Course: OE
Fundamentals of Computer Systems

Semester: I	Credits: 2	Subject Code:OE2-12309	Lectures: 30

At the end of this course, the learner will be able to:
- CO1 - Recall the basic knowledge of components of computer hardware and software
- CO2 - Identify and interpret the function of different networking devices
- CO3- Differentiate between different types of codes and number systems and convert one code to another.
- CO4 - Identify gates and examine their function in digital circuits. Solve the boolean equation.

Unit 1: Introduction to computer hardware	15
- Introduction to Computer hardware and software -Motherboard, CPU and other components of the motherboard, I/O devices, Memory- Primary and secondary. Types of software - Application ,System - Introduction to Network - LAN,MAN,WAN, Network devices: Repeater, Switch, Networking cables, Router, Bridge, Hub, Brouter, Gateway. - Test/ Assignment	

Unit 2: Fundamentals of Computer Logic	15
- Data Representation -Number system, Arithmetic addition, subtractions, computer codes and its conversion BCD, packed/unpacked,Binary to Gray converter, ASCII Code, Concept of parity. - Concept of logic levels, Logic gates (NOT, AND, OR, NAND, NOR, XOR) with their symbol, Boolean equation and truth table. - Test / Assignment	

Reference Books:
- Floyd T.M.,Jain R.P ,*Digital Fundamentals*: Pearson Education   - Jain R.P., *Digital Electronics*: Tata McGraw Hill   - M.Morris Mano ,*Computer System Architecture*, Pearson Education   - Malvino Leach,*Digital Principles and Applications*, Tata McGraw-Hill.   - Ron White. *How Computer Works*, Ninth Edition, Pearson

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Websites:

- https://circuitglobe.com/number-system-in-digital-electronics.html
- https://circuitglobe.com/number-system-in-digital-electronics.html
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