

17HS004A FUNDAMENTALS OF COMPUTER SCIENCE-I LAB

Course Description and Objectives:

This course introduces computer science through three of its major fields: hardware systems (physical components, digital logic, and computer architecture), theory and algorithms (Boolean algebra, binary arithmetic, and theory of computation), and software systems (languages, compilers, computer graphics, operating systems, and computer networks.) Programming assignments are used as means to introduce and reinforce fundamental computing concepts, as well as computer programming skills that are useful beyond this course. The course provides elements now essential to understand and effectively interact with the information technology infrastructure of today's world.

Course Outcomes:

Upon completion of the course, the student will be able to achieve the following outcomes:

COs	Course Outcomes
1	Demonstrate the use of mathematical software and solve simple mathematical problems.
2	Explain the needs of hardware and software required for a computation task.
3	State typical provisions of cyber law that govern the proper usage of Internet and computing resources.
4	Explain the working of important application software and their use to perform any engineering activity.
5	Demonstrate the use of Operating system commands and shell script.

LIST OF EXPERIMENTS

1. Demonstrate the Personal Computer Peripherals and get a report on each peripheral.
2. Demonstrate the Personal computer assembling procedure and do the same.
3. Install wide varieties of free and open source operating systems.
4. Demonstrate Network Interface Card (NIC) configuration and any internet browsers options setup.

5. Demonstrate the Java Development Kit (JDK) installation and environmental variable (PATH) setup.
6. Demonstrate the following experiments using Office automation tools
 - a. Text formatting and table.
 - b. Mathematical equations.
 - c. Watermarking using Analysis tool.
 - d. Calculate student mark details.
 - e. Create four types of charts.
 - f. Import external data, sort & filter using Power Point tool.
 - g. Create text and images with effects.
 - h. Create animation and sound effects.
7. Demonstrate the installation of anti-virus software to detect different types of virus programs.

TEXT BOOK:

1. Peter Norton, "Introduction to Computers", 7th edition, Tata-McGrawHill, 2010.

REFERENCEBOOKS:

1. ITL Education Solution Limited, "Introduction to Computer Science", 2nd edition, Pearson Education, 2011.
2. Eric Maiwald, "Fundamentals of Network Security", 3rd edition, Tata-McGrawHill, 2004.