

# 22CS103 IT WORKSHOP AND TOOLS

Hours Per Week :

| L | T | P | C |
|---|---|---|---|
| 0 | 2 | 4 | 3 |



SOURCE : <https://bright-industry.com/electrical-engineering>

**PREREQUISITE KNOWLEDGE:** Basics of Computer knowledge, Applications of Computers.

## COURSE DESCRIPTION AND OBJECTIVES:

This course enables the students to learn various components of a computer system, assembly and dis-assembly of various components, troubleshooting, installation of OS and other applications. Also practicing of the usage of software tools such as word, excel, ppt and LaTeX, text and image editors.

## MODULE - 1

### PRACTICES:

- Demo of various physical components of a computer system.
- Integration of various components of a computer system and dismantling.
- Installation of OS in a computer system through various storage devices.
- Installation of OS in a computer system through cloning.
- Detection of faulty components such as hard disk, RAM, SMPS, network interface in a computer system.
- Demonstration of program execution environment
- Demo of Windows/Linux file system.
- Demo of location OS files in the file system (Windows/Linux).
- Configuration of network interface in a computer system and troubleshooting of network connectivity issues.
- Demo of shell scripts for maintenance and administration of a computer system
- Usage of editor tools
- Installation of software tools such as C compiler / interpreter, Java IDE, Python IDLE, Pycharm etc.
- Installation of antivirus software, web browsers and application of servers such as Apache server etc.

## MODULE - 2

### PRACTICES:

- Prepare your resume using MS-word
- Design a "Birthday Invitation" card.
- Design a Timetable given to you at the beginning of the semester without grid lines.
- Using Draw Table feature, insert a 7-column, 6-row table to create a calendar for the current month.
- Enter the names of the days of the week in the first row of the table.
- Centre the day names horizontally and vertically.
- Change the font and font size as desired.
- Insert a row at the top of the table.
- Merge the cells in the row and enter the current month and year using a large font size.
- Shade the row.
- Enter and right-align the dates for the month in the appropriate cells of the table.
- Change the outside border to a more decorative border. Identify two important dates in the calendar and shade them.

**SKILLS:**

- ✓ Integration of various components of a computer system.
- ✓ Trouble shooting of components of a computer system.
- ✓ Installation of OS and its various tools/ applications.
- ✓ Usage of IT tools such as MS-Word, LaTeX etc.
- ✓ Creating the documents using MS-Word and LaTeX.
- ✓ Analysing and visualizing data with excel.
- ✓ Developing various power point presentations.

- Prepare mark sheet using MS-Excel.
- Create a pivot table to analyse your worksheet data.
- Prepare a presentation on your university using MS-PowerPoint.
- Design a Magazine cover. Use the following:
  - (1) Select a theme for the page,
  - (2) Insert either a picture or clipart, and
  - (3) Use WordArt.
- Design a poster inviting all students of your university to the Computer Festival.
- Installation and demonstration of LaTeX.
- Prepare professional pdf documents using LaTeX.
- Prepare LaTeX document containing mathematical equations

**COURSE OUTCOMES:**

Upon successful completion of the course, students will have the ability to:

| CO No. | Course Outcomes  | Blooms Level | Module No. | Mapping with POs |
|--------|--|--------------|------------|------------------|
| 1      | Ability to assemble and disassemble the computer system components and trouble shooting. | Apply        | 1          | 1                |
| 2      | Installing Operating Systems and understanding the system booting process.               | Understand   | 1          | 1                |
| 3      | Ability to develop system maintenance using shell scripts.                               | Apply        | 1          | 1                |
| 4      | Create word documents, presentations and spread sheets by applying various tools.        | Create       | 2          | 2,5              |

**TEXT BOOKS:**

1. Fundamentals of Computers by Reema Thareja, Oxford University Press 2nd edition 2019, India
2. Stefan Kottwitz, "LaTeX Beginner's Guide: Create visually appealing texts, articles, and books for business and science using LaTeX", 2nd Edition, Kindle, 2021.

**REFERENCES:**

1. Priti Sinha and Pradeep K. Sinha, "Computer Fundamentals: Concepts, Systems and Applications", 8th edition, BPB Publications, 2004.
2. John Walkenbach, Herb Tyson, Michael R.Groh and FaitheWempen, "Microsoft Office 2010 Bible", Wiley.

**E-RESOURCES:**

- 1) [https://explorersposts.grc.nasa.gov/post631/2006-2007/computer\\_basics/ComputerPorts.doc](https://explorersposts.grc.nasa.gov/post631/2006-2007/computer_basics/ComputerPorts.doc)  
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