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NOTIFICATION

No.B.21015/1/2007-EDN(TE), the 3rd August, 2012. Whereas the Examination Committee of the Mizoram State Council for Technical Education (MSCTE) is conducting examination of Certificate Courses in Computer Application ;

And whereas the Government of Mizoram deems it expedient to have the Examination Rules for fair selection of candidates on merit by means of examination;

Now, therefore, the Governor of Mizoram is pleased to make the following consolidated Rules for conducting common examination for certificate courses in Computer Application under MSCTE, namely :-

1. SHORT TITLE EXTENT & COMMENCEMENT :

- a) These Rules shall be called "*The Mizoram (Recognition and Regulation of Common Examinations for Certificate Courses in Computer Application) Rules, 2012*".
- b) They shall come into force with effect from the date of its publication in the Official Gazette.

2. APPLICATION : These Rules shall apply to all Institutions conducting Certificate/ Diploma Courses in Computer application and such Institutions shall be recognized by the MSCTE.

3. DEFINITION : In these Rules, unless the context otherwise requires,

- a) "Academic Board" means Academic Board constituted by the MSCTE under this Rules to monitor the curricula, institutional infrastructure, and academic activities of affiliated institutions.
- b) "Certificate" means Certificate awarded by the State Council to a person for successfully completing such course or courses of study, as may from time to time be prescribed by the Rules.
- c) "Centre Superintendent" means the person appointed to conduct and supervise the examinations of the State Council.
- d) "Chairman" means the Chairman of the Examination Committee or Academic Board of MSCTE as the case may be.
- e) "COPA" means Computer Operator & Programming Assistant.
- f) "Directorate" means Directorate of Higher & Technical Education, Mizoram.
- g) "Examination" means the examination of the Certificate courses in Computer Application conducted by the MSCTE.
- h) "Examination Committee" means Examination Committee constituted by the MSCTE to conduct common examination for the Courses in Computer Application conducted by Affiliated Computer Institutes in Mizoram.

- i) "Examination Officer" means Examination Officer for the MSCTE.
- j) "Head of Institution" means the Principal/Director of an Affiliated Institution.
- k) "H&TE" means Higher & Technical Education Department, Mizoram.
- l) "Institution" means the Institution Affiliated to MSCTE.
- m) "Invigilator" means a person who assists the centre Superintendent of a Centre in conducting and supervising the Examination at the Centre.
- n) "Joint Director(Technical)" means Joint Director of Technical Education under H&TE.
- o) "MCIOA" means Mizoram Computer Institute Owners Association.
- p) "Term" means a period of study for completing the course.
- q) "Regular Course of Study" means a course of study prescribed by the MSCTE for the purpose of its Examination.
- r) "Secretary" means the Secretary of Examination Committee of the MSCTE.
- s) "State Council" means Mizoram State Council for Technical Education (MSCTE).
- t) "Teacher" means a person actually engaged in the work of teaching in Academic Institution of an Affiliated Institution.

4. COURSES, TITLES & DISCIPLINES :

- 1) The Computer Application courses, recognized by the MSCTE shall be conducted by the Institution.
- 2) The Disciplines of the courses shall be as below :
 - a) Certificate in Computer Application (CCA) (six month)
 - b) Diploma in Computer Application (DCA) (one year)

5. COURSE DURATION AND WORKING HOURS :

- 1) Certificate in Computer Application course shall be of 6(six) months and Diploma in Computer Application course shall be of 12(twelve) months.
- 2) A full time/term consist of minimum of 180 hours of instruction with an average of 2 hours a day in 5 days a week in the class room, laboratory workshop and field work excluding Examination, preparation and other holidays as per the Academic Calendar approved by the Academic Board.

6. ADMISSION TO THE COURSE OF STUDY:

- 1) A candidate shall satisfy the conditions mentioned below to be eligible for admission to the certificate course:
 - a) Admission may be decided on the basis of merit of admission/entrance test and interview conducted by each Affiliated Institution.
 - b) There will be no lower qualification and age limit for admission to CCA Course, but for enrolment to the Course of DCA, student must have completed and Certified with CCA. Intake capacity of the institution per batch will be decided by the inspecting Authority appointed by MSCTE.
 - c) 2% of total seats will be reserved for physically challenged candidates.
 - d) The Institution will conduct admission/entrance test for its own candidates.
 - e) State Council will decide the equivalence of the other examinations and notify from time to time.

7. CONDUCT OF EXAMINATIONS : Examination Cell (Technical) under Directorate of Higher & Technical Education shall conduct the following examination in the name of MSCTE.

- 1) a) Term Examination shall be held in the 3rd week of July and January on such date as may be fixed by the Chairman of the Examination Committee for the regular candidates along with repeater candidates.
- b) Conducting of examination will be done in one paper only.
- c) Duration of Examination in CCA and DCA theory paper as well as practical will be 3 hours respectively.

- 2) The contact hours of instruction per week and the term duration and mark/credits allotted to each paper in theory/practical/viva voice at examination shall be as per curriculum structure.
- 3) Class test, sessional, home assignment, practical, and viva voice shall be conducted by the Institution. For Practical Examination External Examiner will be sent to the Institution.
- 4) The Chairman of Examination Committee or any Officer authorized by him/her at least 30 days before commencement of examination shall notify time and venue of each examination.
- 5) English shall be the medium of examination.
- 6) No candidate shall be permitted to enter the examination hall after the commencement of the examination. However, the Centre Superintendent of Examination Centre may at his discretion permit a candidate to enter the hall upto half an hour after the commencement of examination.
- 7) No candidate shall be permitted to leave the Examination Hall before half an hour after commencement of the examination. The Centre Superintendent of the Examination Centre may, in exceptional cases, permits an examinee to leave the Examination Hall even before this period, if in his judgement, continued presence of the examinee in the Hall is not desirable in the interest of smooth conduct of examination or a candidate becomes physically incapable of continuing the examination due to sudden illness.
- 8) A candidate, who is found appearing the examination under the influence of any illegal practice, shall be expelled from the Examination Hall by the Centre Superintendent.
- 9) Centre Superintendent and supporting staff etc. shall be appointed as per rules decided by the competent authority from time to time. The number of supporting staff to be appointed for the Centres will depend on the number of Hall/Rooms etc. Institutions having less than 20 candidates will not be considered as Examination Centre.
- 10) The Officers and Staff detailed in the Examination Centre may consist of the following:
 - a) Centre Superintendent 1 (one)
 - b) Asst. Centre Superintendent 1 (one) for every 200 candidates per Examination Hall/Room.
 - c) Invigilators 1 (one) for each 20 candidates per Examination Hall/Room.
 - d) Clerk 1 (one)
 - e) Peon 1 (one)

However, if the number of candidates is less than 50(fifty), no Asst. Centre Superintendent shall be appointed.

8. ELIGIBILITY FOR EXAMINATION :

- 1) A student should attend a minimum 75% of classes. (theory and practical)
- 2) A candidate should pay all the fees to the Institution before filling up of the application for Examination.
- 3) A candidate applying for the examination shall send application in prescribed form to the Chairman of the Examination Committee through the Head of Institution along with the requisite fees fixed by the MSCTE within such date as notified by the Chairman of the Examination Committee and such application must be accompanied by a Certificate from the concerned Head of the Institution stating that the candidate :-
 - a) has attended the requisite percentage of classes in each theory and practical for the prescribed course of study in the Institute.
 - b) has satisfactorily completed the practical works and obtained at least pass marks in the internal assessment in each subject prescribed for the course of study.
 - c) has shown satisfactory conduct during the course of study.
- 4) The application not submitted in prescribed form/incomplete/not in time/not supported by money receipts or proof of payment of prescribed fees shall be rejected and no correspondence on that account shall be entertained.

- 5) Any fees once paid shall not be refunded under any circumstances.
- 7) To avoid impersonation, all candidates appearing the State Council Examination shall submit two recent pass-port size photographs duly attested by a Gazetted Officer of which one should be pasted on the application form for examination and the other in the admit card which will be returned to the candidate for entry to the examination hall.

9. MODALITY :

- 1) Pass mark is 50%, in both CCA and DCA, provided they must secure pass mark in theory as well as practical. Theory part and practical part will carry 300 marks each and total mark is 600.
- 2) Maximum grace marks to a candidate should not exceed more than 3(three) marks.

10. RESULT :

- 1) The total marks for award of the Certificate shall consist of the marks obtained by an individual candidate. The calculation of mark percentage and class is given below :-

Percentage of marks	Class
75% and above	First Class with Honours
60% - 74%	First Class
50% - 60%	Second class

- 2) Result of examination shall be declared by the MSCTE.
- 3) The certificate shall be awarded to the successful candidates by the State Council under signature of the Secretary of the Examination Committee of the MSCTE.
- 4) The marks obtained by a candidate in each subject shall be supplied to the candidate in printed form of "Statement of Marks" after declaration of the results.
- 5) The mark-sheets and certificate of candidates in each examination will be sent to the Head of their respective Institutions. The candidates shall collect from the office of the Institution concerned.
- 6) In case any anomaly is detected at any stage during the whole process up to publication of Results, the matter will be referred to Secretary, MSCTE through Examination Committee for necessary action and his decision will be final and binding.
- 7) Complaints, if any in respects of results shall not be entertained by the State Council, if such complaints are made after one month from the date of declaration of results.
- 8) No re-evaluation of the answer papers shall be permitted.
- 9) The verification of marks shall be done by the Secretary or at least two experts in particular subjects authorized by his/her in confidential and not in presence of the candidate. If any answer paper is left and unexamined, the Secretary of the Examination Committee shall cause it assessed in confidential. In cases where there occurs an omission of any nature affecting the results, the same shall be rectified and the results modified and declared accordingly.
- 10) Duplicate mark-sheet may be issued to a candidate provided an application is submitted to Secretary of the Examination Committee with a duplicate mark-sheet fee.
- 11) The answer books of the candidate for an examination shall be preserved for 6 months from the date of publication of the results and the same shall be destroyed after that period by order of the Secretary of Examination Committee.

11. COMPOSITION OF BOARDS : Examination Committee and Board of Academic shall be constituted as follows:

- 1) **Examination Committee:** Examination Committee shall be constituted by the MSCTE consisting of the following members :-

Chairman	:	Director, H & TE
Secretary	:	Joint Director (Tech), H& TE
Members	:	1) Examination Officer (Tech), H & TE
		2) One Representative from MCIOA

- 3) Academic Officer (Tech), H & TE.
- 4) One expert from Information & Communication Technology Department.

Function of Examination Committee :-

- a) to declare and publish the Examination result.
 - b) to issue Mark-sheet and certificate.
- 2) **Academic Board** : Academic Board shall be constituted by the MSCTE and the functions are as follows-
- Chairman : Director, H & TE
- Secretary : Joint Director (Tech), H& TE
- Members :
 - 1) Academic Officer (Tech), H & TE.
 - 2) Training & Placement Officer, H & TE
 - 3) Examination Officer (Tech), H & TE
 - 4) Two Representative from MCIOA
 - 5) Experts – (as appointed by MSCTE from time to time) (at least 2 nos.)

Function of Academic Board : -

- a) to inspect Computer Institutes,
- b) to monitor implementation of curricula,
- c) to inspect and assess computer institutes for recognition, and other tasks related to Academic assigned from higher authority.

K.Lal Nghinglova,

Commissioner & Secretary to the Govt. of Mizoram.

GUIDELINES AND CRITERIA FOR GOM RECOGNIZE COMPUTER TRAINING INSTITUTE FOR APPROVAL

Computer Training Center or Institute desirous of conducting **Certificate in Computer Application** and **Diploma in Computer Application** Course (s) are obliged to meet the followings:

1. Status and Identity :

- a) Computer Training Center or Institute should be registered under Govt. Of Mizoram such as Mizoram State Council of Technical Education (MSCTE) or Mizoram State Council of Vocational Training (MSCVT).
- b) Newly established Institute will be recognized provisionally for 12 months initially and permanent recognition will be accorded based on performance.

2. Infrastructure :

- a) **Building**: Institution should own building or in the event of the building being hired, it should be on a long term rent.
- b) **Space**: Institution floor area should minimally accommodate the following:
 - i) One class room to accommodate at least 10 students.
 - ii) Library having adequate number of books concerning all the subjects in CCA and DCA.
 - iii) Faculty room
 - iv) Reception area etc.
 - v) Drinking water
 - vi) Toilet.

c) Equipment:

- i) The institute should have its own hardware and software place as per the syllabus of respective course.
- ii) The institute should have adequate computer centre/laboratory and classrooms.
- iii) The minimum number of computer system required should be equal with the number of students being trained by the Institute per batch. Also, each student should be deputed by the Institute on a single terminal or one PC.
- iv) All software used should be licensed as understood within the terms of Intellectual Property Rights (IPR). Software required for the courses have been prescribed within the relevant syllabus.
- v) The institute should also have teaching aids such as audio-visuals, whiteboard, etc.
- vi) The institute should own/possessed the above equipments all the time. Any institution found to be not having the required equipments during routine check by the authority appointed by MSCTE from time to time will be subjected to review their recognition status by the authority.

3. Faculty :

- a) The institution should have at least two permanent teaching faculty and supporting staff for theory and practical classes.
- b) The ratio of full time to part time faculty should not be more than 1:2; within the Institute, for every one fulltime faculty, the Institute is permitted to engage two part time faculties.
- c) The teaching faculty should have the desirable qualifications and experience as below :-

Course	Faculty Qualification	Experience
Certificate in Computer Application (CCA)	Govt. recognized DCA or DOEACC 'O' Level, COPA(ITI) or equivalent	Minimum 6 months teaching experience
Diploma in Computer Application (DCA)	BCA or B.Sc (Computer) or Graduate with PGDCA recognized by Govt. of Mizoram or 3 years Diploma in Computer Sc. & Engineering	Minimum 6 months teaching experience

4. Library :

- a) The institution should maintain a library. The library should be equipped with requisite number of learning resource materials. Sufficient number of books must be available for the students.
- b) The institute should also subscribe sufficient IT Magazine and Journals for the students.

5. Rules and Regulations :

Institution permitted to conduct the course(s) is obliged to the following rules and regulations :-

- a) The institution should not knowingly, advertise that which is liable to project a false impression of competence of the institution.
- b) The institution should not overstate the contents of the course fee for which approval has been granted, to gain unfair advantage.
- c) The institution should not guarantee benefits to student that is actually false or not feasible.
- d) The institution should not project price terms that are false, or misleading, to gain advantage over competition.
- e) The institution should not criticize action of Government/Professional bodies of experts, without proper investigation.
- f) The institution shall follow Academic Calendar as per approved by the MSCTE.

- g) The institution found to be indulging in any kind stated above may be considered unfit for conducting Govt. recognized course(s) and the recognition will be revoked by the competent authority.

6. Students Enrollment :

Students will be enrolled to the institution during January and July. There will be no lower qualification and age limit for admission to CCA course For enrolment to the course of DCA, student must have completed and certified with CCA. Intake capacity of the institution per batch will be decided by the inspecting Authority appointed by the MSCTE.

- a) **Fee Structure:** The rate of fees to be collected from the students enrolled in the Institutions are as follows:

Sl. No.	Item	Rate in Rs	Mode of payment	Remarks
1	Admission fee	50	Per annum	To be credited to MSCTE
2	Registration	100	-do-	-do-
3	Monthly Fee CCA DCA	1000 1500	-do-	To the Institution
4	Library Fee	50	-do-	-do-
5	Exam Fee	350	-do-	To be credited to MSCTE
6	Centre Fee	100	-do-	To the Institution
7	Affiliated Fee	2000	For a period of 3 yrs	To be credited to MSCTE
8	Inspection Fee			To be paid by the centre as per actual expenditure

7. Examination :

- a) Examination will be conducted and certified by the MSCTE using the common certificate approved by the Govt. of Mizoram.
- b) The examination for CCA Course will be conducted twice and will be held during 3rd week of January and July. Time table for examination will be notified by MSCTE during June and December.
- c) Mark distribution – each subject will carry 100 marks out of which 50 marks will be theory and 50 marks will be practical.

8. Syllabus :

Detailed syllabus for Certificate in Computer Application (CCA) as per approved by the Academic Board is attached in Annexure.

Annexure

STUDY SCHEME

Semester – I

Code	Subject
CCA -101	Fundamentals of Computer
CCA-102	Operating Systems
CCA-103	Office Automation Software
CCA-104	Internet Technologies
CCA-105	Computer Graphics – Corel Draw & Photoshop
CCA-106	DTP (Desktop Publishing) – PageMaker & Type Setting

Semester – II

Code	Subject
DCA -101	Business Communication Skills
DCA-102	Computer Communication & Networking
DCA-103	Data Modeling & Relational Database Design
DCA-104	Web development using HTML & FrontPage
DCA-105	Visual Programming using Visual Basic

EXAMINATION SCHEME

Marks distribution for each subject shall be as given in the table below:

Theory			Practical			
Written Exam	Internal Assesment	Total	Practical Exam		Internal Assessment	Total
			External Exam	Internal Exam		
40	10	50	20	20	10	50

DETAILED SYLLABUS

1. Fundamental of Computers

1.1. Introduction:

- Characteristics of Computers
- The Evolution of Computers
- The Computer Generations (First Generation(1942-1955)
- Second Generation (1955 – 1964)
- Third Generation (1964 – 1975)
- Fourth Generation (1975 – 1989)
- Fifth Generation (1989 – Present)

1.2. Basic Computer Organization :

- Input Unit
- Output Unit
- Storage Unit
- Arithmetic/Logic Unit
- Control Unit
- Central Processing Unit
- The System Concept.

1.3. Number Systems:

- Non-Positional Number Systems
- Positional Number Systems
- Converting One number System to Another
- Binary to Octal Conversion
- Octal to Binary Conversion
- Binary to Hexadecimal Conversion
- Hexadecimal to Binary Conversion
- Fractional Numbers

- 1.4. Processor and Memory :
 - The Central Processing Unit
 - The Main Memory
- 1.5. Secondary Storage Devices :
 - Sequential and Direct-Access Devices
 - Magnetic Tape
 - Optical Disk
 - Mass Storage Devices
 - Storage Hierarchy.
- 1.6. Input-Output Devices :
 - Input Devices (Keyboard Devices, Data Scanning Devices, Electronic Card Reader, Voice Recognition Devices)
 - Output Devices (Monitors, Printers, Screen Image Projector, Voice Response Systems).
- 1.7. Computer Languages :
 - Assembly Language
 - Object-Oriented Programming Languages
 - High-Level Languages (FORTRAN, COBOL, BASIC, Pascal)
 - Some More High-Level Languages (C and C++, Java)
 - Characteristics of a Good Programming Language
 - Selecting a Language for Coding an Application
 - Subprogram.
- 1.8. Application Software Packages :
 - Word-Processing Package (What it is?, Commonly Supported Features)
 - Spreadsheet Package (What it is?, Commonly Supported Features)
 - Graphics Package (What it is?, Commonly Supported Features)
 - Personal Assistance Package (What it is?, Commonly Supported Features).
- 1.9. The Internet :
 - Definition of internet
 - Brief History
 - Basic Services (Electronic Mail, File Transfer Protocol, Telnet, World Wide Web)
 - WWW Browsers
 - Uses of the Internet.
- 1.10. Classification of Computers :
 - Notebook Computers
 - Personal Computers (PCs)
 - Workstations
 - Mainframe Systems
 - Supercomputers
 - Clients and Servers

Textbooks:

1. Information Technology Concept – Dr. Madhulika Jain, Shashank Jain, Satish Jain – BPB Publications

2. Operating System

Section 1. Windows

1.1 Basic DOS Commands :

- Comparison of DOS and Windows :
- Switching between DOS and Windows.
- Basic DOS Commands :
- File/Directory Manipulations.
- Copying of Files and Disks.
- Delete/Undelete
-

1.2 What is an Operating System and basics of Windows ?

1.3 The User Interface :

- Using Mouse and Moving Icons on the Screen.
- The My Computer Icon.
- The Recycle Bin.
- Status Bar, Start and Menu & Menu-selection.
- Running an Application.
- Windows Explorer Viewing of Files, Folders and Directories.
- Creating and Renaming of Files and Folders.
- Opening and Closing of different Windows.

1.4 Windows Setting :

- Control Panels.
- Wall Paper and Screen Savers.
- Setting the Data and Sound.
- Concept of menu using Help.

1.5 Advanced Windows :

- Using right Button of the Mouse.
- Creating Short Cuts.
- Basics of Window Setup.
- Notepad.
- Window Accessories.

Section 2. Linux

2.1. Introduction

- Getting Started
- Setup Agent
- Introductory Terms
- Logging In
- Graphical Interface
- Opening a Shell Prompt
- Creating a User Account
- Documentation and Help
- Logging Out
- Shutting Down your Computer

2.2. Using the Graphical Desktop

- Using Nautilus
- Using the Desktop.
- Using the Panel
- Using the Applications and Actions Menus.
- Customizing your GNOME session.
- Logging Out
- Switching Desktops.

2.3. Managing Files and Directories

- File System Terms.
- A Larger Picture of the File System
- Managing Files
- File Compression and Archiving
- Managing Directories

2.4. Shell Prompt Basics

- Why Use a Shell Prompt.
- The History of the Shell
- Basics commands
- Determining Your Current Directory with pwd
- Manipulating Files in Your Current Working Directory
- Leaving your Current Working Directory
- Locating Files and Directories
- Viewing text files from the shell prompt
- Manipulating Information from the Shell
- Using Multiple Commands
- Ownership and Permissions

2.5. System Configuration

- Keyboard Configuration
- Mouse Configuration
- Date and time Configuration
- X-Windows System configuration
- User and group configuration
- Printer configuration

2.6. Package Management with RPM

- RPM Design Goals
- Using RPM
- Checking a Package's Signature
- Impressing Your Friends with RPM
- Additional Resources
- Installing Packages
- Removing Packages

Textbook:

1. Running Linux, 4th Edition – Matthias Kalle Dalheimer, Terry Dawson, Lar Kaufman, Matt Welsh.
2. Fundamentals of Computing- P.K Sinha BPB publication.

3. Office Automation Software

Section 1. BASIC TYPING SKILLS

Section 2. MS WORD

1.1 Word Processing Basic

- An Introduction to Word Processing
- Opening Word Processing Package
- The Menu Bar
- Using the Help
- Using the Icons below menu bar

1.2 Opening Documents and Closing documents

- Opening Documents
- Save and Save AS
- Page Setup
- Printing of Documents
- Display/Hiding of Paragraph Marks and Inter Word Space

1.3 Moving Around in a Document

- Scrolling the Document
- Scrolling by line/paragraph
- Fast Scrolling and Moving Pages

1.4 Using a Document/Help Wizard

1.5 Text Creation and Manipulation

- Paragraph and Tab Setting
- Text Selection
- Cut, copy and paste
- Font and Size selection
- Bold ,Italic and Underline
- Alignment of Text: Center, Left, right and Justify

1.5 Formatting the Text

- Changing font, Size and Color
- Paragraph indenting
- Bullets and Numbering
- Use of Tab and Tab setting
- Changing case

1.6 Handling Multiple Documents

- Opening and closing of Multiple documents
- Cut, Copy and Paste across the documents
- Saving of Clip boards

1.7 Table Manipulation

- Concept of table: Rows Columns and Cells
- Draw Table
- Changing cell Width and Height

- Alignment of Text in Cell
- Copying of cell
- Delete/insertion of row and columns
- Borders for Table

1.8 Printing

- Printing
- Print Preview
- Print a selected page

Section 3. MS EXCEL

2.1 Elements of Electronics Spread Sheet

- Application/usage of Electronic Spread Sheet
- Opening of Spread Sheet
- The menu bar
- Creation of cells and addressing of cells
- Cell inputting

2.2 Manipulation of cells

- Enter texts numbers and dates
- Creation of tables
- Cell Height and Widths
- Copying of cells

2.3 Providing Formulas

- Using basic functions/formalism a cell
- Sum() function
- Average
- Percentage
- Other basic functions

2.4 Spread sheets for Small accountings

- Maintaining invoices/budgets
- Totaling of various transactions
- Maintaining daily and monthly sales reports

Section 4. MS POWERPOINT

3.1 Basic

- Difference between presentation and document
- Using Power Point
- Opening a Power Point Presentation
- Using Wizard for creating a presentation

3.2 Creation of Presentation

- Title
- Text Creation
- Fonts and Sizes
- Bullets and indenting
- Moving to Next Slide

3.3 Preparation of Slides

- Selection of type of Slides
- Importing text from word documents
- Moving to next Slide
- The Slide manager

3.4 Providing aesthetics

- Slide Designs
- Background and Text colors
- Making your own slide format
- Footnotes and slide numbering

3.5 Slide Manipulation and Slide Show

3.6 Presentation of the Slides

- Using the Slide Show
- Printing the Slides and Handouts
- Slide sorter
- Title sorter

Textbook:

1. Microsoft Office 2000 for Windows – S.Sagman . Second Indian Print, Pearson Education

Reference:

1. Microsoft 2003 step by step – Prentice Hall of India.
2. Microsoft Word 2003 step by step – Prentice Hall of India
3. Microsoft PowerPoint 2003 step by step – Prentice Hall of India

4. Internet Technologies

4.1 Introduction

- Introduction
- Growth and Owners of the Internet
- Anatomy of Internet
- History of World Wide Web
- Basic Internet terminologies
- Netiquette
- Internet Applications
- Commerce on the Internet
- Governance on the Internet
- Impact of Internet on Society
- Crime on/through the internet

4.2 Internet Technology and Protocols

- Internet Protocols
- TCP/IP
- Internet layers Protocols
- Network architecture
- Local area networks
- Wide Area Network

- Terminologies used in networking
 - Accessing methods and Technologies
 - Special consideration for the blind
 - Addressing in Internet- IP
 - Domains
 - Internet Client-server modules
 - Getting connected to internet
 - Types of connectivity
- 4.3 World Wide Web
- What is World Wide web
 - Evolution of World Wide web
 - WWW Servers
 - HTTP and URL's
 - Search Engines
 - Categories of Search Engines
 - Searching Criterion
 - Hypertext
- 4.4 Browsers
- Basic features
 - Bookmarks, History and Progress Indication
 - Different Web Browser
 - Customization of Web Browser
 - Saving and printing web pages
 - The Internet Explorer
 - Searching and downloading on the internet
- 4.5 Electronic Mail
- Introduction to e-mail
 - E-Mail Network and Servers
 - E-Mail Protocols
 - Structure of E-Mail messages
 - E-Mail contents and encoding
 - E-Mail routing
 - E-Mail Encryption
 - Address Book
 - Signature file
- 4.6 File Transfer Protocol
- Introduction
 - FTP Servers
 - FTP Authentication
 - FTP Clients
 - FTP common commands
 - GUI Based FTP clients
 - Browser based FTP Clients
- 4.7 Telnet
- Introduction to Telnet

- Establishing Telnet connections
- Telnet Protocol characteristics
- Terminal Emulation
- User Authentication

4.8 User and Internet Relay Chat

- What is Usenet?
- Usenet components
- Usenet newsgroup
- How Usenet works
- Participation in newsgroup
- Hierarchy of Usenet newsgroup
- Searching newsgroup
- Subscribing to newsgroup
- News Server
- Concept of chatting
- Internet Relay Chat (IRC)
- Client software for Chat
- Chat Servers
- Smiley
- Net meeting

4.9 Web Publishing

- Overview
- Web Hosting
- Document Interchange Standards
- Components of Web Publishing
- Maintaining websites
- Document management
- Web page design consideration and principles
- Web site planning
- Publishing tools

Textbook:

1. Internet and Web Page/ WebSite Design - B Underdahle and K Underdahle. Second Edition, 2001, IDG Books India (P) Ltd.

References:

- The Internet Book - D Comer. Second Edition, 2001, Prentice Hall of India
The Complete reference to Internet - M L Young. Tata McGraw Hill

5. Computer Graphics design using Photoshop

5.1. ADOBE PHOTOSHOP

- The Basics
- Opening and Saving
- Selection Modes
- Transformations
- Color Modes and Color Models
- Adjusting Color

- Paintbrushes and Art Tools
- Digital Painting
- Moving Paint
- Advanced Painting Techniques
- Layers
- Using Masks
- Paths
- Filters to Improve Picture
- Adding Type to Pictures
- Special Effects and Useful Tricks
- Photoshop Plug-Ins and Add-Ons
- Compositing
- Photo Repair – Black and White
- Photo Repair – Color
- Photoshop for the Web

Textbooks:

1. Adobe Photoshop CS (Classroom in a Book) – Techmedia

6. **DESTOP PUBLISHING TOOLS – PAGEMAKER**

Section I. Pagemaker

- PageMaker Basics
- Working wit Publication
- Drawing tools
- The Text Tools
- Importing Graphics
- Transformation
- Master Pages
- Utilities
- Working with text
- The Story Editor
- Working with frames
- Working with layers
- Long documents features
- PageMaker styles and templates
- Links management
- Hyperlinks and HTML

Textbooks:

1. PageMaker 7 Training Guide - Satish Jain (BPB Publication)

7. **Business Communication Skills**

Lesson 1. Essentials of Grammar:

- Parts of Speech
- Punctuation
- Vocabulary Building
- Phonetics

Lesson 2. Office Management :

- Types of Correspondence
- Receipt and Dispatch of Mail
- Filing Systems
- Classification of Mail.
- Role & Function of Correspondence
- Managing Computer

Lesson 3. Letter & Resume Writing:

- Types of Letters-Formal / Informal
- Importance and Function
- Drafting the Applications
- Elements of Structure
- Preparing the Resume
- Do's & Don'ts of Resume
- Helpful Hints

Lesson 4. Quotations, Orders and Tenders :

- Inviting Quotations
- Sending Quotations
- Placing Orders Inviting Tenders

Lesson 4. Presentation Skills:

- Importance of Presentation Skills
- Capturing Data
- Voice & Picture Integration
- Guidelines to make Presentation Interesting
- Body Language
- Voice Modulation
- Audience Awareness
- Presentation Plan
- Visual Aids
- Forms of Layout
- Styles of Presentation.

Lesson 5. Interview Preparation:

- Types of Interview
- Preparing for the Interviews
- Attending the Interview
- Interview Process
- Employers Expectations
- General Etiquette
- Dressing Sense
- Postures & Gestures

Lesson 6. Group Discussion & Presentation:

Definition
Process
Guidelines
Helpful Expressions
Evaluation

Reference book:

1. Communication Skills – Leena sen , Prentice-hall India.
2. Business communication- Asha kaul, Prentice hall India.

8. Computer Communication & Networking

8.1. Introduction

- Introduction to Networking
- Computer Network history
- Benefits of using computer networks
- Network design considerations

8.2. Network strategies and topologies

- Node connecting strategies
- Network computing strategies
- Network coverage
- Network topologies

8.3. Network hardware

- Network hardware component
- Transmission media
- Interface Devices
- Internetworking devices

8.4. Network Software

- Network Operating system (NOS)
- Network application

8.5. Standard and protocols

- Network standard
- Network protocols
- Difference between standards, protocol, and protocol implementation.

8.6. Data transmission

- Data transmission
- Signaling
- Switch Strategies
- Media access Control

8.7. Introduction to OSI model

- An overview of the OSI model
- How network layer communicate

Lesson 8. TCP/IP and the Internet

- TCP/IP- The internet protocol suite
- The Internet

Lesson 9. Network Management

- Functional Area of network Management
- Daily network management responsibilities

Lesson 10. The Future of Network
Future of Network
What Next.

9. Data Modeling and Relational Database Design.

9.1. Introduction to Databases, DBMS and RDBMS :

- Introduction, Information, Quality of Information, Information Processing,
- What is a Database?
- Why a Database?
- Characteristics of Data in a Database
- What is a Database Management System (DBMS)?
- Need for DBMS
- Types of DBMS
- Relational Database Management Systems (RDBMS),
- RDBMS Terminology
- Conclusion
- Review Questions.

9.2. Entity Relationship Modeling (ER)

- Overview of Entities and Entity Relationships
- Transformation of the Entity in Design
- Constructing Entities in ERD
- Defining Entity Relationship
- Defining Attributes for Entity

9.3. Designing Tables

- Types of table
- Basic table Structure
- Defining Tables
- Determining Column specification
- Table design Consideration
- Storage Consideration
- Ownership of table.

9.4. Data Normalization

- Overview of normalization
- Overview of the NORMAL FORM
- Advantage of normalization
- Disadvantages of Normalization
- Demoralization

9.5. Data Integrity

- Referential integrity
- Field- level integrity
- Table –level integrity
- Reviewing and finalizing the Database design

9.6. Designing Views

- Overview of views

- Why use views?
- View relationship
- Managing views
- Avoiding poor view design

9.7. Query Basics

- Performing Queries
- Multiple table queries

9.8. SQL

- SQL
- Optimizing query performance

9.9 Microsoft Access

- Starting Access 2003
- Access Startup Dialog Box
- Menus and Toolbars
- Using Toolbar Buttons
- Arranging Buttons on the Toolbar
- Viewing Data
- Creating an Access Database and Tables
- Database Properties
- Modifying Tables
- Creating Forms
- Entering and Updating Data Using Forms
- Navigating between Records in a Form
- Editing and Deleting Data in a Form

References:

1. Database Design – Ryan K. Stephen & Ronald R .Plew. SAMS Techmedia.
2. Microsoft Access 2003 step by step – Prentice Hall of India

10. Web Programming

10.1. Introduction to Web Site

- HTML on the Internet
- HTML Page Design and Implementation
- Putting your Web Pages Online

10.2. Creating Basic Web Pages with HTML 4.0

- Creating Basic HTML Documents
- Formatting Text as Paragraphs
- Applying Character Formatting
- Adding Graphics to a Web Page
- Linking Documents Together
- Adding Lists to a Web Page
- Building Navigational Imagemaps
- Formatting Content with Tables
- Framing Your Web Site
- Collecting Input with Forms
- Inserting Objects into a Web Page

10.3. Creating Advanced Web Pages with Dynamic HTML

- Making Your Web Sites Accessible to Impaired and International Users
- Adding JavaScript and VBScript to HTML
- Applying Cascading Style Sheets
- Positioning HTML Elements
- Scripting the Object Model
- Binding Data to HTML
- Embedding Web Fonts into a Web Page

10.4. Serving Multimedia Content

- Graphics
- Audio
- Video
- Animation
- Multimedia Applets
- Streaming Audio
- Streaming Video

10.5. Managing your Web Site

- Managing and Staging Files
- Verifying and Testing HTML Documents
- Listing Your Web Site in the Search Tools
- Building a Secure Web Site
- Using HTML and Site Tools

10.6. Learning by Example

- Creating a Personal Web Site
- Publishing a Corporate Web Site
- Building a Corporate Intranet
- Publishing an Online Magazine

10.7. FrontPage

- Laying out a page with Frames
- Adding User Navigational Components
- Working with forms
- Displaying Dynamic Content
- Managing workgroup Development
- Maintaining a site

Textbooks:

1. Special Edition Using HTML 4 - by Jerry Honeycutt Macmillan Computer Publishing.

References:

1. Principles of Web Design - J Sklar Second Education, 2001, Vikash Publishing House Pvt. Ltd.

11. Visual programming using Visual Basic

11.1. Visual Basic Fundamentals

- Building Your First Application
- What's New with Visual Basic 6
- Working in the Visual Basic 6 Programming Environment

- Using the Intrinsic Controls
- Working with Projects in Visual Basic 6
- Working with Properties, Methods, and Events

11.2. Programming with Visual Basic

- Using Data Types, Constants, and Variables
- Making Statements in a Program
- Working with Conditional Statements
- Working with Loops
- Working with Arrays
- Working with Strings and Typecasting

11.3. The Elements of Visual Basic 6

- Creating Menus in Your Programs
- Enhancing Your Programs with Forms and Dialog Boxes
- Handling Keyboard and Mouse Input in Your Programs
- Working with Time and Timers
- Adding Graphics to Your Programs
- Writing Reusable Code with Subs and Functions
- Saving and Retrieving Your Data with Visual Basic
- Deploying Your Visual Basic Applications

11.4. Database Programming with Visual Basic 6

- Database Basics and the Data Control
- Making Reports in Visual Basic 6
- Enhancing Your Programs Using the Advanced Data Controls

Textbooks:

1. Using Visual Basic 6 - Bob Reselman, Wayne Pruchniak, Richard A. Peasley, Eric A. Smith. Macmillan Computer Publishing