

18MC111IT WORKSHOP LABORATORY

Course Description and Objectives:

This course aims at enabling a student to understand basic digital computer hardware and software office tools through practical exposure.

Course Outcomes:

The Student will be able to:

- Identify the basic peripherals, assembling a Personal Computer, Installation of system software like MS Windows, device drivers.
- Troubleshoot Hardware and software.
- Analyze different ways of hooking the PC on to the internet from home and workplace effectively, Usage of the internet, web browsers, email, newsgroups and discussion forums.
- Get awareness about “Cyber hygiene” (protecting the personal computer from getting infected with viruses), worms and other cyber-attacks.
- Crafting professional word documents, Excel spread sheets, Power point presentations and personal web sites using the Microsoft suite of office tools.

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

Syllabus

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. Description of various I/O Devices.

Task 2: A practice on disassembling the components of a PC and assembling them to back to working condition.

Task 3: Examples of Operating systems- DOS, MS Windows, Installation of MS windows on a PC.

Task 4: Introduction to Memory and Storage Devices , I/O Port, Device Drivers, Assemblers, Compilers, Interpreters , Linkers, Loaders.

Task 5:

- Hardware Troubleshooting (Demonstration): Identification of a problem and fixing a defective PC(improper assembly or defective peripherals).
- Software Troubleshooting (Demonstration):. Identification of a problem and fixing the PC for any software issues. Internet & Networking Infrastructure

Task 6: Demonstrating Importance of Networking, Transmission Media, Networking Devices- Gateway, Routers, Hub, Bridge, NIC ,Bluetooth Technology, Wireless Technology, Modem, DSL, Dialup Connection. Orientation & Connectivity Boot Camp and web browsing: Students are trained to configure the

network settings to connect to the Internet. They are trained to demonstrate the same through web browsing (including all tool bar options) and email access.

Task 7: Search Engines & Netiquette

Students are enabled to use search engines for simple search, academic search and any other context based search (Bing, Google etc). Students are acquainted to the principles of micro-blogging, wiki, collaboration using social networks, participating in online technology forums.

Task 8: Cyber Hygiene (Demonstration)

Awareness of various threats on the internet. Importance of security patch updates and anti-virus solutions. Ethical Hacking, Firewalls, Multi-factor authentication techniques including Smartcard, Biometrics are also practiced.

Word

Task 9 : MS Word Orientation

Accessing, overview of toolbars, saving files, Using help and resources, rulers, formatting ,Drop Cap , Applying Text effects, Using Character Spacing, OLE in Word, using templates, Borders and Colors, Inserting Header and Footer, Using Date and Time option, security features in word, converting documents while saving.

Task 10: 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.

Excel

Task 11: Using spread sheet features of EXCEL including the macros, formulae, pivot tables, graphical representations. Creating a Scheduler – Features to be covered:- Gridlines, Format Cells, Summation, auto fill, Formatting Text.

LOOKUP/VLOOKUP

Task 12: Performance Analysis – Features to be covered:- Split cells, freeze panes, group and outline, Sorting, Boolean and logical operators, Conditional formatting

Power Point

Task 13: 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

Power Point.

Task 14: Focusing on the power and potential of Microsoft power point. 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, OLE in PPT.

Text Books:

1. Anita Goel, “Computer Fundamentals”, 1st Edition, Pearson, 2010
2. Scott. Mueller, “ Upgrading and Repairing PCs”, 18th Edition, Pearson, 2008.

Reference Books:

Dr. N.B. Venkateswarlu, “Essential Computer and IT Fundamentals for Engineering and Science Students”, 1st Edition, S.Chand, 2010.