

AU-108 COMPUTER FUNDAMENTALS LAB

Course Code	AU-108	Semester	I YEAR
Course Title	COMPUTER FUNDAMENALS LAB	Course Group	Core
No. of Credits	2	Type of Course	PRACTICAL
Course Category	LAB	Total Contact Hours	3 Hrs Per Week
			90 Hrs Per YEAR
Prerequisites	Basic Knowledge about the interaction with the computer	Teaching Scheme	(L:T:P)-0:0:3
CIE Marks	60	SEE Marks	40

After completing this lab course, the student will be able to:

CO1: Understand the fundamentals of computer systems, their components, and basic operational procedures.
CO2: Understand and perform basic operations in the Windows operating system
CO3: Apply Word Processing Skills using MS-Word.
CO4: Practice operation of MS-Power Point and Slide transition and Animation effects.
CO5: Building Worksheets & Charts in MS-Excel
CO6: Creating Database, Tables, and Queries

ReferenceBooks

1. Fundamentals of Computers — V. Rajaraman
Covers computer basics, hardware, software, memory, storage, input/output devices, and fundamentals of networking.
2. Computer Fundamentals and Programming in C — Pradeep K. Sinha & Priti Sinha
Good blend of theory and practical exercises, ideal for labs with hardware understanding.
3. Introduction to Computers — Peter Norton
Classic book with detailed explanations of hardware components, operating systems, and computer organization.
4. Computer Fundamentals — Anita Goel
Simple and easy-to-understand explanations for beginners, with practical examples and lab exercises.
5. Digital Computer Fundamentals — Thomas C. Bartee
Focus on computer architecture, basic hardware, logic gates, memory, and peripheral devices.

LIST OF EXPERIMENTS

CO1:. Understand the fundamentals of computer systems, their components, and basic operational procedures

Duration: 15 hrs

- 1.1 Identify the basic external components of a computer system.
- 1.2 Identify the internal components of a computer system.
- 1.3 Demonstrate proper startup and shutdown procedures.
- 1.4 Identify the major functional units of the CPU.
- 1.5 Identify computer memory types and state their functions.
- 1.6 Identify common input and output devices.
- 1.7 Identify different RAM types.
- 1.8 Identify SIMM and DIMM modules.
- 1.9 Identify RAM slots on the motherboard.
- 1.10 Distinguish between hardware and software to understand how they work together as a complete system.
- 1.11 Differentiate between permanent storage (Hard Disk/SSD) and temporary storage (RAM) in simple terms.
- 1.12 Identify various external ports and cables such as USB, HDMI, and VGA used for connecting peripherals.
- 1.13 State the function of the SMPS (Power Supply) in providing electricity to the motherboard and internal parts.

CO2: Understand and perform basic operations in the Windows operating system

Duration: 15 hrs

- 2.1 Identify the features of the Windows desktop.
- 2.2 Identify the components of a window and state their functions.
- 2.3 Start and manage programs using the Start menu.
- 2.4 Use window control buttons effectively.
- 2.5 Create and manage files and folders.
- 2.6 View disk contents using File Explorer.
- 2.7 Search for files and folders.
- 2.8 Install or uninstall software using Control Panel (demo).
- 2.9 Change basic system and display settings.
- 2.10 Apply essential keyboard shortcuts like Ctrl+C, Ctrl+V, and Alt+Tab to perform navigation and file operations efficiently.
- 2.11 Distinguish between various file extensions such as .pdf, .docx, and .jpg to identify their associated software applications.
- 2.12 Organize the desktop workspace by pinning frequently used applications to the Taskbar and Start Menu.
- 2.13 Demonstrate the process of restoring deleted items from the Recycle Bin and performing permanent deletion to manage disk space.

- 2.14 Demonstrate the installation of a software using control panel
- 2.15 Demonstrate the uninstallation of a software using control panel

CO3 Apply Word Processing Skills using MS-Word.

Duration: 15 hrs

- 3.1 Demonstrate starting MS word.
- 3.2 Identify the word screen elements.
- 3.3 Identify the tool bars on the screen.
- 3.4 Demonstrate loading different tool bars for their functionality.
- 3.5 Identify the drop down menus of the main menu and their functionality.
- 3.6 Demonstrate creating a sample text.
- 3.7 Demonstrate text formatting.
- 3.8 Demonstrate page formatting.
- 3.9 Demonstrate selecting, deselecting the text from menu and Copying.
- 3.10 Demonstrate importing text from other packages.
- 3.11 Demonstrate search and replace of text.
- 3.12 Demonstrate spell checking.
- 3.13 Demonstrate creating tables
- 3.14 Demonstrate mail merging of documents.
- 3.15 Demonstrate printing documents, merge printing of documents.
- 3.16 Demonstrate word procedure for importing figures, charts from other installed software.

CO4 Practice operation of MS-Power Point and Slide transition and Animation effects.

Duration: 15 hrs

- 4.1 Demonstrate starting MS Power Point.
- 4.2 Identify the opening screen elements.
- 4.3 identify the tool bars in the opening screen.
- 4.4 Demonstrate the selection of the methods of creating a new presentation.
- 4.5 Identify the different Auto Layouts of a slide.
- 4.6 Demonstrate creating a new slide
- 4.7 Demonstrate inserting a new slide.
- 4.8 Demonstrate slide transition effects.
- 4.9 Demonstrate a slide show.
- 4.10 Demonstrate animation effects.
- 4.11 Demonstrate creating an organization chart.
- 4.12 Identify the different slide views.

CO5 Building Worksheets & Charts in MS-Excel

Duration: 15 hrs

- 5.1 Start EXCEL from the start
- 5.2 Identify the various parts of the window.

- 5.3 Identify the tabs and groups in ribbon layout
- 5.4 Identify and customizing the quick access toolbar
- 5.5 Identify the office button and commands of the drop down menu.
- 5.6 Practice loading of the existing worksheet or create a new worksheet.
- 5.7 Practice entering into the worksheet.
- 5.8 Practice formatting the cells.
- 5.9 Practice formatting the texts in the cells.
- 5.10 Practice changing the height and width of the cells.
- 5.11 Practice freezing the rows, columns.
- 5.12 Practice splitting the screens.
- 5.13 Enter formulas into the cells.
- 5.14 Enter formulas with built in functions.
- 5.15 Create a range name for the cells for group operations.
- 5.16 Create graph for the data in the worksheet.
- 5.17 Create graph for the data in the worksheet
- 5.18 Practice graph formatting options
- 5.19 Create a range name for the cells for group operations
- 5.20 Practice on sorting options
- 5.21. Practice various print options

CO6 Creating Database, Tables, and Queries

Duration: 15 hrs

- 6.1 Practice loading Ms Access from the start menu.
- 6.2 Create a database table using Database Wizard.
- 6.3 Enter data into the table.
- 6.4 Edit data in the table.
- 6.5 View data from the database.
- 6.6 Design a query.
- 6.7 View data using the query.
- 6.8 View data using the query
- 6.9 Demonstrate Creating Forms using Form Wizard
- 6.10 Demonstrate Add New Record using Forms
- 6.11 Demonstrate Navigation and searching in Forms
- 6.12 Demonstrate and Practice creating Reports using the Report Wizard.

CO AND PO MAPPING

Course Outcome (CO)	PO1	PO2	PO3	PO4	PO5	PO6	PO7	Mapped POs
CO1:	3	1	-	2	-	-	2	PO1, PO2, PO4, PO7
CO2:	2	2	-	3	-	-	3	PO1, PO2, PO4, PO7
CO3:	2	1	2	3	1	2	3	PO1, PO2, PO3, PO4, PO5, PO6, PO7
CO4:	1	-	2	3	1	2	3	PO1, PO3, PO4, PO5, PO6, PO7
CO5:	2	3	2	3	-	2	3	PO1, PO2, PO3, PO4, PO6, PO7
CO6:	2	2	3	3	-	1	2	PO1, PO2, PO3, PO4, PO6, PO7