IT Workshop

(Common to CSE, ECE, EEE)

Course Code	**23ES1252**	**Year**	I	**Semester**	II
Course Category	Engineering Sciences	**Branch**	ECE	**Course Type**	Lab
Credits	1	**L-T-P**	0-0-2	**Prerequisites**	-
Continuous Internal Evaluation:	30	**Semester End Exam:**	70	**Total Marks:**	100

Course Outcomes	
Upon successful completion of the course, the student will be able to	
CO1	Describe the fundamental concepts of computer hardware, operating systems, internet tools, office productivity software, and AI-based applications to understand their functionalities and usage.L2
CO2	Use and Configure computer hardware, operating systems, internet settings, and web tools to establish functional computing and networking environments. L3
CO3	Apply the knowledge of LaTeX, Word, Excel, PowerPoint, and AI tools to create professional documents, spreadsheets, presentations, and content for academic and practical purposes.L3
CO4	Demonstrate experimental procedures through oral communication and submit comprehensive documentation reports. L2

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of correlations (3: High, 2: Medium, 1: Low)

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PSO1**	**PSO2**
CO1	2											1	1
CO2	3				3							1	1
CO3	3				3							1	1
CO4									3			1	1

Syllabus		
Expt. No.	**Contents**	**Mapped CO**
1	**PC Hardware & Software Installation (Week-1)** Task 1: Identify the peripherals of a computer, components in a CPU and its functions.Draw the block diagram of the CPU along with the configuration of each peripheral and submit to your instructor.	CO-1,2,4
2	**PC Hardware & Software Installation (Week-2)** Task 2: Every student should disassemble and assemble the PC back to working condition. Lab instructors should verify the work	CO-1,2,4

	and follow it up with a Viva. Also students need to go through the video which shows the process of assembling a PC. A video would be given as part of the course content.	
3	**PC Hardware & Software Installation (Week-3)** Task 3: Every student should individually install MS windows on the personal computer.Lab instructor should verify the installation and follow it up with a Viva.	CO-1,2,4
4	**PC Hardware & Software Installation (Week-4)** Task 4: Every student should install Linux on the computer. This computer should have windows installed. The system should be configured as dual boot (VMWare) with both Windows and Linux. Lab instructors should verify the installation and follow it up with a Viva	CO-1,2,4
5	**PC Hardware & Software Installation (Week-4)** Task 5: Every student should install BOSS on the computer. The system should beconfigured as dual boot (VMWare) with both Windows and BOSS. Lab instructors should verify the installation and follow it up with a Viva	CO-1,2,4
6	**Internet & World Wide Web (Week-5)** Task1: Orientation & Connectivity Boot Camp: Students should get connected to their Local Area Network and access the Internet. In the process they configure the TCP/IP setting. Finally students should demonstrate, to the instructor, how to access the websites and email. If there is no internet connectivity preparations need to be made by the instructors to simulate the WWW on the LAN.	CO-1,2,4
7	**Internet & World Wide Web (Week-5)** Task 2: Web Browsers, Surfing the Web: Students customize their web browsers with theLAN proxy settings, bookmarks, search toolbars and pop up blockers. Also, plug-ins like Macromedia Flash and JRE for applets should be configured.	CO-1,2,4
8	**Internet & World Wide Web (Week-6)** Task 3: Search Engines & Netiquette: Students should know what search engines are andhow to use the search engines. A few topics would be given to the students for which they need to search on Google. This should be demonstrated to the instructors by the student.	CO-1,2,4
9	**Internet & World Wide Web (Week-6)** Task 4: Cyber Hygiene: Students would be exposed to the various threats on the internetand would be asked to configure their computer to be safe on the internet. They need to customize their browsers to block pop ups, block active x downloads to avoid virusesand/or worms.	CO-1,2,4
10	**LaTeX and WORD (Week-7)**	CO-1,3,4

	Task 1 – Word Orientation: The mentor needs to give an overview of LaTeX and Microsoft (MS) office or equivalent (FOSS) tool word: Importance of LaTeX and MS office or equivalent (FOSS) tool Word as word Processors, Details of the four tasks and features that would be covered in each, Using La TeXand word – Accessing, overview of toolbars, saving files, Using help and resources, rulers, format painter in word.	
11	**LaTeX and WORD (Week-7)** Task 2: Using LaTeX and Word to create a 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 inboth LaTeX and Word.	CO-1,3,4
12	**LaTeX and WORD (Week-8)** Task 3: 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.	CO-1,3,4
13	**LaTeX and WORD (Week-8)** Task 4: Creating a Newsletter: Features to be covered: - Table of Content, Newspaper columns, Images from files and clipart, Drawing toolbar and Word Art, Formatting Images, Textboxes, Paragraphs and Mail Merge in word.	CO-1,3,4
14	**EXCEL (Week-9)** Excel Orientation: The mentor needs to tell the importance of MS office or 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	CO-1,3,4
15	**EXCEL (Week-10)** Task 2: Calculating GPA -. Features to be covered: - Cell Referencing, Formulae in excel – average, std. deviation, Charts, Renaming and Inserting worksheets, Hyper linking, Countfunction.	CO-1,3,4
16	**EXCEL (Week-10) Lookup/VLOOKUP** Task 3: Split cells, freeze panes, group and outline, Sorting, Boolean and logical operators,Conditional formatting	CO-1,3,4
17	**POWER POINT (Week-11)** Task 1: Students will be working on basic power point utilities and tools which help them create basic power point presentations. PPT Orientation, Slide Layouts, Inserting Text, Word Art, Formatting Text, Bullets and Numbering, Auto Shapes, Lines and Arrows	CO-1,3,4

	in PowerPoint.	
18	**POWER POINT (Week-11)** Task 2: Interactive presentations - Hyperlinks, Inserting –Images, Clip Art, Audio, Video, Objects, Tables and Charts.	CO-1,3,4
19	**POWER POINT (Week-12)** Task 3: Master Layouts (slide, template, and notes), Types of views (basic, presentation,slide slotter, notes etc), and Inserting – Background, textures, Design Templates, Hidden slides.	CO-1,3,4
20	**AI TOOLS – ChatGPT (Week-13)** Task 1: Prompt Engineering: Experiment with different types of prompts to see how the model responds. Try asking questions, starting conversations, or even providing incomplete sentences to see how the model completes them. • Ex: Prompt: "You are a knowledgeable AI. Please answer the following question: What is the capital of France?"	CO-1,3,4
21	**AI TOOLS – ChatGPT (Week-14)** Task 2: Creative Writing: Use the model as a writing assistant. Provide the beginning of a story or a description of a scene, and let the model generate the rest of the content. This canbe a fun way to brainstorm creative ideas • Ex: Prompt: "In a world where gravity suddenlystopped working, people started floating upwards. Write a story about how society adapted to this new reality."	CO-1,3,4
22	**AI TOOLS – ChatGPT (Week-15)** Task 3: Language Translation: Experiment with translation tasks by providing a sentencein one language and asking the model to translate it into another language. Compare the output to see how accurate and fluent the translations are. • Ex: Prompt: "Translate thefollowing English sentence to French: 'Hello, how are you doing today?'"	CO-1,3,4

Learning Resources

Text Books

1. Vikas Gupta, WILEY Dream tech,2003, Comdex Information Technology course tool kit,
2. Cheryl A Schmidt, The Complete Computer upgrade and repair book, WILEY Dream tech, 2013, 3rd ed.

Reference Books

1. Introduction to Information Technology, ITL Education Solutions limited, Pearson Education, 2012, 2nd Ed.
2. PC Hardware - A Handbook, Kate J. Chase, PHI (Microsoft)
3. LaTeX Companion, Leslie Lamport, PHI/Pearson.
4. IT Essentials PC Hardware and Software Companion Guide, David Anfins on and Ken Quamme. – CISCO Press, Pearson Education, 3rd Ed.
5. IT Essentials PC Hardware and Software Labs and Study Guide, Patrick Regan–

CISCO Press, Pearson Education, 3rd Ed.