



ASRA COLLEGE OF ENGG. & TECH. (Polytechnic Wing), BHAWANIGARH.



# STUDENT HAND BOOK

Diploma CSE

Semester- 5<sup>th</sup>

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

ASRA COLLEGE OF ENGINEERING & TECHNOLOGY

BHAWANIGARH (SANGRUR)



## STUDY SCHEME

STUDY AND EVALUATION SCHEME FOR DIPLOMA PROGRAMME IN COMPUTER SCIENCE ENGINEERING  
(For Punjab State)

SEMESTER : FIFTH (COMPUTER SCIENCE AND ENGINEERING)

Sr. No.	SUBJECTS	STUDY SCHEME		MARKS IN EVALUATION SCHEME								Total Marks Of Int. & Ext.
		Hrs/Week		INTERNAL ASSESSMENT			EXTERNAL ASSESSMENT					
		Th	Pr	Th	Pr	Tot	Th	Hrs	Pr	Hrs	Tot	
5.1	Computer Peripheral and Interfacing	3	3	15	10	25	75	3	50	3	125	150
5.2	*Operating Systems	3	4	15	10	25	75	3	50	3	125	150
5.3	*Computer Networks	4	3	15	10	25	75	3	50	3	125	150
5.4	*Visual Programming (using VB.NET)	3	4	15	10	25	75	3	50	3	125	150
5.5	*Elective-I	2	4	15	10	25	75	3	50	3	125	150
5.6	Minor Project	-	4	-	50	50	-	-	50	3	50	100
	Industrial Training	-	-	-	50	50	-	-	50	Viva	50	100
	# Student Centred Activities including Personality development Camp	-	3	-	50	50	-	-	-	-	-	50
	<b>Total</b>	<b>15</b>	<b>25</b>	<b>75</b>	<b>200</b>	<b>275</b>	<b>375</b>	<b>-</b>	<b>350</b>	<b>-</b>	<b>725</b>	<b>1000</b>

Elective- I To Choose only one from: a) Open Source Technologies\* b) Java Programming\*



# *Syllabus*



## SYLLABUS

### Computer Peripherals & Interfacing

Internal Marks: 15+10=25

L T P

External Marks: 75+25=100

3 - 4

Total Marks: 125

### DETAILED CONTENTS

1. Video Display - The basic principle of working of video monitors (CRT, LCD,LED), video display adapters, video modes, Video display EGA/VGA/SVGA/PCI adapters and their architecture, Overview of raster scan, vector graphic, their main difference and relative advantages, Concept of reduction and bandwidth of monitors refreshing of screen
2. Hardware Organization of PCs - Types of motherboard and their details ( Form Factor, Chipset), types of processors (INTEL, AMD) and their compatibility with motherboards, serial and parallel ports, PS/2, USB Ports, Interconnection between units, connectors and cables.
3. Storage Devices - Types of Hard Disk Drives- EIDE, SATA, SCSI, SAS External Hard Disk. Constructional features and working of hard disk drive, optical (CD, DVD, Blue Ray) disk drive and Flash Drive, Logical structure of Hard Disk and its organization, boot record.
4. Input Devices - Detailed working principle and troubleshooting of various input devices such as keyboard, mouse, scanner. Basic principle of touch screen, light pen, digitizers. Drivers for various input devices and their role.
5. Output Devices- Overview of printer and its classification, impact and non-impact printer, principle and working of desk Jet, dot matrix, line Printer and laser printers (Monochrome and Colour), plotter (Piezoelectric and Thermal), and modems. Software drivers for various output devices and their role.
6. Power Supplies - Explain the working of SMPS used in computers. On-Line/Off-Line/Line- Interactive/uninterrupted power supplies (UPS), basic principle of working their importance and maintenance
7. The Basic Input/Output System - What is BIOS? Function of BIOS, software interrupts, testing and initialization, configuring the system
8. Other Technologies Mobile, digital camera, web camera, smart card, ATMs, CDMA etc. , Blue Tooth, infrared, Wi-Fi, WiMax. Some aspects of cost performance analysis while procuring the computer.



### List of Books Recommended

1. Hardware Trouble Shooting and Maintenance by B. GovindaRajalu, IBM PC and Clones, Tata McGraw Hill 1991
2. Computer Peripheral & Interfacing by Gourav Gupta, Eagle Prakashan, Jalandhar.
3. The waite group writing MS DOS Device, Drives by Robert, S Lai: Addison, Wesley Publishing Co. 2nd Ed. 1992.
4. Hardware and Software of Personal Computers by SK Bose; Wiley Eastern Limited, New Delhi.
5. Microprocessors and Interfacing by Hall, Douglas: McGraw Hill
6. Microprocessors and Interfacing by Uffenbeck.
7. Computer Peripherals And Interfacing by PritiSrivastav- Ishan Publication
8. Fundamentals of Computers by Sukhvir Singh; Khanna Publishers, New Delhi
9. Computer Peripherals for Micro Computers, Microprocessor and PC by Levis Hahenstau
8. Inside the PC (Eight Edition) by Peter Norton; Tech Media Publication, New Delhi
9. Upgrading and Praparing PC



## Operating System

L T P  
3 - 4

### DETAILED CONTENTS

#### 1. Overview of Operating Systems (04 hrs)

Definition of Operating Systems, Types of Operating Systems, Importance of Operating Systems, Memory organization, Linking, loading and executing control program

#### 2. Functions of Operating System (24 hrs)

Process Management Functions (Principles and Brief Concept); Job Scheduler, Process Scheduler, Process synchronization. Memory Management Function (Principles and Brief Concept); Introduction, Single Process System, Fixed Partition Memory, System Loading, Segmentation, Swapping, Simple Paging System, Virtual Memory. I/O Management Functions (Principles and Brief Concept); Dedicated Devices, Shared Devices, I/o Devices, Storage Devices, Buffering, Spooling. File Management; Principles and Brief Concept, Types of File System; Simple file system, Basic file system, Logical file system, Physical file system. Dead Lock; Condition for Dead lock, Dead Lock Preventions, Dead Lock Avoidance

#### 3. Linux Operating System (20 hrs)

Introduction, history of Linux and Unix, Linux Overview, Structure of Linux, Linux releases, open linux, system requirements, file structures, processor scheduling and memory management in Unix. Linux Commands and Filters: Shell: concepts of command options, input, output redirecting and network file, process and communication commands like: mkdir, cd, ls, who, whoami, cat, more, tail, head, mv, chmod, grep, wc, sort, kill, write, wall, mail, news

### List of Books Recommended

1. Operating Systems by Achyut S Godbole and Atul Kahate: Tata McGraw Hill Education Pvt Ltd , New Delhi
2. Operating System by Hemant Kapila, Eagle Prakashan, Jalandhar.
3. System Programming by John J Donovan, Tata McGraw Hill Education Pvt Ltd , New Delhi
4. Linux – The Complete Reference by Ruichard Peterson, Tata McGraw Hill, New Delhi



5. Operating Systems by Stallings Tata McGraw Hill.
6. Operating Systems- A Concept Based Approach by Dham Dhare, Tata McGraw Hill Education Pvt Ltd , New Delhi
7. System Programming by Dham Dhare, Tata McGraw Hill Education Pvt Ltd , New Delhi
8. Operating System Concepts by Ekta Walia, Khanna Publishers, New Delhi.
9. Unleashed Linux by Tech Media Publishers, New Delhi
10. Linux – Install and Configuration Black Book by Die Annlebalnc and Issac Yates, IDG Books India Private Ltd., New Delhi.
11. Operating System by Abhishek Sagar- Ishan Publication

ACCEPTED



## Java programming

### Syllabus

L T P

2 - 4

#### 1. Introduction to Java

A brief history, how Java works?, Java Virtual Machine (JVM), Java In Time (JIT) compiler, Java features, using Java with other tools, native code, Java application types, comparison with C and C++

2. Working with data types, control flow statements, arrays, casting, command line arguments

#### 3. Java Classes and Memory Management

Introduction to Classes, inheritance, encapsulation and polymorphism, constructors and finalizers, garbage collection, access specifier

#### 4. Interfaces and Packages

Using Java interface, using Java packages

#### 5. Exception Handling and Stream Files

Over view of exception handling, method to use exception handling, method available to exceptions (The throw statement, the throws class, finally class), creating your own exception classes

#### 6. Threads and Multi-threading

Overview, thread basics – creating and running a thread, The thread control methods, The threads life cycle and synchronization

#### 7. Introduction to Applet, Application and JDK

Java applets Vs Java applications, building application with JDK, building applets with JDK, HTML for Java applets, managing input-output stream

#### 8. Java Data Base Connectivity (JDBC)



### RECOMMENDED BOOKS

1. Mastering Java by John Zukowski; BPB Publication, New Delhi
2. The Complete Reference by Patrick Naughton, Tata McGraw Hill Education PvtLtd , New Delhi
3. Java Programming by Balagurusamy, Tata McGraw Hill Education PvtLtd , New Delhi
4. Java Programming by Anu Roy- Ishan Publication
5. Set of Books on Java by Sun Microsystems
6. Java 2 Programming Bible by Aaron Walsh, Justin Couch, Daniel Steinberg, IDG Books India Pvt. Ltd., NetajiSubhashMarg, Darya Ganj, New Delhi
7. Java 2 Swing, Servlets, JDBC and Java Beans Programming Black Book by steven Holzner, IDG Books India Pvt. Ltd., New Delhi
8. Java Pogramming- “How to Program Java” by Dietal and Dietel
9. An Introduction to Java Programming by Y Daniel Liang; Prentice Hall of India
10. The Complete Reference Java by HerbelSchildt; McGraw Hill, New Delhi
11. Core Java by Cay S Horseman and Lray Carnell.
12. Introduction to Cryptography with applets by David Bishop, Narosa Publishing House Pvt Ltd, Darya Ganj, New Delhi 110002



## Visual Programming (Using VB .NET)

(Common in Computer Engineering and Information Technology)

L T P

3 - 4

### RATIONALE

VB .NET is the visual programming technique based on Object Oriented Concepts. This subject will give the students an indepth understanding the features of VB .NET. The practical exercise of VB.NET during the course of study will reinforce the understanding of the subject.

### DETAILED CONTENTS

#### 1 Introduction to Microsoft. Net Framework ( 06hrs)

Introduction to client server architecture, Introduction to .NET framework, feature of .Net framework, architecture and component of .Net, elements of .Net. Common Language Runtime (CLR), Common Type System (CTS), Common Language Specifications (CLS), Microsoft Intermediate Language (MSIL), Just In Time Compiler.

#### 2 VB.NET Integrated Development Environment ( 04hrs)

VB.NET Development Environment, Creating Applications, Building Projects Using simple components, Running VB .NET applications.

#### 3 VB.NET Basics (12 hrs)

Visual Basic .NET Programming Language-Variables & Data Type, Strings, Arithmetic Operators, Building the project, Common Control Controls, Functions Call and Arguments, Select Case, Loops, Nesting of Loops, Decision Structures, Error handling using Try, Catch Block.

#### 4 Windows Applications (10 hrs)

Developing Windows Applications: Introduction to Windows Applications, Using Windows Forms, Visual Inheritance, Windows Forms, Text Boxes, Buttons, Labels, Check Boxes, and Radio Buttons, List Boxes, Combo Boxes, Picture Boxes, Scrollbars, Splitters, Timer, Menus, Built-in Dialogs, Image List, Tree Views, List Views, Toolbars, Status Bar and Progress bars.



### **5 Database Connectivity (10 hrs)**

Database Programming with ADO.NET: ADO.NET Object Model, Database: Connections, Data adapters and datasets, Data Reader, Connection to database with server explorer, Multiple Table Connection, Data binding with controls like Text Boxes, List Boxes, Data grid etc. Navigating data source, Data Grid View, Data form wizard, Data validation, Connection Objects, Command Objects, Data Adapters, Dataset Classes.

### **6 Crystal Reports (06 hrs )**

Crystal reports, Connection to Database, Table, Queries, Building Report, Modifying Report, Formatting Fields and Object.

### **LIST OF RECOMMENDED BOOKS**

1. Visual Basic.NET by C Muthu, Tata McGraw Hill Education PvtLtd , New Delhi
2. Visual Basic.NET Step by Step by Michael Halvorson
3. Visual Programming by VipinArora, Eagle Prakashan, Jalandhar.
4. Applications of .NET Technologies, by ISRD Group, Tata McGraw Hill Education Pvt Ltd , New Delhi
5. Programming Microsoft visual Basic .NET-Francesco Balena
6. The complete Reference-Visual Basic. NET- Jeffrey R. Shapiro
7. Visual Programming using VB.NET by PritiSrivastav- Ishan Publication
8. Murach's VB .NET database programming with ADO.NET-Anne Prince and Doug Lowe



## Computer Networks

### 1. Networks Basics ( 6 hrs)

- What is network
- Models of network computing
- Networking models
- Peer-to –peer Network
- Server Client Network
- LAN, MAN and WAN
- Network Services
- Topologies
- Switching Techniques

### 2. OSI Model ( 8 hrs)

- Standards
- OSI Reference Model
- OSI Physical layer concepts
- OSI Data-link layer concepts
- OSI Networks layer concepts
- OSI Transport layer concepts
- OSI Session layer concepts
- OSI presentation layer concepts
- OSI Application layer concepts

### 3. Introduction to TCP/IP (10 hrs)

- Concept of physical and logical addressing
- Different classes of IP addressing, special IP address
- Sub netting and super netting
- Loop back concept
- IPV4 and IPV6 packet Format
- Configuring IPV4 and IPV6

### 4. Protocol Suites ( 3 hrs)

- Models and Protocols
- Network IPX/SPX
- Intranet Protocols

### 5. Network Architecture (8 hrs)

- ARC net specifications
- Ethernet Specification and Standardization:  
10 Mbps (Traditional Ethernet), 10 Mbps (Fast Ethernet) and 1000 Mbps (Gigabit Ethernet), Introduction to Media Connectivity (Leased lines, ISDN, PSTN, RF, VSAT, Optical and IPLC)

### 6. Network Connectivity ( 6 hrs)

- Network connectivity Devices
- NICs



- Hubs
- Repeaters
- Multiplexers
- Modems
- Routers and Protocols,
- Firewall
- ATM
- VOIP and Net-to-Phone Telephony,
- Laws and Protocols

**7. Network Printing (3 hrs)**

- Print Services

**8. Network Administration / Security (9 hrs)**

- Client/Server Technology
- Server Management
- RAID management and mirroring
- Hauffman codes
- Cryptography

**9. Network Trouble Shooting Techniques (6 hrs)**

- Trouble Shooting process
- Trouble Shooting Tools: PING,IPCONFIG, IFCONFIG, NETSTAT, TRACEROOT, Wiresharp/ Dsniffer/ Pcop

**10. Wireless Networking (05 hrs)**

Basics of Wireless: Wireless MAN, Networking, Wireless LAN, Wi-Fi, WiMax(Broad-band Wireless) and Blue-Tooth technology



# *Lab Syllabus*



## Computer Peripheral and Interfaces

### LIST OF PRACTICALS

- 1) To study the construction and working of CRT, LCD, LED (coloured and black and white monitor) and its troubleshooting .
- 2) To Study the components and internal parts, working of hard disk and CDROM, DVD, Flash Drives
- 3) To study the operations and components and internal parts of Key Board, mouse and their troubleshooting
- 4) Study of components and internal parts and working of DMP, Inkjet printer and Laser printer and various installation of printers
- 5) To study the SMPS circuit and measure its various voltages. Connecting SMPS to motherboard and other devices.
- 6) Study the operation and maintenance of UPS.
- 7) Exercise on assembling a PC with peripherals and testing the same.
- 8) Setup and configuration of ROM BIOS
- 9) Visit to nearby industry



## Operating System

### LIST OF PRACTICALS

1. Directory commands
2. File commands
3. Process management
4. Using file permission commands
5. Mail commands
6. Editing file system rights in a **Linux** environment.
  - a) Interfacing with the network (Ethernet)
  - b) Preparing of network cables including hubs, connectors etc.
  - c) Establishment of LAN network for homogeneous systems
  - d) Establishment of LAN network for heterogeneous systems
  - e) Use of protocols and gateways in establishing LAN
  - f) Writing small programs such as file security, file transfer, remote testing
  - g) Trouble shooting of networks
  - h) Writing login scripts



## Computer Networks

1. Recognize the physical topology and cabling (coaxial, OFC, UTP, STP) of a network.
2. Recognition and use of various types of connectors RJ-45, RJ-11, BNC and SCST
3. Making of cross cable and straight cable
4. Install and configure a network interface card in a workstation.
5. Identify the IP address of a workstation and the class of the address and configure the IP Address on a workstation
6. Managing user accounts in windows and LINUX
7. Study and Demonstration of sub netting of IP address
8. Use of Netstat and its options.
9. Connectivity troubleshooting using PING, IPCONFIG, IFCONFIG
10. Installation of Network Operating System(NOS)
11. Visit to nearby industry for latest networking techniques



## **VB.NET**

1. Exercise on opening projects.
2. Exercise on all the menus of opening window of VB .NET
3. Exercise on all basic Controls.
4. Exercise on designing form.
5. Exercise on Database Connectivity.
6. Exercise on Creating Crystal reports.

ACCEPT



## Java Programming

1. a) Write a program which tells whether a number is even or odd. Take a range from 1 – 50  
b) Display the output which is given below:  
\*  
\* \*  
\* \* \*
- c) Write a program which sorts an array of type integer  
d) Write a programme to determine the sum of the following harmonic series for a given value of n:  $1+1/2+1/3+\dots+1/n$  the value of n should be given interactively through the keyboard
2. Write a programme to convert the given temperature in Fahrenheit to Celsius using the following conversion formula  
 $C = F.32/1.8$  and display the value in a tabular form
3. Write a programme to find all the numbers and sum of all integers greater than 100 less than 200 that are divisible by 7
4. Given a list of marks ranging from 0 to 100, write a programme to compute and print the number of student should have obtained marks (a) in the range 81 to 100 (ii) in the range 61 to 80 (c) in the range 41 to 60 (d) in the range 0 to 40. The programme should use a minimum number of if statement
5. Admission to a professional course is subject to the following conditions:  
Marks in mathematics  $\geq 60$   
Marks in physics  $\geq 50$   
Marks in chemistry  $\geq 40$   
Total in all 3 subjects  $\geq 200$  (OR)  
Total in mathematics and physics  $\geq 150$  given the marks in the 3 subjects. Write the programme to process the application to list the eligible candidates
6. The number in the sequence 1 1 2 3 5 8 13 21 ..... Are called Fibonacci numbers. Write programme using a do ..... while loop to calculate and print the first m fibonacci numbers (Hint: after the first 2 numbers in the series, each number is the sum of the 2 preceding the numbers)
7. Write a programme to evaluate the following investment equation  $V=P(1+r)^n$  and print the tables which would give the value of V for various combination of the following values of P, r and n.
8. Write a program which will store the students roll no. names and total marks in the database
9. Write a program which will display all those records whose marks are above 75%
10. Write a programme to draw the following using Applet:
11. Exercises on implementing Java Classes.
12. Exercises on exceptional handling



- 13. Exercises on creating and running threads
- 14. Exercises on database Connectivity

# *Assignments*



## Assignments

### Computer Peripherals & Interfacing

S. No.	Assignment No.	Description of Assignment
1	Assignment- 1	Q.1) Explain the working of CRT video monitors? Discuss the advantages of CRT also? Q.2) Explain emissive and non-emissive display? Q.3) Explain LCD display devices features? Q.4) What do you understand by VGA and SVGA? Q.5)What do you mean by motherboard and what are its basic functions?
2	Assignment- 2	Q.1) What is FDD? Explain its working and its construction? Q.2) What is HDD? Explain its features? Q.3) What do you mean by storage devices? Q.4) Explain the working principle of Keyboard? Give its keys also? Q.5)Explain Various types of Scanners?
3	Assignment- 3	Q.1) Explain all types of mouse in computer? Q.2) What are the advantages of Light pen vs Touch Screens? Q.3) Explain Line Printer and Jet printer in detail? Q.4) What are plotters? Q.5)Explain Aspect Ratio, Luminance, Refresh Rate, Power Consumption in Monitors?
4	Assignment- 4	Q.1)What do you mean by Power Supplies? What are its importance in Computers? Q.2)What are the steps to remove a SMPS? Q.3) Explain the term UPS? Discuss their types also? Q.4) What do you mean by BIOS? Q.5) Explain various DOS services?



## Operating System

S. No.	Assignment No.	Description of Assignment	Assignment Dates	
			Allotment Date	Submission Date
1	Assignment- 1	Q.1) What is Operating System? Q.2) Discuss Evolution or different types of OS along with their advantages? Q.3) Explain Linking, Loading and executing a control program? Q.4) Explain OS Structure in detail? Q.5) What are the OS services? Explain any 3 service of OS?		
2	Assignment- 2	Q.1) What is Process management? Explain its Functions Q.2) What is Process Control Block? Q.3) How a Process Scheduler schedules process? Explain different schedulers also? Q.4) Explain Paging and Segmentation in detail? Q.5) What is Swapping?		
3	Assignment- 3	Q.1) Define Virtual memory along with its features? Q.2) What is Buffering and Spooling in OS? Q.3) Explain Interprocess communication? Q.4) Explain File management Services in detail? Q.5) What is Deadlock? How it is Detected?		
4	Assignment- 4	Q.1) What is Semaphore? Q.2) How deadlocks are prevented and how they can be avoided? Q.3) Describe Linux Structure in detail? Q.4) What are Shells? Give its features? Q.5) Explain different types of Shells?		
5	Assignment- 5	Q.1) Explain with example: File management commands or directories commands in Linux Q.2) Explain with example: Process management commands Q.3) Explain with example:Memory management commands? Q.4) Explain with example: cd, ls, who, whoami, cat, more, tail, head Q.5) Explain with example: grep, wc, sort, kill, write, wall		



## Java Programming

### Assignment 1

1. Why Java is called as 100% pure object oriented language?
2. What are the disadvantages and advantages of Java?
3. What do you mean by identifiers? What are the rules for identifiers?
4. Differentiate between the following statements:
  - a. While and do-while
  - b. For and while
  - c. Continue and return
5. What is Byte code?

### Assignment -2

1. What is JRE? Explain it?
2. Explain Garbage collection?
3. What is difference between an object and a class?
4. Write a complex class that represents a simple complex number and includes methods for all the usual operations i.e. addition, subtraction, multiplication and division?

### Assignment -3

1. What is Abstract class and method?
2. Why Java not directly supports Multiple Inheritance?
3. Explain difference between an Abstract class and Interface?
4. What do you mean by Exception?

### Assignment-4

1. What is the difference between Process and Thread?
2. Explain Try, Catch and Finally Block?
3. Difference between Throw and Throws?
4. What do you mean by Synchronization?

### Assignment-5

1. Java Applets V/s Java Applications?
2. What is JDBC? Explain how it is done?
3. Give any example of Java applets?



## VB.NET Assignments

S. No.	Unit/Chapter name from which assignment is set	Description of Assignment
1	Introduction to Microsoft.Net Framework	<ul style="list-style-type: none"><li>• What is .net?</li><li>• What is .net framework?</li><li>• What are elements of .net?</li><li>• Explain CLR.</li><li>• Explain Garbage collection.</li></ul>
2	Visual Studio .NET IDE &VB.NET Basics	<ul style="list-style-type: none"><li>• Explain the concept of new project dialogue box.</li><li>• Explain operators and its different types.</li><li>• What is IDE and its feature?</li><li>• Explain all type of variables used in .net</li></ul>
3	Window Applications	<ul style="list-style-type: none"><li>• What is a form?</li><li>• Explain in brief scroll bar and status bar.</li><li>• What is Built in dialog boxes?</li><li>• What is combo box?</li></ul>
4	Database Connectivity	<ul style="list-style-type: none"><li>• What is an ADO.NET?</li><li>• What is dataset objects?</li><li>• Explain Data Providers.</li><li>• How to set up a database connection in server explorer.</li></ul>
5	Crystal Reports	<ul style="list-style-type: none"><li>• What is crystal reports?</li><li>• How connections is established to the database in crystal reports.</li><li>• How can we modify a report?</li><li>• How can we format fields and objects in a crystal report?</li></ul>



### Computer Networks

S. No.	Assignment No.	Description of Assignment
1	Assignment- 1	<b>What is network? Explain the below:</b> <ul style="list-style-type: none"><li>- Models of network computing</li><li>- Networking models</li><li>- Peer-to –peer Network</li><li>- Server Client Network</li><li>- LAN, MAN and WAN</li><li>- Network Services</li><li>- Topologies</li><li>- Switching Techniques</li></ul>
2	Assignment- 2	<b>Introduction to TCP/IP: Explain the below:</b> <ul style="list-style-type: none"><li>- Concept of physical and logical addressing</li><li>- Different classes of IP addressing, special IP address</li><li>- Sub netting and super netting</li><li>- Loop back concept</li><li>- IPV4 and IPV6 packet Format</li><li>- Configuring IPV4 and IPV6</li></ul>
3	Assignment- 3	<b>ARC net specifications: Explain the below:</b> <ul style="list-style-type: none"><li>-Ethernet Specification and Standardization: 10 Mbps (Traditional Ethernet), 10 Mbps (Fast Ethernet) and 1000 Mbps (Gigabit Ethernet), Introduction to Media Connectivity (Leased lines, ISDN, PSTN, RF,VSAT, Optical and IPLC)</li></ul>
4	Assignment- 4	<b>Explain the below Network connectivity Devices:</b> <ul style="list-style-type: none"><li>- NICs</li><li>- Hubs</li><li>- Repeaters</li><li>- Multiplexers</li><li>- Modems</li><li>Routers and Protocols,</li><li>- Firewall</li><li>- ATM</li><li>- VOIP and Net-to-Phone Telephony,</li><li>- Laws and Protocols</li></ul>
5	Assignment- 5	<b>Network Administration / Security: Explain the below:</b> <ul style="list-style-type: none"><li>- Client/Server Technology</li><li>- Server Management</li><li>- RAID management and mirroring</li><li>- Hauffman codes</li><li>- Cryptography</li></ul>



ACCEPT