## IT WORKSHOP

## (Common to al branches of Engineering)

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| **Course Category:** | Engineering Science | | **Credits:** | 1 |
| **Course Type:** | Practical | | **Lecture-Tutorial-Practical:** | 0-0-2 |
| **Pre-requisite:** | Computer basics | | **Sessional Evaluation:**  **External Evaluation:**  **Total Marks:** | 30  70  100 |
| **Course**  **Objectives** | To make the student learn about | | | |
| * + To introduce the internal parts of a computer, peripherals, I/O ports, connecting cables   + To demonstrate configuring the system as Dual boot both Windows and other Operating Systems Viz.Linux, BOSS   + To teach basic command line interface commands on Linux.   + To teach the usage of Internet for productivity and self-paced life-long learning   + To introduce Compression, Multimedia and Antivirus tools and Office Tools such as Word processors ,   Spread sheets and Presentation tools. | | | |
| **Course Outcomes** | After completing the course, the student will be able to | | | |
| **CO1** | PerformHardwaretroubleshooting. | | |
| **CO2** | UnderstandHardwarecomponentsand interdependencies. | | |
| **CO3** | Safeguard computer systems from viruses/worms. | | |
| **CO4** | Document/ Presentation preparation | | |
| **CO5** | Perform calculations using spreadsheets. | | |
| **Course**  **Content** | **PC Hardware & Softwar eInstallation**  **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  .  **Task2:** Every student should disass emble and assemble the PC back to working condition. Lab  instructors should verify the work 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.  **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.  **Task4:** Every student should install Linux on the computer. This computer should have windows  installed. The system should be configured as dual boot (VMW are) with both Windows and Linux.  Lab instructors should verify the installation and follow it up with a Viva  **Task5:**Every student should install BOSS on the computer. The system should be configured as dual  boot (VMW are) with both Windows and BOSS. Lab instructors should verify the installation and  follow It up with a Viva. **Internet & World Wide Web** **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.  **Task2:**Web Browsers, Surfing the Web: Students customize their web browsers with the  LAN proxy settings, bookmarks, search tool bar sand pop up blockers .Also, plug-in s like Macromedia  Flash and JRE for applets should be configured.  **Task3**: Search Engines & Netiquette: 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.  This should be demonstrated to the instructors by the student.  **Task 4:** Cyber Hygiene: Students would be exposed to the various threats on the internet and 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 viruses and/or worms.  **Task 5:**  Install any anti-virus software on your computer. **LaTeX and WORD** **Task 1–** Word Orientation: The mentor needs to give an overview of La TeX 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 LaTeX and word–Accessing, overview of tool bars, saving files, Using help and resources, rulers,  Format painter in word.  **Task 2:** Using La TeX and Word to create a project certificate. Features to be covered:-Formatting  Fonts in word, Drop Capin word, Applying Text effects, Using Character Spacing, Borders and  Colors, Inserting Header and Footer, Using Date and Time option in both La TeX and Word.  **Task 3:** Creating project abstract Features to be covered:-Formatting Styles, Inserting table, Bullets  and Numbering, Changing Text Direction, Cell alignment, Foot note, Hyperlink, Symbols, Spell Check,  Track Changes.  **Task4:** Creating a News letter: Features to be covered:-Table of Content, News paper columns,  Images from files and clipart, Drawing toolbar and Word Art, Formatting Images, Text boxes,  Paragraphs and Mail Merge in word.   **EXCEL** **Excel Orientation:** Thement or 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  **Task 2:** Calculating GPA -. Features to be covered:- Cell Referencing, Formulae in excel –  average, std. deviation, Charts, Renaming and Inserting worksheets, Hyper linking, Count function, LOOKUP/VLOOKUP **Task 3**: Split cells, freeze panes, group and outline, Sorting, Boolean and logical operators,  Conditional formatting POWERPOINT **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, WordArt, Formatting  Text, Bullets and Numbering, Auto Shapes, Lines and Arrow sin PowerPoint.  **Task 2:** Interactive presentations - Hyperlinks, Inserting –Images, Clip Art, Audio, Video, Objects,  Tables and Charts.  **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. **AI TOOLS– Chat GPT** **Task1:**Prompt Engineering: Experiment with different types of prompts to see how the  Model responds. Try asking questions, starting conversations, or even providing in complete sentences  To see how the model completes them.   * + Ex:Prompt:"You are a knowledgeable AI. Please answer the following question:Whatis the capital of France?"   **Task2:** 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 can be a fun way to  brainstorm creative ideas   * + Ex: Prompt: "In a world where gravity suddenly stopped working, people started floating upwards .Write a   Story abou thow society adapted to this new reality."  **Task 3:** Language Translation: Experiment with translation tasks by providing a sentence in one  language and asking the model to translate it into an other language. Compare the output to see how  accurate and fluent the translations are.   * + Ex:Prompt: "Translate the following English sentence to French: 'Hello, how are you doing today?'" | | | |
| **Textbooks**  **&**  **Reference Books** | **REFERENCE BOOKS:**   1. ComdexInformationTechnologycoursetoolkit,VikasGupta,WILEYDreamtech,2003 2. TheCompleteComputerupgradeandrepairbook,CherylASchmidt,WILEYDreamtech,2013,3rdedition 3. IntroductiontoInformationTechnology,ITLEducationSolutionslimited,PearsonEducation,2012,2nd edition 4. PCHardware-AHandbook,KateJ.Chase,PHI(Microsoft) 5. LaTeXCompanion,LeslieLamport,PHI/Pearson. 6. ITEssentialsPCHardwareandSoftwareCompanionGuide,DavidAnfinsonandKenQuamme.–CISCOPress,   PearsonEducation,3rdedition   1. ITEssentialsPCHardwareandSoftwareLabsandStudyGuide,PatrickRegan–CISCOPress,PearsonEducation,3rdedition | | | |

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| Contribution of Course Outcomes towards achievement of Program Outcomes (3-High, 2-Medium, 1-Low) | | | | | | | | | | | | | | |
|  | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 |
| CO1 | 3 | 3 | - | - | - | - | - | - | - | 1 | 3 | 1 | 3 | 3 |
| CO2 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 1 | 3 | 2 | 2 | 2 | 3 | 3 |
| CO3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 |
| CO4 | 3 | 3 | 3 | - | 1 | - | 1 | - | - | 1 | 2 | 3 | 3 | 3 |
| CO5 | 3 | 3 | - | - | 3 | - | - | - | - | - | - | - | 3 | 3 |