GOKARAJU RANGARAJU
INSTITUTE OF ENGINEERING AND TECHNOLOGY

IT WORKSHOP

Course Code: GR15A1026   L:0 T:0 P:2 C:2
I Year I Semester

Prerequisites
- Fundamentals of Computer and its parts.
- Identification of peripherals of computer.

Course Objectives
- To introduce the students to a PC and its basic peripherals, the process of assembling and disassembling the PC and to install software's.
- To increase the ability of the students in effective usage of Internet using web browsers and how to protect the system from virus.
- To enable the students in crafting professional word documents, excel spread sheets and power point presentation using Open office tools.
- To provide basic knowledge about the networking devices Routers and Switches .In addition it include, how to connect those devices using different cables

Course Outcomes
- Ability to assemble a computer and its peripherals, forming foundation for applying hardware in engineering solutions.
- Ability to analyze and use the software and internet as productivity tool with professional ethics for all engineering application.
- Ability to install different software.
- Ability to implement hardware and software in troubleshooting software related problems.
- Ability to explore the internet for information extraction and other innovative applications.

PC Hardware
Introduces the students to a personal computer and its basic peripherals, installation of system software like MS Windows, Linux and the required device drivers. In addition hardware and software level troubleshooting process, tips and tricks would be covered. **The students should work on working PC to install Windows and Linux on the same PC. Students are suggested to work similar tasks in the Laptop scenario wherever possible.**

Internet & World Wide Web module introduces the different ways of hooking the PC on to the internet from home and workplace and effectively usage of the

internet. Usage of web browsers, email, newsgroups and discussion forums would be covered. In addition, awareness of cyber hygiene, i.e., protecting the personal computer from getting infected with the viruses, worms and other cyber attacks would be introduced. Productivity tools module would enable the students in crafting professional word documents, spread sheets and slide presentations.

Task 1
Installation of OS Every student should install Ubuntu and RedHat Linux on the computer. Lab instructors should verify the installation and follow it up with viva

Task 2
Hands on experience on Open Office: Every student should install open office on the computer. Students would be exposed to create word documents with images, tables, formula and with additional word processing features, Power point presentation, Excel and access. Lab instructors should verify the installation and follow it up with viva.

Task 3
Internet Based Applications: Students customize their web browsers with the LAN proxy settings, bookmarks, search toolbars and pop up blockers. Students should know what search engines are and how to use the search engines. A few topics would be given to the students for which they need to search
on Google.

Task 4
Networking-Network Infrastructure: Understand the concepts of Internet, intranet, and extranet, local area networks (LANs), wide area networks (WANs), wireless networking, network topologies and access methods.

Task 5
Network Hardware: Understand switches, routers, media types, static routing, dynamic routing (routing protocols), default routes; routing table and how it selects best route(s); routing table memory, network address translation (NAT).
Task 6: Network Protocols: Understand the Open Systems Interconnection (OSI) model, IPv4, IPv6-ipv4toipv6 tunneling protocols to ensure backward compatibility, dual IP stack, subnetmask, gateway, ports, packets, reserved address ranges for local use (including local loopback IP).

Task 7
Network Services: Understand names resolution, networking services, TCP/IP-Tools (such as ping), tracert, pathping, Telnet, IPconfig, netstat, reserved address ranges for local use (including local loopback IP), protocols.

Task 8

Database -Core Database Concepts: Understand how data is stored in tables, Understanding DML and DDL statements

Task 9

Creating and Insertion of Data: Understanding Data types, tables and how to insert data in to the tables.

Task 10

HTML Basic HTML Tags: Understand what are the tags used for creation of website

Task 11

 Designing a Static web page: Understand how to create static web page.

Teaching Methodologies

1. Power Point presentations.
2. Assignments.
3. Hands on experiment.

Reference Books

1. Introduction to Information Technology, ITL Education Solutions Limited, Pearson Education.
2. Introduction to Computers, Peter Norton, 6/e Mc Graw Hill
3. Upgrading and Repairing, PC's 18th e, Scott Muller QUE, Pearson Education
4. Comdex Information Technology Course tool kit Vikas Gupta, WILEY Dreamtech
5. IT Essentials PC Hardware and Software Companion Guide, Third Edition by David Anfinson and Ken Quamme- CISCO Press, Pearson Education
6. PC Hardware and A+Handbook Kate J. Chase PHI(Microsoft)
7. ORACLE DATA BASE LOG PL/SQL Programming SCOTT URMAN, Tata Mc- Graw Hill
8. Introduction to Database Systems, C.J.Date Pearson Education.