantage of Computer • Block Diagram of a Computer • Description of Different parts of a Computer. • System Software and Application Software <p>MS Office</p> <ul style="list-style-type: none"> • Introduction to MS Office • Word Processing Software • Electronic Spreadsheet

	<p>MS Excel</p> <ul style="list-style-type: none"> • Cell Formatting Options • Formulas and Functions • Charts • Sort, Filter, What if Analysis, Grouping <p>Subtotal</p> <p>MS PowerPoint</p> <ul style="list-style-type: none"> • Creating Slide Show by using Animation Technique. • Slide Master. • Clip Art. Picture Editing 	
4-8	<p>Internet Concepts</p> <ul style="list-style-type: none"> • Opening websites and browsing. Writing, reading and sending emails. Connecting to Internet. • Browsing popular sites and using search engines. <p>Introduction to HTML</p> <ul style="list-style-type: none"> • Using HTML editor, creating simple HTML documents, containing heading, body text and comments • Creating web pages with all the features and effects. • Converting MS Office documents to HTML. • Creation of web pages containing tables of different formats. • Practice on modification of tables. Creating Lists using Bullets and Numbers. • Using HTML for creating web pages with links to other 	<p>Introduction to Web</p> <ul style="list-style-type: none"> • Overview of Internet and WWW. Web pages, home page, Web browsers, search Engines, web sites and servers. <p>Introduction to HTML</p> <ul style="list-style-type: none"> • HTML features and uses, structure of an HTML document, creating HTML document, adding body text and comments. • Using all the features, colours and other effects of HTML. Converting MS Office documents to HTML. • Tables & Lists – Creating Tables and Lists in HTML documents. • Links: Creating links to local range, other pages, specific part of page, electronic mail. • Images: Including icon and picture in HTML document. Creation of animated GIF. Sizing the pictures. <p>Multimedia Objects</p>

	<p>pages different points of a page and link to tables and list.</p> <ul style="list-style-type: none"> • Creating webpages containing images, • Animation graphics using GIF animator or some other software. • Inserting Images, Video & Sound effects. Marquees of Scrolling text. • Setting and releasing different types of Frames. • Using HTML to design different types of forms, incorporating different type of boxes, buttons, menus and fields. • Processing the form. • Designing web pages with taught elements along with style elements for different characteristics. • Practice cascading style sheets. • Creating animation in the web pages using layers. 	<ul style="list-style-type: none"> • Adding external images, video, and sound file including device independent (DVI) files. Add marquees of scrolling text. <p>Frames</p> <ul style="list-style-type: none"> • Setting and releasing frames. Using one frame to index another. Creating floating frames, borderless frames and frames with borders. <p>Forms</p> <ul style="list-style-type: none"> • Creating basic forms. Adding text box, check box, radio buttons, pull-down menus, single-line text field and password field. Processing the forms. <p>Style sheets</p> <ul style="list-style-type: none"> • Creating style sheets to other HTML element, altering different characteristics and features. • Cascading HTML style sheets. <p>DHTML</p> <ul style="list-style-type: none"> • Creating layers using style sheet syntax. Create animation. • Theory related to practical
<p>9-13</p>	<p>Computer Graphics</p> <ul style="list-style-type: none"> • Know the difference between Vector Graphics and Raster Graphics. Know the difference between Screen Graphics and Pixel Graphics. Understand the following formats :- .pdf, .eps, .svg, .svgz, .psd,, mp, .gif, .jpg, .pcx, .pct,.png, .raw, .sct, .tga, .tiff, .vst. <p>Design Principles & Color Harmony oooooooo. Introduction to colors — ppppppp. Primary and</p>	<p>Computer Graphics</p> <p>8. Understanding how images are formed, image file formats and their properties</p> <p>Design Principles & Color Harmony</p> <p>9. Understanding Design principles and color theory</p>

	<p>Secondary in both RGB & CMYK schemes/modes.</p> <p>qqqqqq. Importance of each primary and secondary color.</p> <p>rrrrrr. Proper Application of colors.</p> <p>ssssss. Analyze colors applied in different print media.</p> <p>tttttt. Visualize look and feel of a print or a web to apply colors</p> <p>Web Design Basics</p> <p>Open web pages using URL and domain name. Save web pages. Store web pages</p> <p>as favorites. Use search engines to find sites offering free Email services. Create Email account. Send Email. Copy received Email. Copy/Print received mail. Send Email with attachment. Open/Download attachments. Set-up for Chat. Practice chatting. Practice chatting with Video. Join News group.</p> <p>Typography</p> <p>Study different fonts and typo issues with Web design</p> <p>Use of Multi-lingual Software.</p>	<p>10. Knowledge of Internet, Web design techniques and study of designs as per content</p> <p>11. GIGW, OWSP, GCIG Concepts</p> <p>12. Understanding the use of various fonts and type issues with Web design</p> <p>13. Understanding design issues in Web medium and visualizing intuiting web designs</p>
14-18	<p>Digital Imaging</p> <p>Working with Images in Photoshop.</p> <ul style="list-style-type: none"> Working 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. Working with Layers. Photo editing. 	<p>Photo Shop</p> <p>27. Introduction to various versions, concepts and applications of Photoshop</p> <p>28. Understanding the Print Industry, Printing technology and uses</p> <p>29. Understanding Design principles and color theory</p>

	<ul style="list-style-type: none"> • Image adjustment options – Labels, Auto labels, Auto contrasts, Curves, Color balance, Brightness / Contrast, Posterize , Variations. • Preparing the file and work area. Creating different shapes. • Creating three Dimensional effects using Layers. Working with the magic wand tool and lasso tool. Creating images using Symbol Sprayer Tool. Edit the images using options of Warp Tool. Using Dodge tool, Burn tool, Sponge Tool and Clone Stamp Tool. • Editing Selections. Creating images and giving special effects using Filters. Using Layer Styles. Produce an image by mixing two or more different images using Layer Masking & Vector Masking. <p>Web Publishing using Dreamweaver</p> <ul style="list-style-type: none"> • Design Professional Web Layouts, Author and Publish websites on the internet • Design Professional Web Layouts, Author and Publish websites on the internet using Dreamweaver 	<p>30. Understanding the use of various fonts and typo issues with Web design</p> <p>31. Understanding Designing standards, Print layout Design and creative visualization for intuitive layouts</p> <p>Understanding and using the computer and Operating System</p>
19-23	<p>Javascripting</p> <ul style="list-style-type: none"> • Creating scripts for Web for Dynamic websites • Validation on Forms <p>VB Script</p> <ul style="list-style-type: none"> • Creating scripts for Web for Dynamic websites • Validation on Forms <p>PHP & MySQL</p> <ul style="list-style-type: none"> • Using PHP & MySQL to create dynamic web 	<ul style="list-style-type: none"> • Creating scripts for Web for Dynamic websites using Java Script • Creating scripts for Web for Dynamic websites using VB Script • Using ASP to create dynamic web pages enabled with forms and

	<p>pages enabled with forms and database usage</p> <ul style="list-style-type: none"> • ODBC Concepts for Connection with Database with PHP. • Difference between Server Side & Client Side Script. • Hosting & Deploying Website. <p>Web Design Basics</p> <ul style="list-style-type: none"> • Getting connected using FTP. Down loading software. • Upgrading Browser versions. • Using Telnet to get connected to remote computer. <p>Web Design in Flash with scripting</p> <ul style="list-style-type: none"> • About Flash and General overview – Stage and Work area of Flash, using guides, grid & rulers. • Using frames and key frames, Working with time line. Using layers ,Using Guide layers. Drawing in Flash tooling colors in Flash, to use a gradient fill. • Importing Artwork, Video and Audio. Different file formats in Video & Audio. Flash Compatible Audio & Video file formats Create interactive animations for learning medium • Programming simple interactive applications using Action Scripting • Creating Banners, Logo Animation, simple 2D 	<p>database usage</p> <ul style="list-style-type: none"> • Knowledge of Internet, Web design techniques and study of designs as per content • Create interactive animations and applications for web using Flash • Theory related to Practical
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	<p>animation content used in Web and E-learning medium</p> <ul style="list-style-type: none"> • <p>Web Layout Design Standards</p> <ul style="list-style-type: none"> • Study design issues in Web medium and visualizing intuiting web designs <p>Cyber Security Practical Related to Theory</p> <p>Practical Related to Theory</p>	<p>Cyber Security</p> <p>Module 1 Overview of Information Security</p> <ul style="list-style-type: none"> • Understanding Information Security • Need of the Information security • Basics of IS (CIA) • History and evolution of IS • Dimensions of Information Security • Intranet/Internet • Information Security and Cyber Security relationship • Why Care About Security? • Challenges to Information Security • Benefits of Information of Security • Understanding techniques to enforce IS in an organization • Identifying tools to enforce Information Security • Identifying frameworks to enforce Information Security <p>Module 2 Overview of Security threats</p> <ul style="list-style-type: none"> • Overview of Information Security Threats • Types of threats – DDoS, Malicious codes, Espionage, etc • Identification of Threats • Probing of threats • Scanning of threats • Modus Operandi • Sources of Threats • External threats • Internal threats
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	<p>Practical Related to Theory</p>	<ul style="list-style-type: none"> • Best Practices or Guidelines used to Identify Threats • Conduct regular education and awareness trainings for employees and third parties • Best Practices or Guidelines used in mitigation of threats • Deploying up to date technology • Maintaining Systems and Procedures • Educating Users • Conducting regular education and awareness trainings for employees and third parties • Collaborate with peers and experts through different forums to understand contemporary issues and solutions <p>Module 3 Information Security Vulnerabilities</p> <ul style="list-style-type: none"> • Why do Information Security Vulnerabilities exist • Types of Technical Vulnerabilities • Types of Native Vulnerabilities • Understanding Security Vulnerabilities • Flaws in Software or Protocol Designs • Weaknesses in How Protocols and Software Are Implemented • Weaknesses in System and Network Configurations • Weaknesses in Web or Cloud applications • Weaknesses in Online e-transactions • Browser Security and Role of cookies and pop-ups • Security holes in Browser, Web Applications, OS, and Smartphones • Identifying role of Social sites and media in cyber security and vulnerability • Understanding Vulnerability Assessment Tools and Techniques
	<p>Practical Related to Theory</p>	

	<p>Practical Related to Theory</p>	<ul style="list-style-type: none"> • Techniques to Exploit Vulnerabilities • Techniques to Fix the Vulnerabilities • Identify security vulnerabilities on a regular basis using requisite tools and processes. • How to fix the security gaps and holes • Identifying liabilities of service providers, software vendors, Software authors, system owners, and third parties • Best Practices and Guidelines to mitigate security Vulnerabilities <p>Module 4 Risk Management</p> <ul style="list-style-type: none"> • What is Risk? • Relationship between Threat, Vulnerability, and Risk • What Is the Value of an Asset? • What Is a Threat Source/Agent? • Examples of Some Vulnerabilities that Are Not Always Obvious • What Is a Control? • What Is Risk Likelihood and consequences? • What Is Impact? • Control Effectiveness • Risk Management • Purpose of Risk Management • Risk Assessment (Phases) • Why Is Risk Assessment Difficult? • Types of Risk Assessment • Different Approaches to Risk Analysis • Best Practices and Guidelines in Assessing and Calculating Risks • Develop and implement policies and procedures to mitigate risks arising from ICT supply chain and outsourcing. • Best Practices and Guidelines in Mitigating Risks <p>Module 5 - Software Development Security</p> <ul style="list-style-type: none"> • How Did We Get Here?
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Practical Related to Theory

- Device vs. Software Security
- Why Are We Not Improving at a Higher Rate?
- Usual Trend of Dealing with Development Level Security
- Where to Implement Software Development Security
- Issues in application security (SQL injection, cross scripting, etc.)
- Security in SDLC
 - Development Methodologies
 - Maturity Models
 - Security Issues
 - OWASP Top Ten (2011)
- Modularity of Objects and Security
 - Object-Oriented Programming Characteristic
 - Module Characteristics
 - Linking Through COM
 - Mobile Code with Active Content
 - World Wide Web OLE
 - ActiveX Security
 - Java and Applets
 - API
- Security of Embedded Systems
- Common Gateway Interface
 - How CGI Scripts Work
 - Cookies
 - PCI Requirements
- Virtualization
 - Type 1 and Software Security
 - Type 2 and Software Security

Module 6 - Legal Framework

- Need for Legal Framework and its enforcement
- Types of Law
 - Foundational Concepts of Law
 - Common Laws – Criminal
 - Common Laws – Civil
 - Common Laws – Administrative
 - Intellectual Property Laws
 - More Intellectual Property Laws
 - Software Licensing
- Historic Examples of Computer Crimes

		<ul style="list-style-type: none"> ○ Ethics – Internet Architecture Board ● GAISP- Generally Accepted Information Security Principles <p>Module 7: Privacy Protection</p> <ul style="list-style-type: none"> ● Understanding Privacy as a Domain ● Relationship between security and privacy ● Revitalizing security program to enable Privacy Protection ● Assess privacy implications of security technologies ● Privacy impact assessment ● Develop and implement privacy protection measures within the organization <p>Module 8: Audit and Testing</p> <ul style="list-style-type: none"> ● What is Information Security Audit? ● Importance of Information Security Audit ● Identifying the Information Security Audit Objectives ● Audit Planning and preparations ● Performing Security Audits and Reviews ● Vulnerability assessment and Penetration testing ● Code reviews ● Audit Controls ● Logical security audit ● Ethics and codes of conduct for Auditors ● Security Policies and Procedure Audits and Compliance Audits ● Conduct and Close internal audits ● Information Security audit tools ● Reporting to senior management on defined parameters
24-25	Project Work / Industrial Visits	
26	Examinations	

LIST OF TOOLS & EQUIPMENT FOR MODULE WEB DESIGNING & PUBLICATION ASSISTANT

Hardware

SI No	Name of Tool/ Equipment	Quantity (nos)
1	Computer Latest Configuration	20
2	Laptop i3 or higher	01
3	Network Printer Laser A4	01
4	24 Port Switch	01
5	Internet Connectivity	As Required
6	500 VA or Higher UPS	20
7	Network Rack	01
8	CAT 5 Cable (Consumable Item)	As Required
9	RJ 45 Connector (Consumable Item)	As Required
10	LCD/LED Projector	01
11	AC 1.5 Ton	02
12	Pen Drive 8GB	04
13	Scanner Flatbed ADF A4	01

Software

SI No	Name of Tool/ Equipment	Quantity (nos)
1	Windows 7 or Higher	21
2	MS Office 2010	21
3	Antivirus	21
4	Corel Draw 12 or latest version	21
5	Adobe Photoshop CS3 or latest version	21
6	Adobe Dreamweaver latest version	21
7	Adobe Flash latest version	21

Raw materials

Raw materials		
1	White Board Marker	1 Dozens
2	Duster Cloth(2' by 2')	20 Pcs
3	Cleaning Liquid 500 MI	2 Bottles
4	Xerox Paper (A4)	As required
5	Full Scape Paper (White)	1 reams

6	Cartridges for printer	As required
8	Optical Mouse P/S2 or USB	As required
9	P/S2 OR USB Key Board	As required
10	SMPS	As required
11	CMOS Battery	As required
12	3 Pin Power Chord	As required
13	Cat 5/5e cable	100 meter
14	Stapler Small	2 pcs
15	Stapler Big	1 pcs
16	AAA battery for remote	As required
17	AA battery for clock	As required
18	8 GB pen drives	2 Nos
19	CDs	10 Nos
20	DVDs	10 Nos.
21	Wall Clock	1 pcs

GENERAL INFORMATION FOR ANIMATION AND MULTIMEDIA ASSISTANT

Sector		ICT	
Coordinator		Naresh Chandra, DGE&T	
Scheme		MES	
Existing course name		Computer Fundamentals, MS-Office, Internet & Soft Skills, 2D Pre-production animator, Classical Animation, 3D animation production, Advance 3D animation production	
Seating Capacity		20	
Entry Qualification		Passed 10 th Class examination	
NCO CODE		3471.7	
MES CODE		ICT 708	
Duration		1000 Hours	
Additional Course Proposed		-	
Course proposed to be deleted		-	
Structure	Practical	Existing	NA
		Proposed	800
		Reason	80% - 20% Ratio Maintained
	Theory	Existing	NA
		Proposed	200
		Reason	80% - 20% Ratio Mentioned
Infrastructure Development	Equipment(Existing)		Yes
	New Equipment(Desirable)		Minor Changes
Instructor Eligibility	Existing		NA
	Proposed		Degree in Print Technology with one year Experience OR Diploma in Print Technology with two years of Experience OR NTC/ NAC in DTP Trade with three years of Experience
Instructional Material	Book	Available	NA
		Additional	
	Teachers manual	Available	NA
		Additional	
	Question bank	Available	NA
		Additional	
Distance Learning	To be developed		Yes
	Not required for this course		-
On-the-job training /field work / in house project work including no. of hours			NA



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SYLLABUS FOR THE TRADE

OF

ANIMATION AND MULTIMEDIA ASSISTANT

UNDER

MODULAR EMPLOYABLE SCHEME (MES)

Designed in : 2014

GENERAL INFORMATION

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|-----------------------------|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Name of the Module | : | ANIMATION AND MULTIMEDIA ASSISTANT |
| 2. N.C.O. Code No. | : | 3471.7 |
| 3. MES Code | : | ICT 708 |
| 4. Duration of Training | : | 1000 Hours |
| 5. Entry Qualification | : | Passed 10th class examination |
| 6. Unit strength | : | 20 Trainees |
| 7. Space norms | : | 70 Sq.M |
| 8. Power norms | : | 3.45 kW |
| 9. Instructor Qualification | : | Degree in Print Technology with
one year Experience
OR
Diploma in Print Technology with
two years of Experience
OR
NTC/ NAC in
DTPO Trade with three years of |

10. Desirable qualification : Preference will be given to candidates with CITS.

Job Roles:

After completion of the course the trainees shall be qualified for one or more of the following job roles:

13. Multimedia Professional

14. Animator

Course Contents for Module ANIMATION AND MULTIMEDIA ASSISTANT

Name: **ANIMATION AND MULTIMEDIA ASSISTANT**

Terminal Competency: After completion of the training, Participants would be able to

- Write, Edit & Print documents using MS-WORD & EXCEL.
- Draw 2D , 3D graphics, character drawing
- Create 2D Animation
- Understand the concept of 3D Graphics and Animation
- Create video footage and overlaying of sound.

Contents given below.

Week No.	Practical Competencies	Underpinning Knowledge (Theory)
1-3	<p>Computer Fundamentals</p> <ul style="list-style-type: none"> • Identification of Different parts of a Computer System. • Turning a computer system on and off <p>Windows OS</p> <ul style="list-style-type: none"> • Identifying different Desktop Icons. My Computer, My Documents • Changing Desktop Backgrounds, Mouse Pointer, Screen Saver • Notepad , WordPad, MS Paint <p>MS Word</p> <ul style="list-style-type: none"> • Document formatting options • Tables, Bullets and Numbering • Font, Alignment, paragraph formatting • Insert Picture, Clipart, Shapes, WordArt • Header & Footer, Text Box • Page Layout, Mail Merge • Spelling & Grammar <p>MS Excel</p> <ul style="list-style-type: none"> • Cell Formatting Options 	<p>Computer Fundamentals</p> <ul style="list-style-type: none"> • History and Generations of Computer • Advantage and disadvantage of Computer • Block Diagram of a Computer • Description of Different parts of a Computer. • System Software and Application Software <p>MS Office</p> <ul style="list-style-type: none"> • Introduction to MS Office • Word Processing Software • Electronic Spreadsheet

	<ul style="list-style-type: none"> • Formulas and Functions • Charts • Sort, Filter, What if Analysis, Grouping, Subtotal <p>MS PowerPoint</p> <ul style="list-style-type: none"> • Creating Slide Show by using Animation Technique. • Slide Master. • Clip Art. Picture Editing 	
4-12	<p style="text-align: center;">Drawing</p> <ul style="list-style-type: none"> • Drawing basics - forms and shapes to be able to draw basic forms and shapes • Perspective drawing, sketching for animation, realistic human and animal anatomy. • Digital forms of anatomy and good knowledge of digital drawing with perspective. <p>Basics of Animation</p> <p>32. Drawing basic</p> <ul style="list-style-type: none"> • Introduction of classical animation 	<p style="text-align: center;">Drawing</p> <ul style="list-style-type: none"> • Drawing practice with various basic shapes and live objects. • Anatomy drawing , live study, digital drawing using pen tablet and drawing software • Drawing stick figures and study mannequin digitally, practice of strong line of action, gesture drawing, and human figure with basic shape. <p>Basics of Animation</p> <p>37. Drawing basic forms and shapes which are fundamentals for further drawing session.</p>

	<ul style="list-style-type: none"> • 12 Principles of Animation 33. Key poses 34. Extreme 35. Breakdown 36. In betweens • Walk cycle • Run cycle • Body mechanism • Acting 14. Final output and cleanup <p>2D Digital Animation</p> <ul style="list-style-type: none"> • Create animation by using shape and motion tween 	<p>38. Definition of Animation</p> <p>39. History of Animation.</p> <p>40. First Animation in the world</p> <p>41. First Animation movie</p> <p>42. Two basic method of classical Animation.</p> <p>43. Pose to Pose animation.</p> <p>44. Straight ahead animation.</p> <p>45. Basic understanding of key poses, extreme,</p> <p>46. Breakdown and in betweens.</p> <p>47. Keyposes of walk cycles.</p> <p>48. Keyposes of Run cycles.</p> <p>49. Basic rules of body mechanism and Acting</p> <p>Clean-up.</p> <p>50. Rough drawing and composite with Background</p> <p>51. Making final output.</p> <p>2D Digital Animation</p> <p>uuuuuuu. After placing the keys putting the motion tween between symbols and shape between drawing when required</p>
	3D ANIMATION	
13	<ul style="list-style-type: none"> • Concept Art • BG Design • Prop Design • Character Design 	<p>Print Design Basics</p> <p>Fundamental Principal of Design.</p> <p>Color Theory.</p> <p>Layout Composition.</p> <p>Creative use of Colors.</p>

		Drawing Anatomically correct human figures. Learning proper body proportion.
14-23	<p>Adobe Premier</p> <p>Understanding the working of video editing software. Capturing and importing of video, Graphics. Editing of video and inserting effects.</p> <p>Sound forge</p> <p>Understanding and working Sound editing Software. Recording of Audio, importing of Audio files. Editing of Audio and inserting effects.</p>	<p>Adobe Premier</p> <ul style="list-style-type: none"> • Different formats of Video files • Video Editing tools • Time line • Insertion of graphics, animation clippings, Photos and video clippings • Video Transition effects • Voice over <p>Sound forge</p> <p>Different Audio file formats – AVI, WAV, WMA, MP3, MP4 Audio editing tools Audio/ Sound effects</p>
24-25	Project Work	
26	Examination	

List of Tools & Equipment for module ANIMATION AND MULTIMEDIA ASSISTANT

Hardware

Sl No	Name of Tool/ Equipment	Quantity (nos)
1	Computer Latest Configuration	20
2	Laptop i3 or higher	01
3	Network Printer Laser A4	01
4	24 Port Switch	01
5	Broad band Internet Connectivity	As Required
6	500 VA or Higher UPS	20
7	Network Rack	01
8	CAT 5 Cable (Consumable Item)	As Required
9	RJ 45 Connector (Consumable Item)	As Required
10	LCD/LED Projector	01
11	AC 1.5 Ton	02
12	Pen Drive 8GB	04
13	Scanner Flatbed ADF A4	01
14	Digital Camera with video recording feature	01
15	Stereo Audio Speaker 2:1	01
16	Headset with microphone	01 Set

Software

Sl No	Name of Tool/ Equipment	Quantity (nos)
1	Node OS Windows 7 or Higher	21
2	MS Office 2010	21
3	Antivirus	21
4	Corel Draw 12 or higher	21
5	Adobe Photoshop CS3 or higher	21
8	Autodesk Maya 8.5 or latest	21
9	Sound Forge latest	21
10	Adobe Premiere latest	21
11	Toon Boom	21
12	Adobe Flash	21

Raw materials

1	White Board Marker	1 Dozens
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2	Duster Cloth(2' by 2')	20 Pcs
3	Cleaning Liquid 500 MI	2 Bottles
4	Xerox Paper (A4)	As required
5	Full Scape Paper (White)	1 reams
6	Cartridges for printer	As required
8	Optical Mouse P/S2 or USB	As required
9	P/S2 OR USB Key Board	As required
10	SMPS	As required
11	CMOS Battery	As required
12	3 Pin Power Chord	As required
13	Cat 5/5e cable	100 meter
14	Stapler Small	2 pcs
15	Stapler Big	1 pcs
16	AAA battery for remote	As required
17	AA battery for clock	As required
18	8 GB pen drives	2 Nos
19	CDs	10 Nos
20	DVDs	10 Nos.
21	Wall Clock	1 pcs

**GENERAL INFORMATION FOR MEDIA DEVELOPERS ASSISTANT UNDER
MES**

Name of Sector	ICT
Name of Module	<u>MEDIA DEVELOPERS ASSISTANT</u>
MES Code	ICT 709
Competency as per N C O Code	3121.9
Duration of Course	500 Hrs
Entry Qualification of Trainee	10 th Pass
Unit size (No. Of trainees)	20
Power Norms	3.45 KW
Space Norms (Workshop and Class Room)	70 sq.m
Instructors Qualification	<p align="center">B.E. / B.Tech. in Computer Engineering /IT, MCA, NIELIT B Level with one year Experience OR Diploma(three years) in Computer Engineering/IT, BCA,NIELIT A Level with two years of Experience OR NTC/ NAC in DTP / Multimedia, Animation & Special Effects Trade with three years of Experience</p>
Desirable	Craft Instructor Certificate(CIC)

Job Role:

The roles of a **Media Developers Assistant** are as follows:

- Investigate, analyse and recommend appropriate equipment and software to achieve clients' objectives
- Prepare flow charts and storyboards to outline product concepts
- Prepare code to produce the media product
- Prepare digital graphics, animations, sound, video, photographs and images for editing
- Prepare design concepts
- Editing digital graphics, animations, sound, video, photographs and images.
- Manage the development and implementation of media products.

Course Contents for Module MEDIA DEVELOPERS ASSISTANT

Name: <u>MEDIA DEVELOPERS ASSISTANT</u>		
Terminal Competency: After completion of the training, Participants would be able to assist in: <ol style="list-style-type: none"> 1. Write, Edit & Print documents using MS-WORD & EXCEL. 2. Computer based Training Material through different media – CD, DVD, Electronic Media, and Portal. 3. Creating animation and Developing websites. 		
Contents given below.		
Week No.	Practical Competencies	Underpinning Knowledge (Theory)
1	<u>Computer Fundamentals</u> <ul style="list-style-type: none"> • Identification of Different parts of a Computer System. • Turning a computer system on and off <u>Windows OS</u> <ul style="list-style-type: none"> • Identifying different Desktop Icons. My Computer, My Documents • Changing Desktop Backgrounds, Mouse Pointer, Screen Saver • Notepad , WordPad, MS Paint 	<u>Computer Fundamentals</u> <ul style="list-style-type: none"> • History and Generations of Computer • Advantage and disadvantage of Computer • Block Diagram of a Computer • Description of Different parts of a Computer. • System Software and Application Software
2	<u>Word Processing Software</u> <ul style="list-style-type: none"> • Document formatting options • Tables, Bullets and Numbering • Font, Alignment, paragraph formatting • Insert Picture, Clipart, Shapes, WordArt • Header & Footer, Text Box • Page Layout, Mail Merge • Spelling & Grammar 	<u>Word Processing Software</u> Introduction to Office Software. Word Processing Fundamentals. Introduction to the Word Processing Screen, Ribbons, Office Button and Quick Access Toolbar. Using Keyboard Commands and Contextual Menus. Using Word processing software Help.
3	<u>Spreadsheet Software</u> <ul style="list-style-type: none"> • Cell Formatting Options • Formulas and Functions • Charts • Sort, Filter, What if Analysis, 	Introduction to Spreadsheet Software. Introduction to Data Types and Cell referencing. Use of functions of various categories. Linking Sheets.

	<p>Grouping</p> <ul style="list-style-type: none"> • Subtotal 	
4	<p><u>Presentation Software</u></p> <ul style="list-style-type: none"> • Creating Slide Show by using Animation Technique. • Slide Master. • Clip Art. Picture Editing 	<p>Introduction to Presentation Software, Creating Slide Shows, Fine tuning presentation and good presentation techniques.</p>
5	<p><u>Media Design:</u> (A) Adobe Photoshop * Image Fundamentals: - Digital Image pixel. Resolution. DPL, Raster image /bitmaps. Vector Image/graphics. * Various File Format:- Bitmap, JPEG, PSD. PDD, TIFF, GIF, EPS. * Understanding Various Tools:- Marquee- Rectangular/Elliptical. Move Lasso, Polygonal Lasso Magnetic Lasso, Magic wand. Crop Air brush, Paint brush, Pencil, Rubber Stamp, Pattern stamp, Erase, Paint bucket, Direct selection, Path component selection , Pen custom shape, Eye dropper, Hand Zoom. * Understanding various Palettes:-Navigator, info, Color, Swatches Style History, Layers. * Paths, Character, Paragraph, Foreground Colors. Background Colors. Default colors. * Switch colors.. * Details about Status Bar. Option Bar. * Edit Image in Standard mode. Quick Mask Mode. * Various Image Display Options: - Standard Screen mode. Full Screen Mode with Menu Bar, Full Screen mode. * Various Edit Commands:- Transform Preferences, Define Brush etc. * Various Image Commands Inverse. Adjust, Extract, Liquefy etc. * Mode RGB /CYMK /LAB /Grayscale. Adjust Brightness/ Contrast. Hue/ Saturations, desecrate, Replace Colors, invert, Variations, Canvas size, Rotate canvas, crop, Trim- Various Layer Commands. Rearranging Layers, Lock Layers, Merge down, Merge. * Visible, Flatten Image. Working With layers set.</p>	<ul style="list-style-type: none"> • Computer Graphics :Concept • Interactive Media Design Standards : Concept • Understanding how images are formed, image file formats and their properties <p><u>Graphic reproduction</u></p> <ul style="list-style-type: none"> • Tonal value. Tonal gradation. • Continuous tone. Half tone, • Moiré pattern, • Highlight, Middle Tone, • Shadow areas contrast & details <p><u>Scanning</u></p> <ul style="list-style-type: none"> • Principle of scanning • Types of scanners (Flatbed & Drum) and its use • Resolutions, DPI. LPI. • Graphic drawings inputs of pictures, sketches Photo editing • Software. • Preparation of OCR.

	<p>* Various Select commands * Various Filter Effects, Render 3D Transform, Lens Flare. Lightning Effects. Motion Blur. Radial Blur... * Various View Commands. * Print Option. Industrial visit of graphics design studios / Add agency / News Paper / Prepress Bureau and Printing Press</p>	
6	<p>(B) Corel Draw: - * Introduction: - Creating. Opening Drawing. Setting up the drawing Page. Using the rulers. Grid. And Guidelines. Viewing document. * Drawing and Shaping Objects:- Drawing. Moving & Shaping Object, drawing lines and curves, Dimensions line. * Working with Style & Templates. Organizing Objects:- Arranging & Changing the order of objects. * Grouping, Ungrouping locking and Unlocking objects. * Using and setting layers * Aligning & editing objects data. Working with pattern and texture Fills. Applying and editing line ending shapes, splitting and erasing portions of objects positioning moving stretching and rotating Objects. * Working with multiple on screen color palettes * Adding graphics symbols and Specials characters. Editing. * Formatting text and paragraph. Hyphenating text. Linking paragraph text frames, using spell checker and Grammar, using thesaurus. * Creating and editing blends. Envelopes * Creating and modifying vector and and Bitmap. * Extrusions. Creating drop Shadows. Creating and editing Transparencies, contoured. * Objects, Working with linked bitmap, cropping, coloring and Converting bitmaps. * Applying special effects to bitmaps by 3D * effects, blur effects, contour effects * Creating documents for various Formats, using layout. Previewing Sizing and positioning a print job. * Creating color separations, working with halftone and bitmap screens * Importing and exporting files. OLE (Object linking and embedding). * Printing of Document/Design.</p>	<ul style="list-style-type: none"> • Creating Illustrations for Interactive media with good understanding of colors and formats using Corel Draw • Principle of page design • Elements of design • Color-Define color, type of colors, impact of colors, color wheel, achieving of different colors through appropriate color • Percentage. Selection of types (Fonts) for text/Display work. • Preparation of Graphics • Creation of rough sketches. • Color Selections • Font & Image selection. • *Graphic design using Corel draw.

7	<ul style="list-style-type: none"> • Use of Multilingual Software. <p>Setting of Bilingual (Hindi / Any Regional language) matter * Solid and Tabular setting with any multi script language software i.e. i leap Office / ISM publisher</p> <ul style="list-style-type: none"> • HTML: Concepts <p>Common HTML Tags, Creating simple, web pages. Inserting pictures. Creating hyperlinks, Frames etc. Creating Forms, tables, Ordered and Unordered lists , Creating various user defined styles for Web pages. Working with a WYSIWYG web design tool to design and edit web pages.</p> <ul style="list-style-type: none"> • Javascript :Concepts <p>Designing Web Pages using Java Script JS output, If – else, switch, loops, break and Math object .</p>	<ul style="list-style-type: none"> • Basic programming in HTML and creating simple web designs • Concept of programming • Concept of OOPs • Creating simple scripts for Web and interactive media • Good understanding of e-learning standards.
8-10	<p><u>Adobe Flash</u></p> <ul style="list-style-type: none"> • Adobe Flash :Concept and application • Working with Flash Action Script • Adobe Authorware: Concept & application related media • Understanding the SCROM compliance issues for E-learning • Create interactive animations and applications using Flash • Create Interactive Applications and E-learning modules • Twitter Bootstrap and Zurb foundation :Concept & application 	<p><u>Related media</u></p> <ul style="list-style-type: none"> • Media Design issues, Media selection issues, Selection of Media. • E-learning Standards: Concepts • SCROM concepts : Concepts
11	<ul style="list-style-type: none"> • Rendering and Deployment of Media. • Media Licensing. 	<ul style="list-style-type: none"> • CD and Web Media Standards. • Print Media Standards. • Copyright laws and Acts. • Media License issues.
12	Project Work	

List of Tools & Equipment for module MEDIA DEVELOPERS ASSISTANT

Hardware

SI No	Name of Tool/ Equipment	Quantity (nos)
1	Computer Latest Configuration	20
2	Laptop i3 or higher	01
3	Network Printer Laser A4	01
4	24 Port Switch	01
5	Broad band Internet Connectivity	As Required
6	500 VA or Higher UPS	21
7	Network Rack	01
8	CAT 5 Cable (Consumable Item)	As Required
9	RJ 45 Connector (Consumable Item)	As Required
10	LCD/LED Projector	01
11	AC 1.5 Ton	02
12	Pen Drive 8GB	04
13	Scanner Flatbed ADF A4	01
14	Digital Camera with video recording feature	01
15	Stereo Speaker 2:1	01
16	Headset with microphone	01

Software

SI No	Name of Tool/ Equipment	Quantity (nos)
1	Node OS Windows 7 or Higher	21
2	MS Office 2010	21
3	Antivirus	21
4	Corel Draw 12 or latest	21
5	Adobe Photoshop CS3 or latest	21
6	Adobe Flash or latest	21
7	Adobe Authorware latest version	21

Raw materials

<u>Raw materials</u>		
1	White Board Marker	1 Dozens
2	Duster Cloth(2' by 2')	20 Pcs
3	Cleaning Liquid 500 MI	2 Bottles

4	Xerox Paper (A4)	As required
5	Full Scape Paper (White)	2 reams
6	Cartridges for printer	As required
8	Optical Mouse P/S2 or USB	As required
9	P/S2 OR USB Key Board	As required
11	CMOS Battery	As required
12	3 Pin Power Chord	As required
14	Stapler Small	2 pcs
15	Stapler Big	1 pcs
16	AAA battery for remote	As required
17	AA battery for clock	As required
18	16 GB pen drives	4 Nos
19	CDs	20 Nos
20	DVDs	10 Nos.
21	Wall Clock	1 pcs