

## **Open Courses - V Semester**

### **Open Course1 ELE5D01 – Computer Hardware**

**Contact Hours per Week: 3 (3T)**

**Number of Credits: 3**

**Number of Contact Hours: 45 Hrs.**

#### **Course Outcome**

To equip the students with a knowledge in computer hardware.

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# **Course Outline**

## **Module I**

Evolution of Computers and Computer Generations, Computer Classification Processing speed of a computer, Technology Trends, Measuring Computer Performance, Architecture, Functional Units and Components in Computer Organization, Computers – Block diagram, Memory addressing capability of a CPU, Word length of a computer, Basic components of a Digital Computer - Control unit, ALU, IO Subsystem of a Computer, Bus Structures, Uses of Program Development Tool, Editor, Compiler, Assembler, Interpreter.

## **Module II**

Number systems – Decimal Number system, Binary number system and Hexa-decimal number system, 1's & 2's complement, Representation of Positive and Negative Numbers Binary Fixed- Point Representation, Arithmetic operation on Binary numbers, Codes, ASCII Logic Gates, AND, OR, NOT GATES and their Truth tables.

## **Module III**

Input Devices - Keyboard, Mouse, Output Devices - CRT Monitor, LCD Displays, Touch Screen Displays Print Devices, Multiprocessor and Multi core Architecture

### **Text Book**

□ Computer Fundamentals – B. Ram – New Age International Publishers

### **Reference BOOKS**

1. Rashid Sheikh, “Computer Organization & Architecture”
2. Computer Organization – Hamacher, Vranesic and Zaky, McGraw Hill.
3. Digital Logic and Computer Design – Morris Mano, PHI
4. Computer Organization and Architecture -William Stallings, Pearson Education Asia.

## **Question paper - Open Course**

### ***Scheme of Examinations:***

The external QP with 60 marks and Internal examination is of 15 marks. Duration of each external examination is 2 Hrs. The pattern of External Examination is as given below. The students can answer all the questions in Sections A& B. But there shall be Ceiling in each section.

#### ***Section A***

Short answer type carries 2 marks each - 12 questions      Ceiling - 20

#### ***Section B***

Paragraph/ Problem type carries 5 marks each - 7 questions      Ceiling - 30

#### ***Section C***

Essay type carries 10 marks (1 out of 2)      1X10=10