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TECHNICAL EDUCATION & VOCATIONAL TRAINING AUTHORITY

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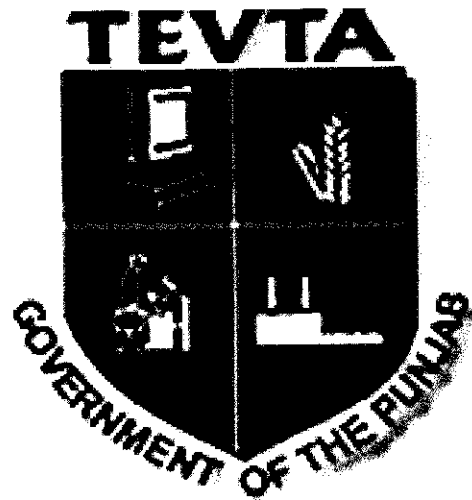
CURRICULUM FOR

DIPLOMA IN INFORMATION TECHNOLOGY

(1-Year Course)
Revised June, 2015

CURRICULUM SECTION
ACADEMICS DEPARTMENT
96-H, GULBERG-II, LAHORE
Ph # 042-09263055-9, 99263064
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TRAINING OBJECTIVES

The course aims on producing the trained man-power in the field of Information Technology to fulfill employment requirement of I.T. industry not only in the country but also abroad. The curriculum is divided into two academic semesters. The curriculum of Semester-I is designed to train the students to work as database developer and manage the offices. The curriculum of semester-II is designed to train the students in the field of E-commerce and interactive web development.

CURRICULUM SALIENT:

Name of Course:	Diploma in Information Technology
Entry Level:	Matric or equivalent
Duration:	One Year
	The course consist of two semesters with 20 weeks of teaching delivery duration each
Total Training Hours:	1600 Hours (800 hours per Semester)
Training Hours per week:	40 Hours/week
	7 Hours per day (Friday 05 Hours)
Training Methodology:	Practical 80%
	Theory 20%
Medium of Training	Urdu / English
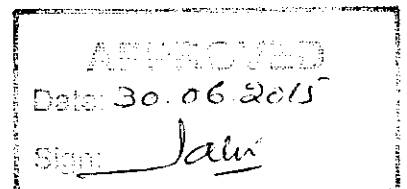
SKILL COMPETENCY DETAILS:

On successful completion of this course, the trainee should be able to:

1. Demonstrate different operating systems like DOS, Windows Desktop & Windows Server.
2. Manipulate different business applications (MS-Word 2010, MS-Excel 2010 & MS-Power Point 2010).
3. Apply business communication & report writing skills.
4. Develop and manage database management system.
5. Prepare and analyze E-Commerce Projects.
6. Design, develop and manage interactive websites.
7. Predict financial accounting related issues in E-Commerce/Desktop applications and integrate them in different projects.
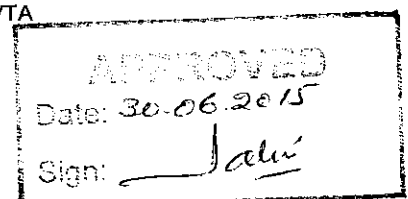
KNOWLEDGE PROFICIENCY DETAILS:

On successful completion of this course, the trainee should be able to understand:

1.   Define EDP concept
2.   Recognize and describe different operating systems (DOS, Windows Desktop & Windows Server).
3.   Describe Internet, Word processing, Spread Sheet and Multimedia presentation.
4.   Identify business communication issues inside/outside the organization.
5.   State database Concepts and requirements with MS-Access.
6.   Describe programming logic using flowchart and developing front-end using VB.Net
7.   Identify payment processing solutions / merchant Accounts in E-Commerce.
8.   Define system analysis and design.
9.   Know web designing and development.
10. Recognize web programming with HTML and Java Script.
11. Recall Interactive Web Programming.
12. Know to host and upgrade the Websites.
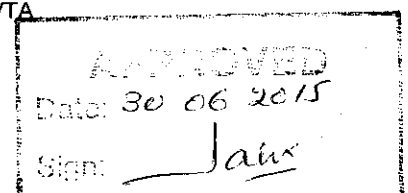
CURRICULUM DELIVERY STRUCTURE

1st SEMESTER

WEEK	Curriculum Delivery	Make up Session	Revision	Co-Curricular Activities	Final Test	Total
	1-20	21-22	23-24	25	26	26
	20	2	2	1	1	

2nd SEMESTER

WEEK	Curriculum Delivery	Make up Session	Revision	Co-Curricular Activities	Final Test	Total
	1-20	21-22	23-24	25	26	26
	20	2	2	1	1	

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SCHEME OF STUDIES

Diploma in Information Technology
(01 Year)

SEMESTER – 01

Sr. No	Main Topics	Theory Hrs.	Practical Hrs.	Total Hrs.
1	Introduction to Computer & Operating System (DOS, Windows Desktop & Server)	20	120	140
2	Business Application: MS-Word 2010	16	84	100
3	Business Application: MS-Excel 2010	14	86	100
4	Business Application: MS-Power Point 2010	10	60	70
5	Business Application: Internet	-	10	10
6	Database Management using MS-Access 2010	20	80	100
7	Programming Fundamentals, Flow Charts and Programming with VB. Net.	40	180	220
5	Functional English-I	20	20	40
6	Work Ethics-I	20	-	20
		160	540	800

SEMESTER – 02

Sr. #	Main Topics	Theory Hours	Practical Hours	Total Hours
1	Graphics Design & Animation	20	180	200
2	System Analysis & Design	20	20	40
3	Introduction to Computer Networking	20	120	140
4	Web Development.	40	240	280
5	Project	-	60	60
6	Functional English-II	20	20	40
7	Work Ethics-II	20	-	20
		160	640	800

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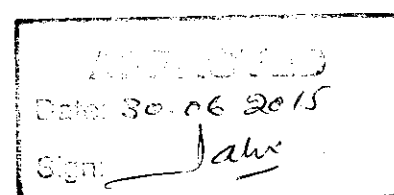
DETAIL OF COURSE CONTENTS
Diploma in Information Technology
(01 –Year Course)

Semester-I

| Sr. No.			Detail of Topic	Theory Hours	Practical Hours	Total Hrs.
1.			**Introduction to Computer & Operating Systems (DOS, Windows Desktop & Windows Server)**	20	120	140
	1.1		**INTRODUCTION TO DATA PROCESSING & COMPUTER**	1		
		1.1.1.	History of Computer			
		1.1.2.	Definition of Computer			
		1.1.3.	Importance and Capabilities of Computers			
		1.1.4.	Data and its Types			
		1.1.5.	Difference Between Data and Information			
		1.1.6.	Data Processing Cycle			
	1.2		**TYPES OF COMPUTERS**	1		
		1.2.1.	Digital Computer			
		1.2.2.	Analog Computer			
		1.2.3.	Hybrid Computer			
	1.3		**INTRODUCTION TO EDP SYSTEM**	1		
		1.3.1.	Elements of an EDP System			
		1.3.2.	Hardware			
		1.3.3.	Software			
		1.3.4.	User Program			
		1.3.5.	Procedures			
		1.3.6.	Personnel			
	1.4		**HARDWARE CONFIGURATOIN**	1		
		1.4.1.	Input/Output Devices			
		1.4.2.	Fixed Drives (HDD: IDE, SATA & SCSI)			
		1.4.3.	Removable Drives (CD, DVD, Spare Drives)			
	1.5		**CENTRAL PROCESSING UNIT (CPU)**	1		
		1.5.1.	Arithmetic & Logic Unit (ALU)			
		1.5.2.	Control Unit (CU)			
	1.6		**TYPES OF COMPUTERS STORAGE**	1		
		1.6.1.	Bit, Nibble and Byte			
		1.6.2.	Memory Unit, Cache Memory, Virtual Memory			
		1.6.3.	Storage (Primary and Secondary)			
	1.7		**INTRODUCTION TO COMPUTER SOFTWARE**	1		
		1.7.1.	Hierarchy of Language			
		1.7.2.	Low Level Language			
		1.7.3.	High Level Language			
		1.7.4.	Language Translators			

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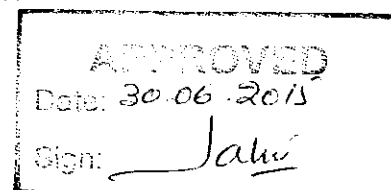
	1.7.5.	Definition of Operating System			
1.8		**DATA PROCESSING**	1		
	1.8.1.	Definition of Data Processing			
	1.8.2.	Data Processing Cycle			
	1.8.3.	Concept of Multi Processing			
	1.8.4.	Concept of Multi-Tasking			
	1.8.5.	Concept of Time Sharing			
1.9		**OPERATING SYSTEM**	1	6	
	1.9.1	Definition of Operating System			
	1.9.2	Types of Operating Systems			
1.10.		**DEVICE DRIVERS (Input/Output Devices)**	1	2	
	1.10.1	Definition of Drivers			
	1.10.2	How to install Drivers			
1.11.		**PRACTICE FOR INSTALLING DRIVERS**		4	
1.12.		**DISK OPERATING SYSTEM (DOS)**	1	2	
	1.12.1	Definition of Operating System			
	1.12.2	Characteristics of MS-DOS			
	1.12.3	Creating a file in DOS			
	1.12.4	Concept of Internal & External DOS Commands			
	1.12.5	Concept of Interface			
	1.12.6	Command Line Vs. GUI			
1.13.		**PRACTIVE FOR CREATING AND SAVING DOS FILES**		2	
1.14.		**PURPOSE, SYSNTAX AND USE OF MS-DOS COMMANDS**		4	
	1.14.1	CLS, TYPE, MD, COPY, DATE, DIR, CD, XCOPY, TIME, EXIT			
	1.14.2	RD, MOVE, COPY CON, REN, DEL/ERASE, DELTREE			
1.15.		**PRACTIVE FOR USING DOS COMMANDS**		2	
1.16.		**WINDOWS**	1		
	1.16.1	What is graphical User Interface (GUI)			
	1.16.2	Features of Windows Operating System			
	1.16.3	History of Windows Operating System			
1.17.		**WINDOWS DESKTOP (Icons)**	1	6	
	1.17.1	Computer			
	1.17.2	Explorer			
	1.17.3	Recycle Bin			
	1.17.4	My Documents			
	1.17.5	Network Places			
	1.17.6	Taskbar			
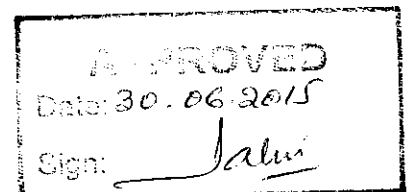
	1.17.7	Start Button		
	1.17.8	Notification Area		
	1.17.9	Start Menu		
	1.17.10	Programs / Accessories / Applications		
	1.17.11	DOS Prompt		
	1.17.12	Documents		
	1.17.13	Setting		
	1.17.14	Search / Find Files & Folders		
	1.17.15	Using Help		
	1.17.16	Run and Shut Down Options		
	1.17.17	Comparison of DOS and Windows Operating Systems		
1.18.		**PRACTICE FOLLOWING COMMANDS**	1	6
	1.18.1	Working with Windows		
	1.18.2	Opening an Icon		
	1.18.3	Maximizing and Restoring a Window		
	1.18.4	Opening a Task bar Button		
	1.18.5	Resizing and Moving Windows		
	1.18.6	Scrolling and Closing a Windows		
1.19.		**PRACTICE FOR USING SAID OPTIONS**		2
1.20.		**USING MY COMPUTER**		2
	1.20.1	Browsing through different drives		
1.21.		**PRACTICE FOR USING SAID OPTIONS**		2
1.22.		**PRACTICE FOLLOWING COMMANDS**		2
	1.22.1	Selecting single or more Files & Folders		
	1.22.2	Delete, Rename, Cut/Move, Paste, Copy, Drag & Drop Options		
	1.22.3	Short keys / Menu and Tool Bars		
	1.22.4	Creating Shortcuts		
1.23.		**WINDOWS EXPLORER**	1	6
	1.23.1	Using Explorer		
	1.23.2	Using Windows Explorer and Files/Folder Tree		
	1.22.3	Checking Files & Folders Properties		
1.24.		**PRACTICE FOR USING ABOVE SAID OPTIONS**		2
1.25.		**USING CONTROL PANEL**		2
	1.25.1	Opening Control Panel		
	1.25.2	Changing System Date, Time, Regional Settings		
	1.25.3	Customizing Mouse and Keyboard		
1.26.		**PRACTICE FOR USING ABOVE SAID OPTIONS**		2
1.27.		**ADVANCED DISPLY SETTINGS**	1	6
	1.27.1	Desktop Background		

	1.27.2	Screen Saver		
	1.27.3	Resolution and System Colours		
	1.27.4	System and Event Sound Settings		
	1.27.5	Add New Hardware/Software		
1.28.		**PRACTICE FOR USING ABOVE SAID OPTIONS**		2
1.29.		**ACCESSORIES**	1	8
	1.29.1	System tools		
	1.29.2	Scandisk Tool		
	1.29.3	Maintenance Wizard		
	1.29.4	Disk Clean up		
	1.29.5	Task Scheduler		
	1.29.6	Disk Defragmentation		
	1.29.7	System Information		
	1.29.8	System Restore		
1.30.		**PRACTICE FOR USING ABOVE SAID OPTIONS**		2
1.31.		**CALCULATOR**		1
	1.31.1	Opening and Operating		
	1.31.2	Copying Calculator to Application		
	1.31.3	Adding Office to Shortcuts to Desktop		
	1.31.4	LAB: Practice for using above said options		
1.32.		**MS-PAINT**		6
	1.32.1	Drawing Rectangles, Ellipse, Circles, Squares, Paint Tools etc.		
	1.32.2	LAB: Practice for using above said options		
1.33.		**WORD PAD**		4
	1.33.1	Word Process of the Documents		
	1.33.2	Copy, Cut, Paste Operations		
	1.33.3	LAB: Practice for using above said options		
1.34.		**PROGRAM / APPLICATIONS**		6
	1.34.1	How to run application through all programs menu		
	1.34.2	Move text from on application to another		
	1.34.3	Simultaneously opening two windows on desktop		
	1.34.4	LAB: Practice for using above said options		
1.35.		**WINDOWS SERVER 2012**	1	6
	1.35.1	Windows Server		
	1.35.2	Introduction to cloud computing		
	1.35.3	Basic services of Windows Server		
	1.35.4	Installing Server Operating System and Data Center (Introduction)		

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1.36.		**INSTALLING SERVER OPERATING SYSTEM & DATA CENTER**	2	25	
	1.36.1	System Requirements			
	1.36.2	Installation / Update prerequisites			
	1.36.3	Installation steps			
	1.36.4	Rename Server			
	1.36.5	Domain Joining			
	1.36.6	Windows Update Settings			
	1.36.7	Enable Disable Firewall			
	1.36.8	Enable Remote Desktop Management			
	1.36.9	Enable/Disable Internet Explorer Enhances Security Configuration			
	1.36.10	Setup and Configure DNS for Windows Server 2012			
	1.36.11	LAB: Practice for using above said options			
2.		**BUSINESS APPLICATIONS (Microsoft Word 2010)**	**16**	**84**	**100**
2.1.		**GETTING STARTED WITH WORD**	2	12	
	2.1.1	Identify the Elements of the Word			
	2.1.2	Definition of Computer			
	2.1.3	Identify the Elements of the Word 2010 Interface			
	2.1.4	Identify New Documents Navigation Pane and Search			
	2.1.5	Using Microsoft Word Help			
	2.1.6	Customizing Word 2010 ribbon			
	2.1.7	Customize quick Access Toolbar			
2.2.		**WORKING WITH DOCUMENTS**	2	12	
	2.2.1	Identify the Elements of the Word			
	2.2.2	Creating a New Document			
	2.2.3	Create a Documents from a Template			
	2.2.4	Save and Reuse Template			
	2.2.5	Opening& Saving Recent Documents			
	2.2.6	Save Documents in PDF and XPS Format			
	2.2.7	Delete a Documents			
	2.2.8	Typing & Selecting Text			
	2.2.9	Selecting Default Font			
	2.2.10	Documents Protection			
	2.2.11	spelling check and Correction			
	2.2.12	Toolbars			
	2.2.13	Change Documents Compatibility Mode			
	2.2.14	Document Sharing			
	2.2.15	Maintaining Documents Versions			
2.3.		**EDITING DOCUMENTS**	1	4	
	2.3.1	Undo, Redo			
	2.3.2	Copy, Cut/Move, Paste			
2.4.		**FINDING y REPLACING TEXT**	1	4	
	2.4.1	Find & Replace			
	2.4.2	Go to			

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2.5.		**INSERTING**	1	12
	2.5.1	Cover Page, Blank Page & Page Break		
	2.5.2	Header & Footer		
	2.5.3	Symbols		
	2.5.4	Date & time		
	2.5.5	Page Number		
	2.5.6	Drop Cap		
	2.5.7	Hyper Link, Bookmark & Cross Reference		
	2.5.8	Picture, Clip Art & Shape		
	2.5.9	Watermark, Smart Art & Word Art		
	2.5.10	Charts, Equation & Symbol		
	2.5.11	Page Border		
	2.5.12	Page Orientation		
2.6.		**FORMATTING**	2	10
	2.6.1	Fonts, Character & Paragraph		
	2.6.2	Border & Shading		
	2.6.3	Auto text		
	2.6.4	Bullets & Numbering		
	2.6.5	Tabs and Margins		
	2.6.6	Line Spacing		
	2.6.7	View Documents and Layout		
	2.6.8	Page Width		
2.7.		**TABLES**	2	10
	2.7.1	Insertion & Selection		
	2.7.2	Cells, Rows, Columns		
	2.7.3	Deleting Table, Rows & Columns		
	2.7.4	Merging & Splitting Cells		
2.8.		**REPORTS WRITING AND RESEARCH RELATED COMMANDS**	2	10
	2.8.1	Bibliography		
	2.8.2	Headings		
	2.8.3	Table of Contents		
	2.8.4	Endnote & Footnote		
	2.8.5	Caption		
	2.8.6	Table of Figures		
	2.8.7	References		
	2.8.8	Mailing		
	2.8.9	Review Documents, Spelling & Grammar Check		
	2.8.10	Translate and Language Selection		
	2.8.11	Commenting in Documents		
2.9.		**PRINTING**	3	10
	2.9.1	Printer Selection		
	2.9.2	Print preview		
	2.9.3	Print Documents or Selected Pages		
	2.9.4	Printer Preferences and Setting		

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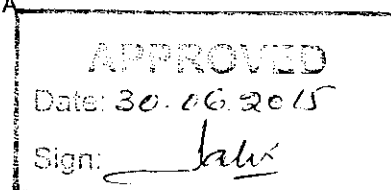
	2.9.5	Print both sides of Paper (Duplex Printing) in Words			
3.		**BUSINESS APPLICATIONS (Microsoft EXCEL 2010)**	14	86	100
	3.1.	**GETTING STARTED WITH EXCEL 2010**	2	5	
	3.1.1	An overview of Excel			
	3.1.2	Using Microsoft excel Help			
	3.1.3	Navigate and Select cells in excel			
	3.1.4	Select Data			
	3.1.5	Enter Data			
	3.1.6	Save a Workbook			
	3.2.	**MODIFYING A WORKSHEET**	2	5	
	3.2.1	Move and Copy Data Between cells			
	3.2.2	Fill Cells with Series of Data			
	3.2.3	Edit Cell Data			
	3.2.4	Insert and Delete Cells, Columns, and Rows			
	3.2.5	Find, Replace, and Go To Cell data, Spell Check a Worksheet			
	3.3.	**PERFORMING CALCULATIONS**	1	10	
	3.3.1	Change Font size and Type			
	3.3.2	Add Borders and Color to cells			
	3.3.3	Change Column Width and Row height			
	3.3.4	Merge Cells			
	3.3.5	Apply Number Formats			
	3.3.6	Create a Custom Number Format			
	3.3.7	Align Cell Contents			
	3.3.8	Find and Replace Formats			
	3.3.9	Apply and AutoFormat			
	3.3.10	Apply Styles			
	3.4.	**DEVELOPING A BASIC WORKBOOK**	1	5	
	3.4.1	Format Worksheet Tabs			
	3.4.2	Reposition Worksheets in a Workbook			
	3.4.3	Insert and Delete Worksheets			
	3.4.4	Copy and Paste Worksheets			
	3.4.5	Copy a Workbook			
	3.5.	**PRINTING WORKBOOK CONTENTS**	1	8	
	3.5.1	Set a Print Title			
	3.5.2	Create a Header an a Footer			
	3.5.3	Set Page Margins			
	3.5.4	Change Page Orientation			
	3.5.5	Insert and Remove Page Break			
	3.5.6	Print a Range			
	3.6.	**CUSTOMIZING LAYOUT**	1	8	
	3.6.1	Split a Worksheet			
	3.6.2	Arrange Worksheets			
	3.6.3	Freeze and Unfreeze Rows and Columns			
	3.6.4	Hide and Unhide Worksheet			

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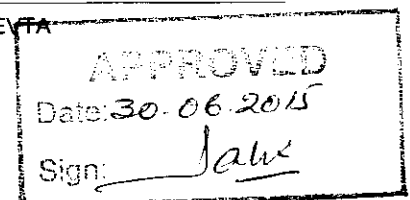
3.7.		**CALCULATING DATA WITH ADVANCED FORMULAE**	1	8	
	3.7.1	Apply Cell and Range Names			
	3.7.2	Calculate Data across Worksheets			
	3.7.3	Use Special zed Functions			
	3.7.4	Analyze Data with Logical and Lookup Functions			
3.8.		**ORGANIZING WORKSHEETS AND TABLE DATA**	1	8	
	3.8.1	Create and Modify Tables			
	3.8.2	Format Tables			
	3.8.3	Sort or Filter Worksheets or Table Data			
	3.8.4	Use Function and calculate Data in a Table or Worksheet			
3.9.		**PRESENTING DATA USING CHARTS**	1	8	
	3.9.1	Create Charts			
	3.9.2	Modify Charts			
	3.9.3	Format Charts			
3.10.		**USING PIVOT TABLES, SLICERS & PIVOT CHARTS**	1	7	
	3.10.1	Create a PivotTable Report			
	3.10.2	Filter Data Using Slicers			
	3.10.3	Analyze Data Using Pivot charts			
3.11.		**INSERTING GRAPHIC OBJECTS**	1	7	
	3.11.1	Insert and Modify Pictures and ClipArt			
	3.11.2	Draw and Modify Shapes			
	3.11.3	Illustrate Workflow Using Smart Art Graphics			
	3.11.4	Layer and Group Graphic Objects			
3.12.		**CUSTOMIZING WORKBOOK & EXCEL ENVIRONMENT**	1	7	
	3.12.1	Customize the Excel Environment			
	3.12.2	Customize Workbooks			
	3.12.3	Manage Themes			
	3.12.4	Create and Use Template			
4.		**BUSINESS APPLICATIONS (Microsoft Power Point 2010)**	10	60	70
4.1.		**GETTING STARTED WITH POWER POINT 2010**	1	2	
	4.1.1	Identify the Elements of the Power Point			
	4.1.2	2010 Interface			
	4.1.3	View a Presentation			
	4.1.4	Save a Presentation			
	4.1.5	User Microsoft Power Point Help			
4.2.		**CREATING BASIC PRESENTATION**	1	4	
	4.2.1	Select a Presentation type			
	4.2.2	Enter Text			

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	4.2.3	Edit Text		
	4.2.4	Format Text Placeholders		
	4.2.5	Add slide to a Presentation		
	4.2.6	Arrange Slides		
	4.2.7	Work with Themes		
4.3.		**FORMATTING TEXT ON SLIDES**	1	2
	4.3.1	Apply character Styles		
	4.3.2	Format the text		
4.4.		**ADDING GRAPHICAL OBJECT TO A PRESENTATION**	2	4
	4.4.1	Insert Images to Presentation		
	4.4.2	Add Shapes		
	4.4.3	Adding Visual Style to Text in a Presentation		
4.5.		**MODIFYING GRAPHICAL OBJECTS IN PRESENTATION**	2	4
	4.5.1	Edit Graphical Objects on a Slide		
	4.5.2	Format Graphical Objects on a Slide		
	4.5.3	Group Graphical Objects on a Slide		
	4.5.4	Arrange Graphical Objects on a Slide		
	4.5.5	Apply an animation Effects to a Graphical Objects		
4.6.		**WORKING WITH TABLES**	1	4
	4.6.1	Insert a Table		
	4.6.2	Format Tables		
	4.6.3	Import tables from other Microsoft Office Applications		
4.7.		**WORKING WITH CHARTS**		5
	4.7.1	Insert Charts		
	4.7.2	Modify Charts		
	4.7.3	Import Charts from other Microsoft Office Applications		
4.8.		**PREPARING TO DELIVER A PRESENTATION**	1	6
	4.8.1	Review the Content of a Presentation		
	4.8.2	Divide a Presentation into sections		
	4.8.3	Add Transitions		
	4.8.4	Add Speaker Notes		
	4.8.5	Print Presentation		
	4.8.6	Deliver a Presentation		
4.9.		**CUSTOMIZING POWER POINT ENVIRONMENT**		6
	4.9.1	Customizing he Power Point Interface		
	4.9.2	Set Option for Working with Power Point		
4.10.		**CUSTOMIZING A DESIGN TEMPLATE**		6
	4.10.1	Set up slides master		
	4.10.2	Create custom Slide Layouts		

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		4.10.3	Add Header and Footers		
		4.10.4	Modify the Notes Master		
		4.10.5	Modify Handout Master		
	4.11.		**ADDING SMART ART GRAPHICS TO A PRESENTATION**	1	6
		4.11.1	Insert Multimedia Elements		
		4.11.2	Customize Slide Component Animation		
		4.11.3	Adding Hyperlink to Navigate Slides		
	4.12.		**CUSTOMIZING A SLIDE SHOW**		6
		4.12.1	Set up custom Slide Show		
		4.12.2	Anon Presentation		
		4.12.3	Create Presenter Independent Slide Show		
		4.12.4	Set up Slide Show to Repeat Automatically		
	4.12.		**COLLABORATING ON PRESENTATION**		5
		4.12.1	Review Presentation		
		4.12.2	Publish Access to a Public Slide Library		
		4.12.3	Restore Access to a shared Presentation		
		4.12.4	Share Presentation using PowerPoint Web app		
		4.12.5	Converting Presentation into a Video		
		4.12.6	Publishing Presentation on Other File Format app		
		4.12.7	Coveting Presentation into a video		
		4.12.8	Publishing Presentation on Other File Format		
5			**BUSINESS APPLICATIONS (Internet)**	**10**	**10**
	5.1.		**INTERNET**		5
		5.1.1	Introduction to Internet		
		5.1.2	Difference between Internet, Intranet and Extranet		
		5.1.3	Steps to create internet connection		
		5.1.4	Installing and configuring internet protocol TCP/IP.		
		5.1.5	Introduction to Internet browsers		
		5.1.6	Concepts And Capabilities Relating to the Internet and Basic		
		5.1.7	Procedures for Setting up A System for Internet Access		
		5.1.8	Creating online e-mail account using web services		
		5.1.9	Sending and receiving E-mails		
		5.1.10	File attachment.		
		5.1.11	Uploading and downloading file(s) and software(s)		
	5.2.		**BUSINESS APPLICATIONS (E-Commerce) E-COMMERCE**		5
		5.2.1	The Internet and Business		
		5.2.2	E-Commerce and its types		
		5.2.3	Domain Registration & Hosting		
		5.2.4	E-Commerce standards and terminologies		
		5.2.5	On line Payment Processing Solution/Merchant Account		
		5.2.6	Security issues in E-Commerce		

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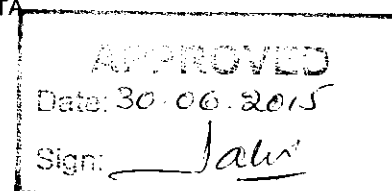
					20	80	100
		5.2.7	Introduction to Hacking & Cracking				
6.			**DATABASE MANAGEMENT SYSTEM USING MS-ACCESS 2010**		**20**	**80**	**100**
	6.1.		**Overview of a Database System**		2		
		6.1.1	Introduction to Database				
		6.1.2	Definition of a Database System				
		6.1.3	Properties and benefits of database system				
		6.1.4	Components of Database System				
	6.2.		**Introduction to RDBMS**		2		
		6.2.1	What is RDBMS?				
		6.2.2	Tables/Relations				
		6.2.3	Attributes/Fields				
		6.2.4	Tuples/Rows				
		6.2.5	Entities/Tables				
		6.2.6	Key attributes and non-key attribute				
		6.2.7	Degree and Cardinality				
	6.3.		**Relationship and its Types**		1		
		6.3.1	One to one				
		6.3.2	One to many				
		6.3.3	Many to many				
		6.3.4	Referential integrity				
	6.4.		**Relational Data Integrity**		1		
		6.4.1	Primary key				
		6.4.2	Foreign key				
		6.4.3	Candidate key				
		6.4.4	Alternate key				
	6.5.		**Principles of Database Design**		1		
		6.5.1	E.F. Codes				
		6.5.2	Database Normalization and its forms				
		6.5.3	E-R Model/E-R Diagram				
	6.6.		**MS Access Environment** Tables/Relations		2	8	
		6.6.1	Define the table and explain with examples				
		6.6.2	Methods of creating new table (s)				
		6.6.3	**General Field properties:**		2	6	
		6.6.4	Field size				
		6.6.5	Format				
		6.6.6	Input mask				
		6.6.7	Validation rule				
		6.6.8	Validation text				
		6.6.9	Caption				
		6.6.10	Default value				
		6.6.11	Required				
		6.6.12	Indexed				
					2	6	

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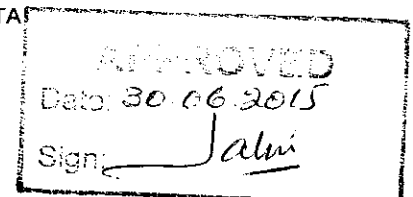
6.7.		**Lookup filed properties**		
	6.7.1	Row source type		
	6.7.2	Row source type		
	6.7.3	List row		
	6.7.4	Limit to list		
	6.7.5	Saving Table		
	6.7.6	Table Views		
	6.7.7	Deleting Tables		
6.8.		**Relationship**		2
	6.8.1	Creating, Deleting and Modifying Relationship		
6.9.		**Queries and its Types**	1	8
	6.9.1	Select query		
	6.9.2	Action query		
	6.9.3	Update		
	6.9.4	Delete		
	6.9.5	Insert		
	6.9.6	Make table		
	6.9.7	Creating, Deleting and Modifying Queries		
	6.9.8	Query Views		
6.10.		**Introduction to SQL**	1	8
6.11.		**Forms and its Types**	1	8
	6.11.1	Definition and used of forms		
	6.11.2	Discuss the types of forms with examples		
	6.11.3	Creating Forms using Wizard and design view		
	6.11.4	Adding and Deleting controls		
	6.11.5	Changing properties		
	6.11.6	Modifying forms		
	6.11.7	Deleting forms		
6.12.		**Reports**	1	8
	6.12.1	Definition and uses of reports		
	6.12.2	Creating Reports using wizard and design view		
	6.12.3	Modifying reports		
	6.12.4	Changing properties		
6.13.		**Pages**	1	8
	6.13.1	Definition and uses of data access pages		
	6.13.2	Creating Data Access Pages using wizard		
	6.13.3	Design view		
	6.13.4	Editing Webpage		
6.14.		**Macros**	1	12
	6.14.1	Definition and uses of Macros		
	6.14.2	Creating and Running Macros		
6.15.		**Advance Concept**	1	6
	6.15.1	Importing and exporting data		

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	6.15.2	Database Tools			
7.		**PROGRAMMING FUNDAMENTALS, FLOW CHARTS AND PROGRAMMING WITH VB.NET**	**40**	**180**	**220**
7.1.		**Computer Programming Logic**	1		
	7.1.1	Definition			
	7.1.2	Characteristics			
7.2.		**Pseudo Code**	1		
	7.2.1	Definition			
	7.2.2	Example			
7.3.		**Flow Charts**	2	14	
	7.3.1	System flow chart			
	7.3.2	Symbols			
	7.3.3	Examples			
	7.3.4	Program flow chart			
	7.3.5	Symbols			
	7.3.6	Advantages			
	7.3.7	Disadvantages			
7.4.		**Introduction to VB.NET**	4	14	
	7.4.1	Basic NET concepts			
	7.4.2	Using the development environment			
	7.4.3	Object Oriented Techniques			
	7.4.4	New Active-X control			
7.5.		**Introduction to VB.NET programming**	4	14	
	7.5.1	Creating Visual Basic NET Project			
	7.5.2	Using Windows Forms			
	7.5.3	Working with controls			
	7.5.4	Events Driven Programming in VB.NET			
	7.5.5	Create variables and constants			
	7.5.6	Using structure and arrays			
7.6.		**Decision Structures and Loops**	4	14	
	7.6.1	Using decision structures			
	7.6.2	Using conditional Loop structure			
7.7.		**Creating Modules, Procedures & Functions**	4	14	
	7.7.1	Working with procedures			
	7.7.2	Writing sub procedures			
	7.7.3	Sub Procedures syntax			
	7.7.4	Calling a function procedure			
	7.7.5	Using a function to perform a calculation			
	7.7.6	Subroutines and Functions			
	7.7.7	Built-in function			
7.8.		**Object-Oriented Programming**	4	20	
	7.8.1	Understanding classes			
	7.8.2	Working with classes			
	7.8.3	Inheritance and Polymorphism			

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	7.8.4	Using class Inheritance		
	7.8.5	Handling errors and exceptions		
	7.8.6	Using Debugging Technique		
	7.8.7	Structured Exception Handling		
7.9.		**Working with VB.NET Tool Box control**	3	16
	7.9.1	Common controls		
	7.9.2	Containers		
	7.9.3	Menu and Toolbars		
	7.9.4	Data		
	7.9.5	Dialogs		
	7.9.6	Reporting		
	7.9.7	Components		
	7.9.8	Creating Menus		
	7.9.9	Creating Toolbars		
	7.9.10	Creating a Status-Bar		
	7.9.11	Using ADO.NET		
	7.9.12	Database concepts		
	7.9.13	Deploying Application		
	7.9.14	Introduction to Deployment		
7.10.		**Debugging Visual Basic Programs**	3	18
	7.10.1	Finding and Correcting Errors		
	7.10.2	Three types of Errors		
	7.10.3	Using Debugging Mode		
	7.10.4	Tracking Variables by using a Watch Window		
	7.10.5	Debugging Tools that display Data		
	7.10.6	Using the Immediate and Command Windows		
7.11.		**Working with Windows Form**	3	18
	7.11.1	Creating Windows Forms Applications		
	7.11.2	Components of Windows Form User Interface		
	7.11.3	Creating MDI Forms		
	7.11.4	Configuring Standard Controls		
	7.11.5	Using Tool Strip Controls		
	7.11.6	Windows Forms Data Binding		
	7.11.7	Globalization and Localization		
	7.11.8	Localizing a Windows Form		
	7.11.9	Dialogue Boxes in a Widows Form Application		
	7.11.10	Printing in a Windows Form Application		
	7.11.11	Printing using Common Dialogue		
7.12.		**Database Programming with ADO.NET**	4	20
	7.12.1	Working with an Access Database		
	7.12.2	Data Source Window		
	7.12.3	Using bound Controls to display		
	7.12.4	Using SQL Statements		
	7.12.5	Using the Data Control		
	7.12.6	Use of Data Grid View		

7.13.		**Reporting**	3	18	
	7.13.1	Design VB.Net Report			
	7.13.2	Using Crystal Report			
8.		**FUNCTIONAL ENGLISH**	20	20	
9.		**WORK ETHICS**	20		

Semester-II

1.		**GRAPHIC DESIGNING & ANIMATION**	**20**	**180**	**200**
1.1.		**Digital Imaging/Template Designing using Adobe Photoshop CS Technology**	5	45	
	1.1.1	Discussion on Publishing Media	1		
	1.1.2	Bitmap Graphics & Vector Graphics	1	4	
	1.1.3	Basic Design Issues	1		
	1.1.4	Lines, Shapes, Polygons, Rectangles & Ellipses		4	
	1.1.5	Web Color Theory & Color Wheel	1		
	1.1.6	Transform & Free Transform		4	
	1.1.7	Use of Layers Techniques		4	
	1.1.8	Filters/Plug Ins		4	
	1.1.9	Use of Different Selection Types		3	
	1.1.10	Image Adjustment		4	
	1.1.11	Use of different image(.jpg, .gif & .png etc) file formats		5	
	1.1.12	Different Zoom Options	1	4	
	1.1.13	Use of Third Party Tools		4	
	1.1.14	Use of Slices & making of HTML files		5	
1.2.		**Digital Illustration using Corel Draw X Series**	5	45	
	1.2.1	Drawing Tools using Rectangle, Circle, Lines	1	2	
	1.2.2	Polygons, Star, Complex Star, Spiral	1	2	
	1.2.3	Outline Tool & Fill Tool	1	2	
	1.2.4	Interactive Tools Using Blend, Extrude, Drop Shadow, Contour & Transparency	1	4	
	1.2.5	Ruler Adjustment & Ratio Setting	1	1	
	1.2.6	Editing Tools		5	
	1.2.7	Use of Nodes		5	
	1.2.8	Importing & Exporting		5	
	1.2.9	Use of Bitmaps in Design		6	
	1.2.10	Page Layout		1	
	1.2.11	Design Arrangements		6	
	1.2.12	Use of Symbols & Dockers		6	
1.3.		**2D Animation with Adobe Flash CS Technology**	5	45	
	1.3.1	Types of Animations	1	2	
	1.3.2	Animation Techniques	1	2	
	1.3.3	Difference between different types of Animations	1		
	1.3.4	Stage/Paste Board Setting	1	2	
	1.3.5	Frames & Key frames	1	2	
	1.3.6	Layer Masking & Guide Layer		6	

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	1.3.7	Types of Symbols (Graphic, Button & Movie Clip)		6	
	1.3.8	Scenes		7	
	1.3.9	Timeline & Timeline Effects		6	
	1.3.10	Introduction to Basic Actions		4	
	1.3.11	Web Publishing		8	
1.4.		**Web Compilation using Adobe Dreamweaver CS Technology**	5	45	
	1.4.1	Making of HTML Static Page	1	3	
	1.4.2	Use of Design View & Code View	1	3	
	1.4.3	Defining a Site	1	3	
	1.4.4	Table Layout	1	3	
	1.4.5	Use if Div Function	1	6	
	1.4.6	Use of Buttons & Navigation Bars		6	
	1.4.7	Form Designing & Use of Frames		4	
	1.4.8	Use of Spry Lists with CSS		3	
	1.4.9	Use of Layers Show/Hide behavior		3	
	1.4.10	Hyperlinks & Hot Spots		2	
	1.4.11	Uploading Procedure & Updating Techniques using File Zilla		8	
2.		**System Analysis & Design**	**20**	**20**	**40**
2.1.		**Introduction to System**	2		
	2.1.1	The System concept			
	2.1.2	Elements of a system			
	2.1.3	Characteristics of a system			
	2.1.4	Types of a System			
2.2.		**Information System**	1		
	2.2.1	Definition			
	2.2.2	Components of information system			
2.3.		**New System**	1		
	2.3.1	Consideration for the new system			
	2.3.2	Evaluation of old system			
	2.3.3	Technique and procedures for the implementation of the new system			
	2.3.4	SDLS (System Development Life Cycle)			
2.4.		**System Analyst**	1		
	2.4.1	Importance of System Analyst in SAD (System Analysis & Design)			
	2.4.2	Responsibilities of System Analyst			
2.5.		**Feasibility Study**	1		
	2.5.1	Definition and Types of feasibility study			
	2.5.2	Presentation of case study			
	2.5.3	Cost-benefit Analysis			
	2.5.4	Feasibility study report			

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2.6.		**Fact Finding Technique**	3	3	
	2.6.1	Fact gathering methods & tools for company project (Interviews, questionnaires, on-site observation, record reviewing, sampling)			
2.7.		**The Tools of Structured Analysis**	2	10	
	2.7.1	Design Diagram			
	2.7.2	Computer based flow charting			
	2.7.3	E_R diagrams,			
	2.7.4	Data Flow diagram			
	2.7.5	Maintaining a data dictionary			
	2.7.6	Decision Tools			
	2.7.7	Decision tree			
	2.7.8	Decision table and Structured English			
2.8.		**The Tools of Object-Oriented Analysis**	2	3	
	2.8.1	Class Diagram			
	2.8.2	Use case diagram			
	2.8.3	Sequence Diagram			
2.9.		**Input Designing Concept**	2	2	
	2.9.1	Input Stages			
	2.9.2	Input Types			
	2.9.3	Input Media			
	2.9.4	Input Specification			
	2.9.5	Input Screen Designing			
	2.9.6	Layout Chart			
2.10.		**Output Designing Concept**	2	2	
	2.10.1	Output Definition			
	2.10.2	Output Media			
	2.10.3	Output Specification			
	2.10.4	Layout Charts			
	2.10.5	Specification of Printed output for the Programmer			
	2.10.6	Designing (case study)			
2.11.		**Testing and Debugging of System**	1		
	2.11.1	Concepts of Testing and Debugging			
2.12.		**Documentation of System**	1		
	2.12.1	Preparation of the user Manual & Technical Manual			
2.13.		**System Information**	1		
	2.13.1	Preparation of Implementation			
	2.13.2	User personnel Preparation			
	2.13.3	Changes Over Procedures			
3.		**Introduction to Computer Networking**	20	120	140
3.1.		**Network Devices**	4	12	
	3.1.1	Modems			
	3.1.2	Multiplexers			

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	3.1.3	Concentrator			
	3.1.4	Connectivity Devices (Repeaters, Hubs Bridges, Switch, Routers and Gateways)			
3.2.		**Networking Resource Access Models**	3	20	
	3.2.1	Peer to Peer			
	3.2.2	Client/Server			
	3.2.3	Server based			
3.3.		**Types of Network**	3	20	
	3.3.1	LAN			
	3.3.2	MAN			
	3.3.3	WAN			
3.4.		**Primary Network Components**	1	6	
3.5.		**Network Topology**	2	20	
	3.5.1	Definition of Topology			
	3.5.2	Bus Topology			
	3.5.3	Star Topology			
	3.5.4	Ring Topology			
	3.5.5	Mesh Topology			
	3.5.6	Hybrid Topology			
3.6.		**Network Protocols and Architecture**	7	42	
	3.6.1	Definition of Protocol			
	3.6.2	Types of Protocols			
	3.6.3	OSI and TCP/IP Protocol Architecture			
	3.6.4	IPV 4 and IPV 6			
4.		**WEB DEVELOPMENT**	**40**	**240**	**280**
4.1.		**HTML**	8	48	
	4.1.1	HTML Skeleton	1	1	
	4.1.2	HTML Head Tag	1	1	
	4.1.3	Meta Tags	1	1	
	4.1.4	HTML Headings	1	1	
	4.1.5	HTML Paragraph Tag	1	1	
	4.1.6	HTML Hyperlink	1	1	
	4.1.7	Relative and Absolute Links	1	1	
	4.1.8	Internal Anchor Tags	1	1	
	4.1.9	HTML Attributes		1	
	4.1.10	Common HTML Attributes		1	
	4.1.11	HTML Formatting Tags		1	
	4.1.12	HTML Image Tag		1	
	4.1.13	Important Alt attribute		2	
	4.1.14	HTML Table Tag		2	
	4.1.15	Table Headers		2	
	4.1.16	Merging Columns		2	
	4.1.17	HTML List Tags		2	
	4.1.18	HTML Ordered Lists		2	
	4.1.19	HTML Unordered Lists		2	
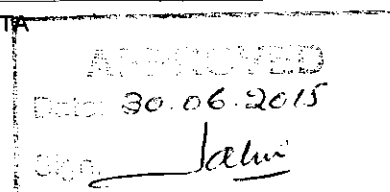
	4.1.20	HTML Multiple Level Lists		2
	4.1.21	HTML Div and Span Tag		2
	4.1.22	HTML Div Element		2
	4.1.23	HTML Span Element		2
	4.1.24	HTML Forms		2
	4.1.25	Many HTML Form Inputs		2
	4.1.26	Bottom of Form		2
	4.1.27	Text Field		2
	4.1.28	Radio Buttons and Checkboxes		2
	4.1.29	Submit Button		2
	4.1.30	HTML Field sets		2
4.2.		**CSS OVERVIEW**	8	48
	4.2.1	CSS Introduction	1	1
	4.2.2	CSS Classes	1	2
	4.2.3	Element Classes	1	2
	4.2.4	CSS Selector id	1	2
	4.2.5	CSS Font and Spacing	1	2
	4.2.6	Setting the CSS Font	1	2
	4.2.7	Sample CSS Demo	1	2
	4.2.8	CSS Background	1	2
	4.2.9	CSS Links		3
	4.2.10	CSS Links Classed		3
	4.2.11	CSS Lists		3
	4.2.12	CSs Tables		3
	4.2.13	CSS Border		3
	4.2.14	CSS Margin and Padding		3
	4.2.15	CSS Margin Property		3
	4.2.16	CSS Padding Property		3
	4.2.17	CSs Display and Float		3
	4.2.18	CSS Display Property		2
	4.2.19	CSS Float Property		2
	4.2.20	CSS Position and Alignment		2
4.3.		**JavaScript Overview**	8	48
	4.3.1	JavaScript Introduction	1	1
	4.3.2	JavaScript Comments	1	1
	4.3.3	JavaScript Variables	1	1
	4.3.4	JavaScript Operators	1	1
	4.3.5	JavaScript if Statements	1	2
	4.3.6	JavaScript Switch Statement	1	2
	4.3.7	JavaScript Functions	1	2
	4.3.8	JavaScript For Loop	1	2
	4.3.9	JavaScript while Loop		2
	4.3.10	JavaScript Events		2
	4.3.11	JavaScript Try and Catch		2
	4.3.12	JavaScript Break and Continue		2
	4.3.13	JavaScript Backslash Character		2
	4.3.14	JavaScript Objects		2
	4.3.15	Referencing JavaScript Objects		3
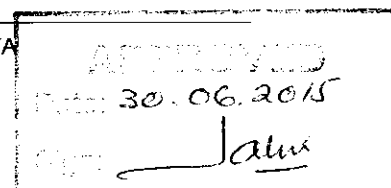
	4.3.16	JavaScript Strings		3
	4.3.17	JavaScript RegExp		3
	4.3.18	JavaScript Arrays		3
	4.3.19	JavaScript Date Object		3
	4.3.20	JavaScript Math Object		3
	4.3.21	JavaScript Navigator Object		3
	4.3.22	JavaScript Window Object		3
	4.4.	**JavaScript jQuery Introduction**	8	48
	4.4.1	JavaScript jQuery Selectors	1	4
	4.4.2	JavaScript jQuery Events	1	8
	4.4.3	JavaScript jQuery Effects	1	8
	4.4.4	JavaScript jQuery with HTML	1	8
	4.4.5	JavaScript jQuery with CSS	1	8
	4.4.6	JavaScript jQuery with AJAX	1	8
	4.4.7	JavaScript JSON Introduction	2	4
	4.5.	**Word Press Content Management System**	8	48
5.		**Project**		60
6.		**Functional English**	20	20
7.		**Work Ethics**	20	

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<u>LIST OF MACHINERY / EQUIPMENT / TOOLS</u>

(For a class of 25 students)

Name of Trade	(Name of Course)
Diploma in Information Technology	(01 Year)

Sr. No.	Nomenclature of Tools & Equipment	Quantity Nos.
1.	COMPUTER LAB:	
	Servers (Windows and LINUX)	02
	Computers P-IV or above	25
	(With standard accessories)	
	a. Laser / Dot Matrix printer	01
	b. Scanner	01
	c. Internet connection	01
2.	HARDWARE EQUIPMENTS:	
	a. Digital/Analog Meters	01
	b. Tool Kit comprising the following:	01
	Screw Driver	
	Micro Screw Driver	
	Nose Pliers	
	Pliers	
	L-key	
	Wire Cutter	
	Tester	
	c. Crimping Tool	01
	d. Cable Tester	01
	e. Air Blower	01
	f. Soldering Iron	01
	g. Soldering Sucker	01
3.	SOFTWARES:(latest versions)	
	a. MS Windows	
	b. MS Office Suite	
	c. MS Windows Server	
	d. MS SQL Server	
	e. MS Visual Studio .NET	
	f. Adobe Photoshop	
	g. Autodesk 3D Max	
4.	TEACHING AIDS:	
	a. White board:	01
	b. Multimedia Projectors	01

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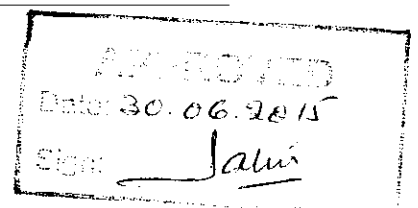Date: 30.06.2015
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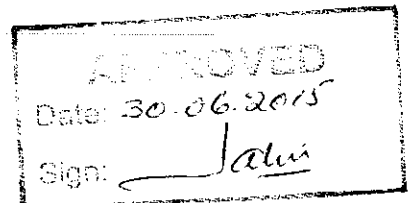
MINIMUM QUALIFICATION OF INSTRUCTOR / TEACHER

1. **QUALIFICATION OF TEACHING STAFF:**

   - M.Sc.(CS)/ MCS/MIT/BS (CS) / BCS

2. **QUALIFICATION OF LAB. STAFF:**

   - D.A.E (CIT/Electrical / Electronics) with MCSE/A+/DCHNE
   - Lab./Network Administrator: Intermediate with DCHNE/A+ Certifications / MCSE.

EMPLOYABILITY OF PASS-OUTS

This course carries much value and recognized in the private, semi government and government sector as well as abroad for jobs as:

- Assistant Programmer
- Web Developer
- Books Keeper

REFERENCE BOOKS

SEMESTER-I

Subject Name	Reference Books
Introduction to Computer & Operating System (DOS, Windows7 & Linux)	1. The Concepts of Information Technology (5th Edition) by IT Series 2. A Comprehensive Study of Operating Systems & Networks (4th Ed) by IT Series 3. Microsoft Windows 7 Desktop support and Administration by Darril Gibson 4. The Complete Reference (Linux) by Richard Peterson.
Business Applications & E-commerce	1. E-Commerce 2011 by Kenneth C. Laudon, Carol Guercio Traver Prentice Hall, 2010 - Business & Economics 2. The E-Commerce book: building the E-empire by Seffano Korper, Junaita Ellis
Database Management using MS-Access 2010	1. Fundamentals of Database Systems by Ramiz Elmasri and Shamkant Navathe 2. A Fundamental Study of Database Management Systems (2nd Ed) by IT Series 3. Access 20xx For Dummies by Laurie Ulrich Fuller, Ken Cook, John Kaufeld Publisher Wiley
Programming Fundamentals, Flow Charts and Programming with VB. Net.	1. An Introduction to Programming Using Visual Basic .NET by David I. Schneider 2. Vb .Net by Camron Wakefield, Henk Evert Sonder

SEMESTER-II

Subject Name	Reference Books
Graphics Design and Animation	1. Photoshop CS Bible by Deke McClelland 2. Flash Professional CS5 Bible by Todd Perkins 3. Adobe Dreamweaver CS5 Bible by Joseph Lowery
System Analysis & Design	1. System analysis and Design by Kendall and Kendall 2. System analysis and Design by Elias M. Awad 3. Applying UML and Patterns: An Introduction to Object-Oriented Analysis and Design and the Unified Process by Craig Larman
Web Development using PHP & MySql	1. JavaScript & HTML 4.0 Users Resource, William H. Murray & Chris H. Pappas, Prentice Hall, 2000 2. SAMS JavaScript in 24 Hours, Second Edition, Michael Moncur, SAMS, 2000. 3. Creative HTML Design 2, Lynda Weinman, William Weinman, Lynda.com, 2001. 4. PHP essentials by Julie C. Meloni 5. PHP 5 / MYSQL programming for the absolute beginners by Andy Harris 6. PHP & MYSQL for dynamic websites by Larry Ullman

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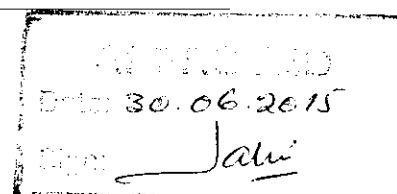
Introduction to Computer Networking	1. Data Communications and Networking by Behrouz A. Forouzan 2. Data and Computer Communication by William Stallings 3. Computer Networks by Douglas. E. Comer

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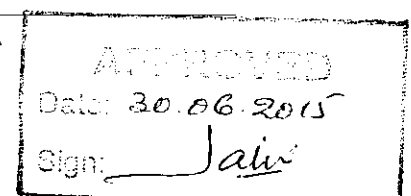
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