

1/4 B.Tech. SECOND SEMESTER

ME2L2

IT WORKSHOP

Credits: 2

Lecture: --

Internal assessment: 25 marks

Lab Practice : 3 periods/week

Semester end examination: 50 marks

Course Objectives:

1. To attain knowledge on PC hardware and software.
2. Assembling and Disassembling a PC.
3. Installation of system software like MS Windows, Linux and the device drivers.
4. To learn productivity tools like Word, Excel, Power point etc...

Learning outcomes:

At the end of course the students will be able to:

1. Identification of Basic Computer Peripherals.
2. Installation of System Software like Ms Windows, Linux.
3. Attain basic knowledge on hardware (I/O devices, Mother board, processor etc...).
4. Apply MS Office tools.

PC HARDWARE Identification of basic peripherals, assembling a PC, installation of system software like MS Windows, Linux and the device drivers. Troubleshooting Hardware and software _ some tips and tricks .

INTERNET & WORLD WIDE WEB: Different ways of hooking the PC on to the internet from home and workplace and effectively usage of the internet, web browsers, email, newsgroups and discussion forums .Awareness of cyber hygiene(protecting the personal computer from getting infected with the viruses), worms and other cyber attacks .

PRODUCTIVITY TOOLS Crafting professional word documents; excel spread sheets, power point presentations and personal web sites using the Microsoft suite of office tools and LaTeX.

(Note: Student should be thoroughly exposed to minimum of 12 Tasks)

PC HARDWARE

TASK 1: Identification of the peripherals of a computer. To prepare a report containing the block diagram of the CPU along with the configuration of each peripheral and its functions and submit the assignment to your instructor

TASK 2 :

A practice on disassemble the components of a PC and assembling them to working condition.

TASK 3 :

- a) Basic DOS commands
- b) Installation of MS windows on a PC. lab instructor should verify the installation process

TASK 4 :

- a) Introduction to LINUX
- b) System requirements
- c) Installation procedure

TASK 5:

Exposure to Basic commands and system administration in Linux including: Basic Linux commands in bash, Create hard and symbolic links.

TASK 6:

HARDWARE TROUBLESHOOTING (DEMONSTRATION):

Students have to be given a PC which does not boot due to improper assembly or defective peripherals. Identification of a problem and fixing it for getting to working condition.

SOFTWARE TROUBLESHOOTING (DEMONSTRATION): Students have to be given a malfunctioning CPU due to system software problems. Identification of a problem and fixing it for getting to working condition. **INTERNET & WORLD WIDE WEB**

TASK 7:

BASIC GUIDE TO INTERNET

Students should get connected to their Local Area Network and access the Internet. In the process they should configure the TCP/IP setting and demonstrate how to access the websites and email.

TASK 8:

A) **SURFING THE INTERNET:** Students customize their web browsers using bookmarks, search toolbars and pop up blockers.

B) **Search Engines:** 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 9:

CYBER HYGIENE (DEMONSTRATION) : Awareness of various threats on the internet. To install an anti virus software and to configure their personal firewall and windows update on their computers. LATEX AND WORD EXPLANATION OF WINDOW COMPONENTS (MENU BAR, TOOL BAR, TITLE BAR) WORD ORIENTATION : Importance of LaTeX and MS/ equivalent (FOSS) tool Word as word Processors. Details of the four tasks and features that would be covered in each, Using LaTeX and word – Accessing, overview of toolbars, saving files, Using help and resources, rulers, format painter in word.

TASK 10:

USING LATEX AND WORD to create project certificate. Features to be covered:- Formatting Fonts in word, Drop Cap in word, Applying Text effects, Using Character Spacing, Borders and Colors, Inserting Header and Footer, Using Date and Time option in both LaTeX and Word.

TASK 11:

CREATING PROJECT : **Abstract** Features to be covered:-Formatting Styles, Inserting table, Bullets and Numbering, Changing Text Direction, Cell alignment, Footnote, Hyperlink, Symbols, Spell Check , Track Changes, Images from files and clipart, Drawing toolbar and Word Art, Formatting Images, Textboxes and Paragraphs.

Note: instructors has to explain about IEEE formats and standards

EXCEL

EXCEL ORIENTATION :

The mentor needs to tell the importance of MS/ equivalent (FOSS) tool Excel as a Spreadsheet tool, give the details of the four tasks and features that would be covered in each. Using Excel –

Accessing, overview of toolbars, saving excel files, Using help and resources

TASK 1 :

CREATING A SCHEDULER – Features to be covered:- Gridlines, Format Cells, Summation, auto fill, Formatting Text LOOKUP/VLOOKUP

TASK 2 :

PERFORMANCE ANALYSIS - Features to be covered:- Split cells, freeze panes, group and outline, Sorting, Boolean and logical operators, Conditional formatting

TASK 3:

CRICKET SCORECARD- features to be covered:-pivot tables, interactive buttons, importing data, data protection , data validation LATEX AND MS/EQUIVALENT (FOSS) TOOL POWER POINT

TASK 12:

Students will be working on basic power point utilities and tools which help them create basic power point presentation. Topic covered during this week includes :- PPT Orientation, Slide Layouts, Inserting Text, Word Art, Formatting Text, Bullets and Numbering, Auto Shapes, Lines and Arrows, Hyperlinks, Inserting –Images, Clip Art, Tables and Charts in both LaTeX and Powerpoint.

TASK 13 :

Concentrating on the in and out of Microsoft power point and presentations in LaTeX. Helps them learn best practices in designing and preparing power point presentation. Topic covered during this week includes: – Master Layouts (slide, template, and notes), Types of views (basic, presentation, slide slotter, notes etc), Inserting – Background, textures, Design Templates, Hidden slides.

Learning resources**Reference books:**

- 1 Scott Mueller's Upgrading and Repairing PCs, (18th edition), Scott. Mueller, QUE, Pearson, 2008
- 2 The Complete Computer upgrade and repair book, (3rd edition), Cheryl A Schmidt, Dream tech
- 3 Basic concepts of information technology workshop, (3rd edition), G.Praven Babu, M.V.Narayana, B.S Publications