DRONACHARYA
College of Engineering
Khentawas, Farrukh Nagar, Gurugram, Haryana
Approved by: All India Council for Technical Education (AICTE), New Delhi
Affiliated to: Gurugram University, Gurugram

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2023-24

SEMESTER IV

INTERNET OF THINGS

Course Outcome (CO)	Details of Course Outcomes
(CO1)	Understand internet of Things and its hardware and software components
(CO2)	Interface I/O devices, sensors & communication modules.
(CO3)	Understand various IoT protocols.
(CO4)	Analyse data processing in IoT.
(CO5)	Remotely monitor data and control devices
(CO6)	Develop real life IoT based projects

DIGITAL & DATA COMMUNICATION

Course Outcome (CO)	Details of Course Outcomes
(CO1)	Identify the characteristics of signals for analog and digital transmissions
(CO2)	Identify the issues in data transmission .
(CO3)	Select transmission media based on characteristics and propagation modes
(CO4)	Choose appropriate signal encoding techniques for a given scenario
(CO5)	Illustrate multiplexing and spread spectrum technologies
(CO6)	Use error detection, correction and switching techniques in data communication

ELECTRONIC MEASUREMENT AND INSTRUMENTATION

Course Outcome (CO)	Details of Course Outcomes
(CO1)	Analyze the performance characteristics of each instrument
(CO2)	Illustrate basic meters such as voltmeters and ammeters.
(CO3)	Explain about different types of signal analyzers.
(CO4)	Explain the basic features of oscilloscope and different types of oscilloscopes
(CO5)	Identify the various parameters that are measurable in electronic instrumentation.
(CO6)	Employ appropriate instruments to measure given sets of parameters.

PROBABILITY THEORY AND STOCHASTIC PROCESSES

Course Outcome (CO)	Details of Course Outcomes
(CO1)	Develop understanding of basics of probability theory.
(CO2)	Understand random variables.
(CO3)	Identify different distribution functions and their relevance.
(CO4)	Apply the concepts of probability theory to different problems.
(CO5)	Extract parameters of a stochastic process and use them for process characterization.
(CO6)	Apply regression analysis.

COMPUTER ORGANIZATION & ARCHITECTURE

Course Outcome (CO)	Details of Course Outcomes
(CO1)	Understand basics of a computer system.
(CO2)	Understanding Logic gates, flip flops and counter
(CO3)	Clear Understanding of Computer Architecture
(CO4)	Pipeline processing
(CO5)	RISC and CISC architectures
(CO6)	Develop a base for advance micro-processors Reference

MICROPROCESSORS AND INTERFACING

Course Outcome (CO)	Details of Course Outcomes
(CO1)	Understand the fundamentals of Microprocessors.
(CO2)	Understand the internal design of 8086 microprocessor along with the features .
(CO3)	Analyze a detailed s/w & h/w structure of the Microprocessor
(CO4)	Illustrate how the different peripherals (8086) are interfaced with Microprocessor.
(CO5)	Analyze the programming. of Microprocessors
(CO6)	Evaluate the data transfer information through serial & parallel ports.

MICROPROCESSOR & INTERFACING LAB

Course Outcome (CO)	Details of Course Outcomes
(CO1)	Understand the fundamentals of Microprocessors.
(CO2)	Do assembly language programming of 8086.
(CO3)	Do assembly language programming of 8086 for interfacing of peripherals.
(CO4)	Can generate different kind of wave forms using assembly language.

ELECTRONIC MEASUREMENT & INSTRUMENTATION LABORATORY

Lab Outcome (CO)	Details of Lab Outcomes
(CO1)	Analyze the performance characteristics of each instrument
(CO2)	Illustrate basic meters such as voltmeters and ammeters.
(CO3)	Explain about different types of signal analyzers.
(CO4)	Explain the basic features of oscilloscope and different types of oscilloscopes
(CO5)	Identify the various parameters that are measurable in electronic instrumentation.
(CO6)	Employ appropriate instruments to measure given sets of parameters.

INTERNET OF THINGS LAB

Lab Outcome (CO)	Details of Lab Outcomes
(CO1)	Uunderstand the basics of IoT.
(CO2)	Learn Architecture and enabling technologies
(CO3)	Implement application of different sensors
(CO4)	Can design project using Arduino and Raspberry Pi

PCB & WORKSHOP LABORATORY

Course Outcome (CO)	Details of Course Outcomes
(CO1)	Understand the characteristics of diodes and filter circuits.
(CO2)	Understand the operation and characteristics of different types of rectifiers.
(CO3)	Understand the operation and characteristics of power supply

SCIENTIFIC & TECHNICAL WRITING SKILLS

Course Outcome	Details of Course Outcomes
Activities on Writing Skills	Structure and presentation of different types of writing - letter writing/Resume writing/ e-correspondence/ Technical report writing/ Portfolio writing - planning for writing -improving one's writing.
Activities on Presentation Skills	Oral presentations (individual and group) through JAMsessions/seminars/PPTs and written presentations through posters/ projects/ reports/ e-mails/ assignmentsetc.
Activities on Group Discussion and Interview Skills	Dynamics of group discussion, intervention,summarizing, modulation of voice, body language, relevance, fluency and organization of ideas andrubrics for evaluation- Concept and process, pre-interview planning, opening strategies, answeringstrategies, interview through tele-conference & video-conferencing and Mock Interviews.