

Computer Hardware & Networking Lab

SUBJECT CODE: 2018506	Practical			No. of period in one session:			Credits 01
	No. of Periods per Week			Full Marks:	:	25	
	L	T	P/S	Internal (PA)	:	07	
	-	-	02	External (ESE)	:	18	

Course Learning Objective:

Platform Used (In case of Software & Hardware):

1. Client Machines (Computers with windows / Linux and latest configuration) with Printer: Laser jet.
2. Network Tool kit: clamping, crimping tool, network tester, line tester .
3. Network Accessories: RJ 45, UTP cable, T connector, Optical Fiber, Coaxial Cable, Modem, various connectors, 1000Mbps NIC.
4. UPS system 6KVA online.
6. Router, Repeater, Bridges: Latest configuration.
7. Computer Hub 8/ 16 node with console port.
8. Modem – Latest configuration.
9. Ethernet Switch 4/8/16/24/32.
10. LAN Cable (CAT6, CAT5). Coaxial Cable, UTP Cable, STP Cable, Fiber Optic Cable.
11. Firewall with high security and high storage.
12. MS office latest version.
11. Antivirus Software (online protection with firewall securities).
12. RS 232 cable and connector.

Course Outcomes:

1. Maintain wired computer network topologies.
2. Use the relevant network model for the specified data communication system.
3. Maintain relevant transmission medium and modem for data transmission.
4. Analyze error detection/correction and flow control of data in the data network.
5. Configure the network component and assign IP address.

CONTENTS : Practical		Hrs.	Marks
UNIT – 01	Identify motherboard components	[04]	
UNIT – 02	RAM identification, removal, installation.	[03]	
UNIT – 03	CMOS setup.	[03]	
UNIT – 04	Print a summary of your system Hardware.	[03]	
UNIT – 05	Upgrading memory.	[03]	
UNIT – 06	Hard drive, optical drive installation.	[03]	
UNIT – 07	How to recover lost data on hard drive.	[03]	
UNIT – 08	Trouble shooting keyboard ,monitor, printer- a) few keys do not work. b) keyboard does not work at all. c) key continuous to repeat after being released. d) key produces wrong character. e) Power light (led) does not go on, no picture. f) Power LED light is on no picture power up . g) Power on but monitor display wrong character.	[03]	
UNIT – 09	Printer Problems 9.1 laser printer: a) Printer never leaves warm-up mode. b) Paper Jam message is displayed	[04]	

	c) Printed messages are distorted 9.2 DMP a) Print head moves back and forth but nothing prints. b) Print self test works but printing from a computer application does not work etc.,		
<u>UNIT – 10</u>	Installation of operating system	[03]	
<u>UNIT – 11</u>	Installation of Network card.	[03]	
<u>UNIT – 12</u>	Preparing the UTP cable for cross and direct connections using crimping tool.	[03]	
<u>UNIT – 13</u>	Installation of a switch and connecting systems to a network switch.	[03]	
<u>UNIT – 14</u>	Installation of a modem (internal, external or USB) and connecting to internet.	[03]	
<u>UNIT – 15</u>	Using FTP for uploading and downloading files.	[03]	
<u>UNIT – 16</u>	Installation and configuring the proxy server for internet access.	[03]	

Books Recommended

Text Books

4. Data Communication and Networking, First Edition, 1999 - B. Forouzan Tata McGraw Hill
5. Data and Communication, Sixth Edition, 2002 - W. Stallings Prentice Hall of India
6. Wireless and Mobile Network Architecture, 2001 - Lin and Chlatmtac John Wile and Sons, India

Reference Books

6. Computer Networks, Fourth Edition, 2002 - A.S. Tanenbaum Pearson Education
7. Communication Networks, First Edition, 2000 - A. Leon-Gracia and I Widjaja Tata McGraw Hill
8. An Engineering Approach to Computer - S. Keshav Addison Wesley
9. Understanding Data Communication and Networks, Second Edition, 1999 - William A. Shay Brook Cole Publishing Company
10. Local Area Networks, 1997 - C.E. Keiser Tata McGraw Hill

Object Oriented Programming Through JAVA Lab

SUBJECT CODE: 2018507A	Practical			No. of period in one session:			Credits 02
	No. of Periods per Week			Full Marks :	:	25	
	L	T	P/S	Internal (PA)	:	07	
	-	-	04	External (ESE)	:	18	

Course Objective:

1. To learn the basic syntax and semantics of the Java language and programming environment.
2. To understand the concepts of classes and objects
3. To be able to implement decisions using if statements
4. To be able to program loops with while, for and do statements
5. To understand and learn the concepts of exception handling, multithreading and file handling.
6. Develop small software applications using JAVA Programing

CONTENTS : Practical		Hrs.	Marks
<u>UNIT – 01</u>	Write programs using Java built-in functions using all data types.	[04]	
<u>UNIT – 02</u>	Write programs using conditional statements and loop statements.	[04]	
<u>UNIT – 03</u>	Write a program to read data from keyboard.	[04]	
<u>UNIT – 04</u>	Write a program to create class and objects.	[04]	
<u>UNIT – 05</u>	Write programs using constructors.	[04]	
<u>UNIT – 06</u>	Write a program to illustrate usage of command line arguments.	[03]	
<u>UNIT – 07</u>	Write programs using concept of overloading methods.	[03]	
<u>UNIT – 08</u>	Exercise on inheritance.	[04]	
<u>UNIT – 09</u>	Write a program using the concept of method overriding.	[04]	
<u>UNIT – 10</u>	Exercise on importing packages.	[03]	
<u>UNIT – 11</u>	Exercise on interfaces.	[03]	
<u>UNIT – 12</u>	Exercise on exception handling.	[03]	
<u>UNIT – 13</u>	Exercise on multithreading and thread priorities.	[03]	
<u>UNIT – 14</u>	Exercise on database connectivity using JDBC.	[04]	

TEXT AND REFERENCE BOOKS

1. Herbert. Schildt, “The Complete Reference –Java”, 10th edition, McGraw Hill Publication.
2. E. Balaguruswamy, “Programming with Java - A primer”, 4th edition, McGraw Hill publication.
3. Head First Java Kathy Sierra and Bert Bates
4. Core Java An Integrated Approach (Black Book) Dr. R. Nageswara Rao

OBJECT ORIENTED PROGRAMMING THROUGH C++ Lab

SUBJECT CODE: 2018507B	Practical			No. of period in one session: 40			Credits
	No. of Periods per Week			Full Marks :	:	25	02
	L	T	P/S	Internal (PA)	:	07	
	-	-	04	External (ESE)	:	18	

Course Learning Objective

The learning objectives of this course are:

- To understand how C++ improves C with object-oriented features.
- To learn how to write inline functions for efficiency and performance.
- To learn the syntax and semantics of the C++ programming language.
- To learn how to design C++ classes for code reuse.
- To learn how to implement copy constructors and class member functions.
- To understand the concept of data abstraction and encapsulation.
- To learn how to overload functions and operators in C++.
- To learn how containment and inheritance promote code reuse in C++.
- To learn how inheritance and virtual functions implement dynamic binding with polymorphism.
- To learn how to design and implement generic classes with C++ templates.
- To learn how to use exception handling in C++ programs.

CONTENTS : Theory		Hrs.	Marks
<u>UNIT – 01</u>	Programming exercise on executing a Basic C++ Program.	[05]	
<u>UNIT – 02</u>	Programming Exercise on Control Statement (if-else, elseif ladder)	[05]	
<u>UNIT – 03</u>	Programming exercise on loop Control Statement (for, while, do-while)	[05]	
<u>UNIT – 04</u>	Programming exercise on Function.	[05]	
<u>UNIT – 05</u>	Programming exercise on creating classes and their object.	[05]	
<u>UNIT – 06</u>	Programming exercise to demonstrated constructor and destructor.	[05]	
<u>UNIT – 07</u>	Programming exercise on operator overloading.	[05]	
<u>UNIT – 08</u>	Programming exercise to illustrate concept of Inheritance.	[05]	

Books Recommended:

Text Books

1. C++ Primer, Third Edition, 1998 - Stanley B. Lippman, Addison-Wesely
2. Problem Solving with C++, Second Edition, 1999 - W. Savitch Pearson Education
3. Object Oriented Programming with C++, 1999 - E. Balagurusamy Tata McGraw Hill
4. Object Oriented Programming with C++, 1999 - Nabajyoti Barkakati PHI
5. Object Oriented Programming in C++, Fourth Edition, 2001 - R. Lafore Techmedia
6. The Elements of C++ Programming, Third Edition, 2000 - B. Stroustrup Addison Wesley
7. Mastering C++, First Edition, 1997 - K.V. Venugopal, R. Kumar and T. Tavishankar, Tata McGraw Hill

.NET WITH 'C#' Lab

SUBJECT CODE: 2018507C	Practical			No. of period in one session: 50			Credits 02
	No. of Periods per Week			Full Marks :	:	25	
	L	T	P/S	Internal (PA)	:	07	
	-	-	04	External (ESE)	:	18	

Course Learning Objective

On completion of the study of the subject the student should be able to comprehend the following

CONTENTS : Theory		Hrs / Week	Marks
<u>UNIT – 01</u>	Exercise on all basic controls in designing forms.	[04]	
<u>UNIT – 02</u>	Design a calculator using appropriate commands.	[03]	
<u>UNIT – 03</u>	Exercise on menus at design time and run time.	[03]	
<u>UNIT – 04</u>	Exercise on modifying and deleting menu items.	[03]	
<u>UNIT – 05</u>	Develop a project using arrays and control statements.	[04]	
<u>UNIT – 06</u>	Develop a project using recursive concept.	[04]	
<u>UNIT – 07</u>	Exercise on Line and Shape Controls.	[03]	
<u>UNIT – 08</u>	Exercise on console application which accept two argument from the user and returns four output values as sum, difference, product and quotient of those two arguments.	[04]	
<u>UNIT – 09</u>	Develop a calculator windows application.	[04]	
<u>UNIT – 10</u>	Exercise on web forms using appropriate control elements.	[03]	
<u>UNIT – 11</u>	Design a student details web form.	[04]	
<u>UNIT – 12</u>	Exercise on web forms using images , hyperlinks.	[03]	
<u>UNIT – 13</u>	Exercise on data accessing in ADO.NET with multiple tables.	[04]	
<u>UNIT – 14</u>	Develop a student web application, connect to database. a) Retrieve student details and display in web form. b) Retrieve student marks, calculate percentage display the result in tabular form.	[04]	

REFERENCE BOOKS:

5. Programming in C#: A Primer||,Balaguruswamy, McGraw-Hill.
6. C# A Beginner's Guide||,Herbert Schildt, McGraw-Hill.
7. Learning C#||,Jesse Liberty and Brian MacDonald, O'Reilly
8. Pro C# and the .NET Framework||,Andrew Troelsen, Apress
9. Mastering Visual C# .NET||,Jason Price&Mike Gunderloy, Publisher: Wiley

System Administration Lab

SUBJECT CODE: 2018508A	Practical			No. of period in one session: 50			Credits
	No. of Periods per Week			Full Marks :	:	50	02
	L	T	P/S	Internal (PA)	:	20	
	-	-	04	External (ESE)	:	30	

Course Learning Objective:

On completion of the study of the subject the student should be able to comprehend the following.

The course is designed to provide complete knowledge of Windows Server OS.

Learning Outcomes:

After the completion of the course, the students will gain knowledge about System Administration or Windows Administration.

CONTENTS : Practical		Hrs.	Marks
<u>UNIT – 01</u>	Installing Linux/Windows-2008 server.	[05]	
<u>UNIT – 02</u>	Practice on Linux commands.	[05]	
<u>UNIT – 03</u>	Creating and managing user accounts in LINUX/Windows-2008 server.	[05]	
<u>UNIT – 04</u>	Write and execute at shell programs in Linux using numbers.	[05]	
<u>UNIT – 05</u>	Write and execute at shell programs in Linux using strings.	[05]	
<u>UNIT – 06</u>	Write and execute at shell programs in Linux using arrays.	[05]	
<u>UNIT – 07</u>	Lower case to upper case, string length, concatenating strings.	[05]	
<u>UNIT – 08</u>	Installation of device drivers in LINUX/Windows-2008 server.	[05]	
<u>UNIT – 09</u>	Configuration of DHCP in LINUX/Windows-2008 server.	[05]	
<u>UNIT – 10</u>	Configuration of DNS in LINUX/Windows-2008 server.	[05]	

Reference Books

1. Teach Yourself MCS TCP/IP, James F. Causey, Techmedia
2. Introduction to UNIX and LINUX —, John Muster, TMH Pubs
3. Linux Administration : a Beginner's Guide”, Wale Soyinka, McGraw Hill.

Multimedia Technology Lab.

SUBJECT CODE: 2018508B	Practical			No. of period in one session: 50			Credits 02
	No. of Periods per Week			Full Marks :	:	50	
	L	T	P/S	Internal (PA)	:	20	
	-	-	04	External (ESE)	:	30	

Course Objective: Creation of Web page using Integrated Development Environments.

CONTENTS : Practical		Hrs.	Marks
<u>UNIT – 01</u>	Create web page using structure tags to display sample message	[04]	
<u>UNIT – 02</u>	Create a web page for displaying a paragraph using block level tags, HR tags	[04]	
<u>UNIT – 03</u>	Create a web page for implementing different types of Lists	[04]	
<u>UNIT – 04</u>	Create a web page to link- a) A different web page of same site. b) A different location on the same web page c) A specific location on different web page of same site.	[04]	
<u>UNIT – 05</u>	Insert images on web page using various attributes	[04]	
<u>UNIT – 06</u>	Create a web page to implement Frame tags, Tables tags	[04]	
<u>UNIT – 07</u>	Create a web page for demonstration of CSS by applying V 06* Internal/External/ Inline style	[03]	
<u>UNIT – 08</u>	Install a web server and publish a website on Intranet and publish it on internet.	[04]	
<u>UNIT – 09</u>	Design a Visiting Card containing at least one graphic and text information	[03]	
<u>UNIT – 10</u>	You are given a picture of a garden as background. Extract the image of a butterfly from another picture and organize it on the background.	[04]	
<u>UNIT – 11</u>	Shape Distortion: Create a square and gradually convert it into a circle	[04]	
<u>UNIT – 12</u>	Spotlight: Create a text on one layer; format the text with suitable size, color and style. With the help of another layer, position a spotlight on the text and move the spotlight from left to right.	[04]	
<u>UNIT – 13</u>	"Simulation of a Raindrop: In the first layer, draw a raindrop that falls on the ground. Show the splash effect, when it touches the ground on another layer."	[04]	

Reference Book:

1. HTML 5 Black DT Editorial Dreamtech Publication, New Delhi, Book(second edition)
2. Learning Web Design Robbins O'Reilly, London, 2012
3. Teach Yourself HTML SAMS Pearson Education Publication, New & CSS in 24 Hours Delhi, 2015, ISBN: 978- 672336140
4. Comdex Multimedia and Web Design Course Kit, DreamTech, Vikas Gupta, ISBN 13: 788177229196
5. Project Flash MX by Nat Gertler, Thomson Delmar Learning Publication
6. Practical Photoshop® CS6, Level 1 by Barbara Zukin Heiman, Donald Laird, Corrine Haverinen, Windsor Green, & Marilyn P. Kelly Practical Photoshop.