

**NIELIT Extension Centre Chuchuyimlang**  
**SYLLABUS:**

**Course: Diploma in Computer Application & Networking (DCAN)**

**Duration: 6 months**

**Objective of the Scheme**

The objective of the Scheme is to generate qualified manpower in the area of Information Technology (IT) which will enable such person to work seamlessly at any Offices, whether Govt. or Private or for future entrepreneurs in the field of IT.

**Course Evaluation:**

Class participation - 20%

Class assignments - 30%

Final Examination - 50%

Students having less than **95%** of class participation/attendance of a month will be considered as discontinued & No leave certificates will be entertained. Attendance will be reviewed every month.

Certificate will be issued only after appearing the final examination which will be held after completion of the Course.

**Numerical Scale Letter Grade**

Percentage	Grade	Remarks
85 - 100%	S	All requirements completed to a high level. Significant individual initiative demonstrated in activity selection and completion.
75 – 84 %	A	All requirements completed to a high level.
65 – 74 %	B	Satisfactory, successful and respectable completion of requirements.
55 – 64 %	C	Average completion of requirements
50 – 54 %	D	Low level, below average completion requirements.
Below 50 %	F	Failure to meet objectives and complete requirements.

Eligibility: Regular Students of the College.

Course Fee: Free of cost

Registration Fee: 200/-

Mode of Admission: Free for all Students

Duration: 6 Months (360 Hrs)

**Course Outlines**

<b>Introduction to Computer System</b>	<b>12 Hrs</b>
Basic Computer Concept	
Computer Organization	
Windows OS: Windows XP Vs Windows 7	
<b>Microsoft Office 2007</b>	<b>60 Hrs</b>
MS Word	
MS Excel	
MS PowerPoint	
<b>Internet &amp; its usage</b>	<b>12 Hrs</b>
<b>Multimedia</b>	<b>144 Hrs</b>
Photoshop	
Adobe Premiere	
Adobe In Design	
<b>PC Assembly &amp; Maintenance</b>	<b>102 Hrs</b>
<b>Basic networking Concept</b>	<b>45 Hrs</b>

## Detailed Syllabus

### 1 Basic Computer Concept

Computer Appreciation - Characteristics of Computers, Input, Output, Storage units, CPU, Computer System.

Computer Organization

Central Processing Unit - Processor Speed, Cache, Memory, RAM, ROM, Booting, Memory- Secondary Storage Devices: Floppy and Hard Disks, Optical Disks CD-ROM, DVD, Mass Storage Devices: USB thumb drive. Managing disk Partitions, File System Input

Devices - Keyboard, Mouse, joystick, Scanner, web cam, Output Devices- Monitors, Printers – Dot matrix, inkjet, laser, Multimedia- What is Multimedia, Text, Graphics, Animation, Audio, Images, Video; Multimedia Application in Education, Entertainment, Marketing. Names of common multimedia file formats, Computer Software- Relationship between Hardware and Software; System Software, Application Software, Compiler, names of some high level languages, free domain software.

**Tutorial:** The student is allowed to enumerate in what ways he can use the computer for his own purpose/business.

**Practical:** The student needs to be exposed/shown various components and supposed how to switch on a computer.

### 2. Introduction to Windows

What is an operating system and basics of Windows

The User Interface

1. Using Mouse and Moving Icons on the screen
2. The My Computer Icon
3. The Recycle Bin
4. Status Bar, Start and Menu & Menu-selection
5. Running an Application
6. Windows Explorer Viewing of File, Folders and Directories
7. Creating and Renaming of files and folders
8. Opening and closing of different Windows

Windows Setting

1. Control Panels
2. Wall paper and Screen Savers
3. Setting the date and Sound
4. Concept of menu Using Help

Advanced Windows

1. Using right Button of the Mouse
2. Creating Short cuts
3. Basics of Window Setup
4. Notepad
5. Window Accessories

**Practical:** More stress is on practical. Allow the student to freely use the computer to experience each command rather than explaining in a theory class

### 3. Office 2007

#### Word Processing

Word processing concepts: saving, closing, Opening an existing document, Selecting text, Editing text, Finding and replacing text, printing documents, Creating and Printing Merged Documents, Character and Paragraph Formatting, Page Design and Layout. Editing

and Profiling Tools: Checking and correcting spellings. Handling Graphics, Creating Tables and Charts, Document Templates and Wizards.

Lab-Assignment/ Test

### **Spreadsheet Package**

Spreadsheet Concepts, Creating, Saving and Editing a Workbook, Inserting, Deleting Work Sheets, entering data in a cell / formula Copying and Moving from selected cells, handling operators in Formulae, Functions: Mathematical, Logical, statistical, text, financial, Date and

Time functions, Using Function Wizard. Formatting a Worksheet: Formatting Cells – changing data alignment, changing date, number, character or currency format, changing font, adding borders and colors, Printing worksheets, Charts and Graphs – Creating, Previewing, Modifying Charts. Integrating word processor, spread sheets, web pages.

Lab-Assignment/ Test

### **Presentation Package**

Creating, Opening and Saving Presentations, Creating the Look of Your Presentation, Working in Different Views, Working with Slides, Adding and Formatting Text, Formatting Paragraphs, Checking Spelling and Correcting Typing Mistakes, Making Notes Pages and Handouts, Drawing and Working with Objects, Adding Clip Art and other pictures, Designing Slide Shows, Running and Controlling a Slide Show, Printing Presentations.

Lab-Assignment/ Test

## **4. Internet usage.**

WWW and Web Browsers: Web Browsing software, Surfing the Internet, Chatting on Internet, Basic of electronic mail, Using Emails, Document handling, Network definition, Common terminologies: LAN, WAN, Node, Host, Workstation, bandwidth, Network Components: Servers, Clients, Communication Media.

Lab-Assignment/ Test

## **5. Multimedia:**

### **Photoshop**

- i. Introduction  
Photoshop Interface, Raster graphics & Vector graphics, Image formats, Operations on image
- ii. Manipulation of Image  
The Marquee tool, the Lasso tool, Magic Wand tool, Inverting Selection, Layers, Brush tool, Eraser tool, Fill tool, Blur tool, Smudge tool, Sharpen tool, Dodge tool, Sponge tool, Darken tool
- iii. Transformation & Retouching  
Free transform, scaling, rotation, skew, perspective, wrap, distort, crop, image size, canvas size, clone stamp tool, healing brush tool, patch tool, red eye tool, history brush tool

- iv. Colour Correction  
Colour swatch, image modes, colour adjustments, colour selection
- v. Text  
The Text tool, editing text, formatting, line & spacing, wrap text, text effects
- vi. Effects  
Blending modes, styles, filters, liquefy, vanishing point
- vii. Drawing  
The pen tool, drawing shapes, managing paths, converting path to selection.

Lab-Assignment/ Test

### **Adobe Premiere**

- i. Introduction  
Basics of Adobe Premiere, Creating a new project, video formats, aspect ratio, the Interface, Project window, Monitor, Timeline, supported file formats
- ii. Manipulation of files  
Importing files, capturing video, trimming clips, working with clips in a sequence, rearranging clips, previewing sequence, opacity
- iii. Effects & transitions  
Working with effects, applying & adjusting effects, duration & speed, colour correction effects, keying effects, transition effects.
- iv. Animation  
Animating effects & clips, adding navigating and setting key frames, moving & copying key frames
- v. Titles  
Creating titles, adding text, adding shapes & images, text styles, creating rolling & crawling text
- vi. Exporting  
Basics of exporting, Adobe Media Encoder, exporting editable movie & audio files.

Lab-Assignment/ Test

### **Adobe In Design**

- i. **Looking at the Work Area:** Using the tools, Using palettes, Workspaces, Using context menus, Opening and closing documents, Changing the view, Selecting objects, Saving a document, Recovering a document after a failure, Undoing mistakes, Working with preferences and defaults
- ii. **Setting Up Pages:** Setting up basic layout options, Using rulers, grids, and guides, Working with pages and spreads, Numbering pages, Changing Numbering and Section Options, Using master pages, Laying out pages with frames, Adjusting layout objects automatically, Working with layers
- iii. **Working with Text:** About text frames, About threading text frames, Adding text to frames, Setting text frame properties, Editing text, Finding and changing text, Finding and changing fonts, Combining text and graphics, Creating path type

- iv. **Setting Type:** Formatting characters, Formatting paragraphs, Working with tabs, Copying type attributes with the eyedropper tool, Working with the type composition engines, Controlling hyphenation and justification, Paragraph and character style sheets, Creating nested styles, Open Type, Glyphs palette
- v. **Arranging and Combining Objects:** Modifying objects using graphics frames, Grouping and ungrouping objects, Stacking objects, Aligning and distributing objects, Locking object position, Moving objects, Changing size, proportions, or orientation, Duplicating objects
- vi. **Applying Color:** About spot and process color types, Working with swatches and unnamed colors, Applying color, Using the Swatches palette, Mixed inks, Mixed ink groups, Using swatch libraries, Using the Color palette, Applying colors by dragging and dropping, Creating gradients
- vii. **Creating Tables:** Creating and editing tables, Importing spreadsheets from Word or Excel, Advanced table techniques, Placing graphics into tables
- viii. **Adobe Product Integration:** Working with Acrobat, Photoshop, and Illustrator files, Using Photoshop layer masks instead of clipping paths, Using Photoshop's file browser, Copy and Paste from Illustrator to In Design CS
- ix. **PDF, Print, Preflight, and Package:** PDF styles, Export options, PDF in detail, Other export formats (ID Interchange), Preflighting your files, Using the Package command, Printing and transparency, Flattener settings, The Separations palette

Lab-Assignment/ Test

## 6. PC Assembly and Maintenance.

- i. Introduction to PC Hardware:  
Study of basic I/O systems, Types of Memories- Static RAM and Dynamic RAM, ROM, PROM, EPROM, EEPROM, CPU (Central Processing Unit)- ALU and control unit.
- ii. Motherboard and Processor:  
Study of different types of Motherboards, Motherboard Configuration, Identifying Internal and External connectors, Types of data cables, Types of Processor- Intel Pentium IV, Dual core, Core 2 Duo, Quad processor etc.,.
- iii. BIOS Configuration:  
Study of BIOS Set-up- Advance set-up, Boot configuration, Boot Menu.
- iv. Installation of OS (Operating Software)  
Windows XP, installation of different types of Service Packs, Vista and Windows-7 etc.
- v. Hard Disk:  
Formatting of Hard disk, Partitioning of Hard disk in different logical drives, Disk defragmentation, Disk clean up, Scan disk etc.,.
- vi. Installation of Device Drivers:  
Different types of Motherboard drivers, LAN, Audio, and Video.
- vii. Configuration of External devices:  
Physical set-up of Printers- Performing test print out, Printing of document etc, Scanner set-up, Webcam, Bluetooth device, Memory card reader etc.
- viii. Diagnostic and troubleshooting of PC:  
POST (Power on Self Test), Identifying problems by Beep codes errors, Checking power supply using Multi-meter, Replacement of components etc.
- ix. Maintenance of PC

- x. Utilities  
Compression Utilities: WinZip, PKZIP, Concept of compression, Defragmenting Hard, disk using defrag, Scan Disk for checking disk space, lost files and recovery, Formatting Hard disk, Floppy Disk, Setting System Date and Time, Antivirus Package CD Writing Software – Nero etc.

Lab-Assignment/ Test

### **7. Basic networking Concept**

- i. What is Networking, Local Area Networking (LANs), Metropolitan Area Network , MAN), Wide Area Network (WAN),
- ii. Networking Topologies
- iii. Transmission media & method of communication
- iv. Cabling: straight through and cross over
- v. Study of components like switches, bridges, routers, Wi-Fi router etc.
- vi. TCP/IP, IP addressing, MAC address, Subnet
- vii. To create a Crossover cable using standard color-coding (RJ-45, UTP, Crimping tools).
- viii. To create a straight cable using standard color-coding. (RJ-45, UTP, Crimping tools)
- ix. To create a simple LAN with two PCs using a single crossover cable to connect the workstations.
- x. To create a simple LAN with two PCs using an Ethernet hub and two straight thru cables to connect the workstations.
- xi. To setup a LAN with a number of PCs using 8/16 port HUB.
- xii. To set up a WLAN (Wi-Fi) router.
- xiii. To use the ICMP Ping command (with switches) to verify the TCP/IP connection between the two workstations.
- xiv. To share and access a file/folders over a network.

Lab-Assignment/ Test