

ACADEMIC LESSON PLAN OF SUMMER 2026

Discipline: IT	Semester :4 th	Name of the Teaching faculty: ManalisaGiri
Subject : DATA COMMUNICATI ON & COMPUTER NETWORKS	No. of Days/per week class allotted : 03	Semester from date : with effect from 22/12/2025 to 18/04/2026 No. of weeks : 15
Week	Class Day	Topics : Theory
1 st	1 st	Introduction to computer networks
	2 nd	Network Models
	3 rd	OSI Reference Model, The layer architecture
2 nd	1 st	TCP/IP Model
	2 nd	4 Layer of TCP/IP suite
	3 rd	Transmission Media—Principles and issues
3 rd	1 st	Wired Media-Coaxial, UTP, STP, Fiber Optic Cables .
	2 nd	Wired Media-Coaxial, UTP, STP, Fiber Optic Cables - Single Mode & Multimode.
	3 rd	Wireless Media—HF, VHF, UHF, Microwave, Ku Band, WIFI 802.11 a/b/g/n/ac
4 th	1 st	Cellular Data-2G,3G,4G,&5G
	2 nd	Network topologies
	3 rd	Data Link Layer: Design issues
5 th	1 st	Design issues
	2 nd	DLL protocols (Ethernet, WLAN, Bluetooth)
	3 rd	Switching Techniques, VLAN
6 th	1 st	Switching Techniques, VLAN
	2 nd	Design issues Network Layer
	3 rd	Internet Protocols IPv4
7 th	1 st	Internet Protocols IPv6
	2 nd	Internet Protocols (IPv4& IPv6)
	3 rd	Routing—principles and issues
8 th	1 st	Routing Algorithms: Distance-vector, Link-state
	2 nd	Routing Algorithms: Distance-vector, Link-state
	3 rd	Routing Protocols: RIP,
9 th	1 st	Routing Protocols:, OSPF
	2 nd	Routing Protocols: RIP, OSPF
	3 rd	Transport Layer: Design issues,

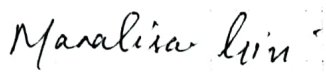
10 th	1 st	Transport Layer: Design issues,
	2 nd	UDP&TCP
	3 rd	Design Issues Application Layer
11 th	1 st	DNS
	2 nd	DHCP
	3 rd	SNMP
12 th	1 st	FTP & TFTP
	2 nd	SMTP
	3 rd	WWW
13 th	1 st	Telnet & SSH
	2 nd	Network Devices:
	3 rd	NIC
14 th	1 st	Hub
	2 nd	Switch-Core, Distribution & Access Switches
	3 rd	Router
15 th	1 st	WiFi Access-Point & Wireless LAN Controller;
	2 nd	Revision
	3 rd	Question and Answer discussion

Manalisa Linn
Signature of the faculty

ACADEMIC LESSON PLAN OF SUMMER 2026

Discipline: IT	Semester :6 th	Name of the Teaching faculty: Manalisa Giri
Subject : CLOUD COMPUTING	No.of Days/per week class allotted : 04	Semester from date : with effect from 22/12/2025 TO 18/04/2026 No. of weeks : 15
Week	Class Day	Topics : Theory
1 st	1 st	Historical developmentCloud Computing
	2 nd	Vision of Cloud Computing
	3 rd	Characteristics of Cloud computing
	4 th	Cloud computing Reference model
2 nd	1 st	Cloud computing environment,
	2 nd	Cloud Service requirements
	3 rd	Cloud and Dynamic Infrastructure
	4 th	Cloud Adoption. Cloud applications
3 rd	1 st	Introduction. Cloud Reference Model
	2 nd	Types of Clouds ,Cloud Interoperability and standards
	3 rd	Cloud computing Interoperability use cases
	4 th	Role of standards in Cloud Computing environment
4 th	1 st	Scalability and Fault Tolerance
	2 nd	Cloud solutions
	3 rd	Cloud Ecosystem
	4 th	Cloud Business process management
5 th	1 st	Portability and Interoperability
	2 nd	Cloud Service management
	3 rd	Cloud Offerings
	4 th	Testing under Control , Cloud service Controls
6 th	1 st	Virtual desktop Infrastructure
	2 nd	Create a virtualized Architecture
	3 rd	. Data Centre , Resilience
	4 th	Agility , Cisco Data Centre Network architecture
7 th	1 st	Storage ,Provisioning
	2 nd	Asset Management
	3 rd	Concept of Map Reduce , Cloud Governance
	4 th	Load Balancing. High Availability
8 th	1 st	Disaster Recovery
	2 nd	Virtualization ,Network Virtualization
	3 rd	Desktop and Application Virtualization
	4 th	Local desktop Virtualization

9 th	1 st	Virtualization benefits
	2 nd	Server Virtualization. Block and File level Storage Virtualization
	3 rd	Virtual Machine Monitor
	4 th	Infrastructure Requirements
10 th	1 st	VLAN and VSAN
	2 nd	Cloud Security Fundamentals
	3 rd	Cloud security services
	4 th	Design Principles
11 th	1 st	Secure Cloud software requirements
	2 nd	Policy Implementation
	3 rd	Cloud Computing Security Challenges
	4 th	Architectural ConsiderationsCloud Computing Security
12 th	1 st	. Information Classification
	2 nd	Virtual Private Networks ,Public Key and Encryption Key management
	3 rd	Memory Cards , Implementing Identity Management
	4 th	Implementing Identity Management
13 th	1 st	Controls and Autonomic System
	2 nd	Cloud Information security vendors
	3 rd	Cloud Federation, characterization
	4 th	. Cloud Federation stack
14 th	1 st	Third Party Cloud service
	2 nd	Case study
	3 rd	Introduction , Data Source
	4 th	Data storage and Analysis
15 th	1 st	Comparison with other system
	2 nd	Revision
	3 rd	Question and Answer discussion
	4 th	Question and Answer discussion


 Signature of the faculty

ACADEMIC LESSON PLAN OF SUMMER 2026

Discipline: IT	Semester :4 th	Name of the Teaching faculty: Manalisa Giri
Subject : MICROPROCESSOR AND MICROCONTROLLER	No. of Days/per week class allotted : 03	Semester from date : with effect from 22/12/2025 to 18/04/2026 No. of weeks : 15
Week	Class Day	Topics : Theory
1 st	1 st	Evolution of Microprocessors,
	2 nd	Specific features of Microprocessors,
	3 rd	Application in our daily life (a few examples)
2 nd	1 st	Internal architecture of a microprocessor (using block diagram)
	2 nd	Explanation of each block in brief,
	3 rd	Concept of bus structure,
3 rd	1 st	Register-to-register transfer,
	2 nd	Communication with I/O and memory (This part can be explained using the specific microprocessors like 8085)
	3 rd	Communication with I/O and memory (This part can be explained using the specific microprocessors like 8086)
4 th	1 st	Communication with I/O and memory (This part can be explained using the specific microprocessors like 8088)
	2 nd	Communication with I/O and memory (This part can be explained using the specific microprocessors like 8085 or 8086/8088).
	3 rd	Pin details of 8085 and 8086CPU and their functions in brief
5 th	1 st	Pin details of 8085 and 8088 CPU and their functions in brief
	2 nd	Pin details of 8085 and 8086/8088 CPU and their functions in brief
	3 rd	Instruction cycles,
6 th	1 st	Instruction set,
	2 nd	timing diagram (may be limited to 8085 CPU). Concept of assemblers and compilers
	3 rd	timing diagram (may be limited to 8086CPU). Concept of assemblers and compilers
7 th	1 st	timing diagram (may be limited to 8088 CPU). Concept of assemblers and compilers
	2 nd	Concept of address space, address/data bus
	3 rd	Demultiplexing
8 th	1 st	Address and data bus buffering, address decoding,
	2 nd	I/O concepts,
	3 rd	Memory interfacing concept of I/O mapped I/O and memory mapped I/O.
9 th	1 st	Memory interfacing concept of I/O mapped I/O and memory mapped I/O.
	2 nd	Interrupts

	3 rd	Interrupts - Types of interrupts, Hardware and software data transferschemes
10 th	1 st	Synchronous, asynchronous and interrupt driven
	2 nd	xample for register to register, register to memory, memory to register, block of data movementfromone area of memory to another, merging of two blocks of data, data block exchange.
	3 rd	Examples of arithmetic addition,subtraction, multiplication and division
11 th	1 st	Examples of searching and sorting (simple)
	2 nd	Examples using of look up tables
	3 rd	Use subroutines and delay programme.
12 th	1 st	Functional description of 8255, 8253, 8251, 8257, 8237 and 8259
	2 nd	Interfacing of these chips with some standard CPU.
	3 rd	Simple assembly language programme to explain the function of these chips
13 th	1 st	Keyboard interfacing,
	2 nd	7 segment and dot matrix display interfacing,
	3 rd	A/D and D/Ainterfacing
14 th	1 st	Stepper motor interfacing
	2 nd	Introduction to 8051 Microcontroller
	3 rd	8051 Instruction Set and Programming
15 th	1 st	Hardware features of 8051 Example of 8051 Interface
	2 nd	Revision
	3 rd	Question and Answer discussion

Manalisa Lwin

Signature of the faculty

ACADEMIC LESSON PLAN OF SUMMER 2026

Discipline: IT	Semester :6 th	Name of the Teaching faculty: Manalisa Giri
Subject : IOT	No.of Days/per week class allotted : 04	Semester from date : with effect from 22/12/2025 TO 18/04/2026 No. of weeks : 15
Week	Class Day	Topics : Theory
1 st	1 st	Introduction IOT Characteristics of IoT Applications of IoT
	2 nd	IoT Categories IoT Enablers and connectivity layers Baseline Technologies
	3 rd	Sensor , Actuator
	4 th	IoT components and implementation 1.4 Challenges for IoT
2 nd	1 st	Terminologies ,
	2 nd	Gateway Prefix allotment
	3 rd	Impact of mobility on Addressing
	4 th	Multihoming
3 rd	1 st	Deviation from regular Web
	2 nd	IoT identification and Data protocols
	3 rd	Introduction ,IEEE 802.15.4
	4 th	ZigBee, 6LoWPAN
4 th	1 st	RFID, HART and wireless HART
	2 nd	NFC, Bluetooth, Z wave, ISA100.11.A
	3 rd	Introduction ,Components of a sensor node
	4 th	Modes of Detection , Challenges in WSN
5 th	1 st	Sensor Web , Cooperation and Behaviour of Nodes in WSN
	2 nd	Self Management of WSN , Social sensing WSN
	3 rd	Application of WSN , Wireless Multimedia sensor network
	4 th	Wireless Nanosensor Networks , Underwater acoustic sensor networks
6 th	1 st	WSN Coverage , Stationary WSN, Mobile WSN
	2 nd	M2M communication ,M2M Ecosystem
	3 rd	M2M service Platform
	4 th	Interoperability
7 th	1 st	Features of Arduino 6.2 Components of Arduino Board
	2 nd	Arduino IDE 6.4 Case Studies
	3 rd	Architecture and Pin Configuration
	4 th	Case studies 7.3 Implementation of IoT with Raspberry Pi
8 th	1 st	Limitation of current network ,Origin of SDN
	2 nd	SDN Architecture ,Rule Placement, Open flow Protocol
	3 rd	Controller placement ,Security in SDN
	4 th	Integrating SDN in IoT
9 th	1 st	Origin and example of Smart Home Technologies
	2 nd	Smart Home Implementation

	3 rd	Home Area Networks(HAN)
	4 th	Smart Home benefits and issues
10 th	1 st	Characteristics of Smart Cities
	2 nd	Smart Cities
	3 rd	Smart city Frameworks
	4 th	Challenges in Smart cities
11 th	1 st	Data Fusion
	2 nd	Smart Parking
	3 rd	Energy Management in Smart cities
	4 th	Smart city Frameworks and Work
12 th	1 st	Data Fusion ,Smart Parking
	2 nd	IoT requirements
	3 rd	Design considerations
	4 th	Applications of IIoT
13 th	1 st	Applications of IIoT
	2 nd	Benefits of IIoT
	3 rd	Monthly Test
	4 th	Challenges of IIoT
14 th	1 st	IoT components and implementation
	2 nd	IoT Enablers and connectivity layers
	3 rd	Baseline Technologies
	4 th	IoT components
15 th	1 st	Revision
	2 nd	Revision
	3 rd	Question and Answer discussion
	4 th	Question and Answer discussion

Maralena Lina

Signature of the faculty