Diploma Course in Computer Hardware and Networking
B.A/B.Sc./B.Com. Part-I (Semester 1st)

2018-19, 2019-20 and 2020-21 Sessions

PAPER CODE	TITLE OF PAPER	UNIVERSITY EXAMINATION	INTERNAL ASSESSMENT	MAXIMUM MARKS
DCHN-1	Fundamentals of Information Technology and MS-Office	60	40	100
DCHN-2	Network Essentials	60	40	100
DCHN-3	Software Lab – I	50	50	100

Diploma Course in Computer Hardware and Networking
B.A/B.Sc./B.Com. Part-I (Semester 2nd)

2018-19, 2019-20 and 2020-21 Sessions

PAPER CODE	TITLE OF PAPER	UNIVERSITY EXAMINATION	INTERNAL ASSESSMENT	MAXIMUM MARKS
DCHN-4	PC Assembling and Troubleshooting	60	40	100
DCHN-5	Windows 2007 Server Administration	60	40	100
DCHN-6	Software Lab – II	50	50	100

DCHN-1: Fundamentals of Information Technology and MS-Office

Maximum Marks: 60 **Maximum Time: 3 Hrs.**
Minimum Pass Marks: 35% **Lectures to be delivered: 45-55 Hrs**

A) Instructions for paper-setter
The question paper will consist of three sections A, B & C. Sections A & B will have four questions from the respective sections of the syllabus and will carry 40% marks each. Section C will have 6-12 short answer type questions which will cover the entire syllabus uniformly and will carry 20% marks in all.

B) Instructions for candidates
1. Candidates are required to attempt two question each from sections A & B of the question paper and the entire section C.
2. Use of non-programmable Scientific Calculator is allowed.

SECTION-A

Computer Fundamentals: Historical evolution of computer, characteristics of computers, capabilities and limitations of computers. Computer generations.
Types of Computers: Desktops, Laptops, Palmtop, PDA
Application of Computers : Computer and their impact on society, computer in education, commercial data processing, public utilities and computes in home.
Concepts: Hardware, Software, Machine Language, Assembly Language, High level Language Block diagram of computer identifying various components and their functions.
Primary Memory: concepts of RAM, ROM, EPROM etc.
Secondary Memory: Floppy disk, hard disk, DVD, compact disk (Read only, Write only, Rewritable CD's)
I/P Devices: Keyboard, light pen, mouse, joystick, trackball, scanner, barcode reader, data gloves and voice input systems.
O/P Devices: Types of printers like character, link page printers, impact and non-impact printers, plotters, voice output systems.
Number system: binary, octal, decimal, base conversion between two different number systems
Binary codes: BCD, ASCII, EBCDIC codes

SECTION-B

Word Processing: MS Word 2007: Introduction to Word Processing, Toolbars, Ruler, Menus, Keyboard Shortcut. Previewing documents, Printing documents, Formatting documents, Checking the grammar and spelling, Formatting via find and replace, Using the Thesaurus, using Auto Correct, word count, Hyphenating, Mail merge, mailing Labels Wizards and Templates, Handling Graphics, tables as Converting a word document into various formats.
MS PowerPoint 2007: Introduction, Elements of Power Point Package, Starting and exploring Power Point menus (Insert, Format, Tools, Slide Show, Window, Help options and all of their features, Options and sub options etc.), Creating, inserting, deleting and formatting slides, Formatting and enhancing text, Slides with graphs, Giving Animation to slides, Transfer of files between Power Point and other word processors and software packages.

Text Book:

1. V. Rajaraman, *Fundamentals of Computers,* PHI.

Reference Books

1. Lary Long and Nancy long, *Computers,* PHI.
2. Subrmanium, *Introduction to Computers,* Tata McGraw Hill.
3. Sanders, D.H. *Computers Today*, McGraw Hill Publications.
4. Taineer, T., et al., *Computers,* McGraw Hill Publications.
5. Virginia Anderson, Microsoft Office Access 2007: The Complete Reference TMH Publications

DCHN-2: Network Essentials

Maximum Marks: 60 **Maximum Time: 3 Hrs.**
Minimum Pass Marks: 35% **Lectures to be delivered: 45-55 Hrs**

A) Instructions for paper-setter

The question paper will consist of three sections A, B & C. Sections A & B will have four questions from the respective sections of the syllabus and will carry 40% marks each. Section C will have 6-12 short answer type questions which will cover the entire syllabus uniformly and will carry 20% marks in all.

B) Instructions for candidates

1. Candidates are required to attempt two question each from sections A & B of the question paper and the entire section C.
2. Use of non-programmable scientific calculator is allowed.

SECTION-A

Basic Concepts: Components of Data Communication, Standards and Organizations, Topology and its Types, Transmission Modes and Categories of Network.
OSI and TCP/IP Models: What is Protocol, OSI Model, Layers and their Functions, Introduction to TCP/IP Model.
Transmission Media: Magnetic Media, Twisted Pair, Coaxial Cable, Radio Transmission, Line of Sight Transmission, Communication Satellite and Wireless Transmission (Wi-Fi) Transmission Impairments like Attenuation, Noise etc.

SECTION-B

Introduction to Internet: Relays, Repeaters, Bridges, Routers and Gateways.
Internet working: How Networks differ, Concatenated Virtual Circuits, Connectionless Internetworking and Internet Architecture.
Switching: Circuit Switching, Virtual Circuits and Packet Switching.
Internet Applications: Domain Name System, Electronic Mail, Structure of an e-mail message, Working of e-mail (Sending and Receiving Message), World Wide Web: Introduction, Working of WWW, Wed Browsers, Multimedia and FTP.
Introduction to Viruses, Worms and its Types, Antivirus and Firewalls.

Text Books:

1. Data and Computer Communication-William Stallings.
2. Internet Applications, Anshuman Sharma.

Reference Books:

1. Computer Networks-Andres S. Tanenbaum-PHI Publication.
2. Computer Network and Internets-D.E. Comer.
3. Data Networks-D. Bertsellas and R. Gallager.

DCHN-3: Software Lab – I

Maximum Marks: 50 **Maximum Time: 3 Hrs.**
Minimum Pass Marks: 35% **Practical Units to be conducted : 60-65 Periods**

The laboratory course will comprise of exercise to what is learnt under Paper DCHN-1

The breakup of marks for the practical will be as under:

Lab Record	:	10 Marks
Viva Voce	:	15 Marks
Program Development And Execution	:	25 Marks

DCHN-4: PC ASSEMBLING AND TROUBLESHOOTING

Maximum Marks: 60 **Maximum Time: 3 Hrs.**
Minimum Pass Marks: 35% **Lectures to be delivered: 45-55 Hrs**

A) Instructions for paper-setter

The question paper will consist of three sections A, B & C. Sections A & B will have four questions from the respective sections of the syllabus and will carry 40% marks each. Section C will have 6-12 short answer type questions which will cover the entire syllabus uniformly and will carry 20% marks in all.

B) Instructions for candidates

1. Candidates are required to attempt two question each from sections A & B of the question paper and the entire section C.
2. Use of non-programmable scientific calculator is allowed.

SECTION-A

Components of PC : Identifying the Major Components of a PC : System Unit, Monitor, Keyboard, Mouse Devices, Handling PC Connections. Identifying the Internal Components of a PC: Opening a System Unit, Handling Expansion Cards.

Identifying the Right CPU for any motherboard: CPU manufacturers, processor models, CPU Speeds, processor packages installing and upgrading CPUs. Heat Sink and Fan Assemble.

RAM: Types of RAM technologies: SDRAM, DDR, RDRAM, SIMMS, DIMMS And RIMMS. Adding and Upgrading RAM.

Motherboard and BIOS: Common Motherboard Features, Types of motherboards : AT, ATX, Micro ATX, Proprietary Motherboards. Installing a motherboard. The System BIOS

Expansion Bus: Expansion Buses, Internal Buses: ISA, PCL, AGP, Installing A Plug And Play, Expansion Card, External Expansion Buses: USB Power Supplies And Cases Case Form Factors: AT, ATX Micro ATX, Power Supply: Wattage, Connectors.

Cooling: Power Supply Fan, Caser Fans.

Sound: How Sound Works In A PC, MIDI, Purchasing The Right Sound Card: Processor Capabilities, Speaker Support, Recording Quality, Installing a Sound Card In A Windows System, Troubleshooting Sound.

SECTION-B

Hard Drives: How Hard Drives Store Data: Partitions And File Systems. Installing a Hard Drive, Configuring a Hard Drive: Partitioning, Formatting. Hard Drive Maintenance and Troubleshooting: Scandisk, Defragmentation, Disk Cleanup.

CD Media : Understanding CD Media Technologies : CD Data Storage, CD-Rom, Speeds, CD-R, CD-RW, DVD, Installing CD Media Drives, Using CD Media: Autoplay in Windows XP, Burning CDs. CD Media Troubleshooting : Drive Problems, Disk Problems.

Video : Selecting The Right Monitor, CRTs : How CRTs Work. LCDs : How LCDs Work. Selecting The Right Video Card : Graphics Processor, Video RAM. Installing And Configuring Video Software. Troubleshooting Monitor Problems: Fuzziness, Missing Color, Missing Pixels, Dim Screen, No Image. Video Card Problems.

Text Books:

1. PC hardware a Beginners Guide-on Gilster-Tata MCgraw Hill.
2. Hardware Bible-Winn L. Rosch-Techmedia.

Reference Books:

1. Trouble Shooting, Maintaining, Repairing PC's-Stephen J. Bigelow-Tata Mcgraw Hill.
2. Data Networks-D. Bertsellas and R. Gallager.
3. IBM PC's and Clones-B. Govindarajalu-Tata Mcgraw Hill.

DCHN-5: WINDOWS 2007 SERVER ADMINISTRATION

Maximum Marks: 60 **Maximum Time: 3 Hrs.**
Minimum Pass Marks: 35% **Lectures to be delivered: 45-55 Hrs**

A) Instructions for paper-setter
The question paper will consist of three sections A, B & C. Sections A & B will have four questions from the respective sections of the syllabus and will carry 40% marks each. Section C will have 6-12 short answer type questions which will cover the entire syllabus uniformly and will carry 20% marks in all.

B) Instructions for candidates
1. Candidates are required to attempt two question each from sections A & B of the question paper and the entire section C.
2. Use of non-programmable scientific calculator is allowed.

SECTION-A

Overview of MS Windows Server 2007, Installation and Administration of Microsoft Windows Server 2007, Domain Controllers and Members Servers, Understanding and Using Server Roles, Frequently Used Tools, Using Graphical Administrative Tools, Using Command Line Utilities.

Understanding User and Group Accounts, The Windows Server 2007 Security Model, Differences Between User And Group Accounts, Default User Accounts and Groups, Account Capabilities, Using Default Group Accounts. Creating User and Group Accounts, User Accounts Setup and Organization, Configuring Account Policies, Configuring User Rights Policies, Using Group Policies Adding a User Account, Adding a Group Account, Handling Global Group Membership.

SECTION-B

Monitoring Processes, Services and Events, Managing Applications, Processes and Performance, Configuring Network Protocols, TCP/IP Architecture, DHCP (Manage and Monitor) and DNS.

Introduction to Network Security, Implementing Security Policies, Working With Support Services and Remote Desktop, Introducing Support Services, Working With the Automated Help System, Using the Help and Support Centre, Introducing the Application Frame Work, Monitoring System Health, Understanding and Using Automatic Updates.

Text Book:

1. Window Server 2007-The complete reference-Tate Mcgraw Hill.

Reference Book:

1. The Ultimate Microsoft windows server 2007 system administrators guide.

DCHN-6: SOFTWARE LAB-II

Maximum Marks: 50 **Maximum Time: 3 Hrs.**
Minimum Pass Marks: 35% **Practical Units to be conducted : 60-65 Periods**

The laboratory course will comprise of exercise on what is learnt under Papers DCHN-4 and DCHN - 5

The break up of marks for the practical will be as under :

Lab Record	:	10 Marks
Viva Voce	:	15 Marks
Practical Set up/Experiment	:	25 Marks