Academic Lesson Plan of Summer 2024

Department : CSE	Semester : 4TH	Name of the Teaching Faculty : SOMYASHREE SAMAL
Subject: OPERATING SYSTEM	No. of Days/per week class allotted : 4Period/week	Semester from : 16TH JANUARY 2024
		No of Weeks : 15 Weeks
		Topic to be covered :
WEEK	**DAY**	**TOPIC**
1st Week	1st	Introduction, Objectives and functions of operating system.
	2nd	Evolution of Operating system
	3rd	Structure of operating system
	4th	Process concept, process control
2nd Week	1st	Interacting processes, inter process messages, Implementation issues of Processes.
	2nd	Process scheduling
	3rd	Job scheduling
	4th	Process synchronization
3rd Week	1st	Process synchronization (Cont..)
	2nd	Semaphore
	3rd	Principle of concurrency
	4th	Types of scheduling
4th Week	1st	Types of scheduling (Cont..)
	2nd	Revision and Question answer Discussion
	3rd	Quiz Test
	4th	Memory allocation Techniques, Contiguous memory allocation
5th Week	1st	Non-contiguous memory allocation, Swapping
	2nd	Paging
	3rd	Segmentation
	4th	Virtual memory using paging,
6th Week	1st	Demand paging
	2nd	Page fault handling
	3rd	Revision and Question answer Discussion
	4th	Techniques for Device Management: Dedicated
7th Week	1st	Techniques for Device Management: virtual
	2nd	Device allocation considerations I/O traffic control
	3rd	I/O Schedule
	4th	I/O Device handlers.
8th Week	1st	SPOOLING.
	2nd	Revision and Question answer Discussion
	3rd	Concept of deadlock, System Model
	4th	Dead Lock Detection

WEEK	DAY	TOPIC
9th Week	1st	Resources allocation Graph
	2nd	Methods of Deadlock handling
	3rd	Deadlock avoidance
	4th	Recovery from deadlock
10th Week	1st	Bankers Algorithm
	2nd	Safety Algorithm
	3rd	Revision and Question answer Discussion
	4th	File organization, Directory & file structure
11th Week	1st	Sharing of files
	2nd	File access methods
	3rd	file systems, reliability
	4th	Allocation of disk space
12th Week	1st	Allocation of disk space (cont...)
	2nd	File protection
	3rd	Secondary storage management
	4th	Secondary storage management (Cont..)
13th Week	1st	Hard Disk Structure and its performance
	2nd	Hard Disk Scheduling Algorithms
	3rd	Revision and Question answer Discussion
	4th	Quiz Test
14th Week	1st	SYSTEM PROGRAMMING: Concept of system programming and show difference from Application Complier
	2nd	Compiler, functions of compiler, Compare compiler and interpreter
	3rd	Seven phases of compiler, brief description of each phase
	4th	Seven phases of compiler, brief description of each phase (Cont..)
15th Week	1st	Revision and Question answer Discussion
	2nd	Previous End semesters end semester Question answer Discussion
	3rd	Previous End semesters end semester Question answer Discussion
	4th	Previous End semesters end semester Question answer Discussion

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Academic Lesson Plan of Summer 2024

Department : COMP. SC.	Semester : 4TH	Name of the Teaching Faculty : LOPAMUDRA SINGH
Subject : DATA COMMUNICATION & COMPUTER NETWORKS	No. of Days/per week class allotted : 4Period/week	Semester from : 16TH JANUARY 2024
		No of Weeks : 15 Weeks
		Topic to be covered :
WEEK	**DAY**	**TOPIC**
1st Week	1st	Introduction to data Communication,What is Data & Network Communication Channel
	2nd	Networks (LAN,MAN,WAN) concept of all.
	3rd	Protocol , Architecture
	4th	Standard concepts, network Standards
2nd Week	1st	OSI Layer
	2nd	Different Layers of OSI, Advantages and Disadvantages
	3rd	TCP/IP
	4th	Difference between OSI and TCP/IP
3rd Week	1st	Concept of Data Transmission
	2nd	Terminology of data Transmission
	3rd	Analog & Digital Data Transmission
	4th	Transmission Impairment
4th Week	1st	Channel Capacity
	2nd	Introduction of Transmission Media
	3rd	Guided and Unguided
	4th	Wireless Transmission
5th Week	1st	Data Encoding
	2nd	Digital Data,Digital Signals
	3rd	Digital Signals
	4th	Digital Data and Analog Signals
6th Week	1st	Analog Data and Digital Signals
	2nd	Aanalog Signal and Digital Signals
	3rd	Analog Data and Analog Signals
	4th	Analog Signals, Conversion
7th Week	1st	Transmission, Syncronous, Asyncronous
	2nd	Flow Control
	3rd	Error Detection Methods
	4th	Line Cofiguration
	1st	Error Control

WEEK	DAY	TOPIC
8th Week	2nd	Multiplexing and Types of Multiplexing
	3rd	Concepts of EDM,TDM,WDM
	4th	Statistical TDM
9th Week	1st	Introduction to Switching
	2nd	CKT Switching
	3rd	PKT Switching
	4th	X.25
10th Week	1st	Routing in PKT Switching
	2nd	Congestion
	3rd	Effect of Congestion
	4th	Congestion Control
11th Week	1st	Traffic Management
	2nd	Congestion in PKT Switching network
	3rd	Concept of Topology
	4th	Types of Topology
12th Week	1st	Transmission Media
	2nd	LAN Protocol, Architecture
	3rd	Media Acess Control
	4th	Bridges, HUB, Switches
13th Week	1st	Ethernet (CSMA/CD, CSMA/CA)
	2nd	CSMA/CD
	3rd	Fiber
	4th	WLAN Technology
14th Week	1st	TCP/IP Concepts, TCP/IP Suits
	2nd	Basic Protocol Function
	3rd	Protocol Function
	4th	Principle of Inter Network
15th Week	1st	Internet Protocol Operations
	2nd	Internet Protocol Operations
	3rd	Doubt Clearing Class
	4th	Question Answer Discussion of Previous Year

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Academic Lesson Plan of Summer 2024

Department : COMP. SC.	Semester : 4TH	Name of the Teaching Faculty : SUBHAKANTA PRADHAN
Subject : MICROPROCESSOR & MICROCONTROLLER	No. of Days/per week class allotted : 5Period/week	Semester from : 16TH JANUARY 2024
		No of Weeks : 15 Weeks
		Topic to be covered :
WEEK	**DAY**	**TOPIC**
1st Week	1st	Introduction to Microprocessor & Microcomputer & Distinguish between them
	2nd	Concept of Address Bus, Data Bus
	3rd	Concept of Control Bus & System Bus
	4th	General bus Structure Block Diagram
	5th	Basic Architecture of 8085 (8 Bit) Microprocessor
2nd Week	1st	Basic Architecture of 8085 (8 Bit) Microprocessor
	2nd	Basic Architecture of 8085 (8 Bit) Microprocessor
	3rd	Basic Architecture of 8085 (8 Bit) Microprocessor
	4th	Signal Description (Pin Diagram) of 8085b Microprocessor
	5th	Signal Description (Pin Diagram) of 8085b Microprocessor
3rd Week	1st	Signal Description (Pin Diagram) of 8085b Microprocessor
	2nd	Register organizations, Distinguish between SPR & GPR, Timing & Control Module
	3rd	Register organizations, Distinguish between SPR & GPR, Timing & Control Module
	4th	Stack, Stack pointer & Stack Top
	5th	Interrupts - 8085 Interrupts, Masking of Interrupts (SIM , RIM)
4th Week	1st	Addressing Data & Differentiate between One-byte, Two-byte, & Three-byte Instructions with Examples
	2nd	Addressing Modes in Instructions with Suitable Examples
	3rd	Instruction Set of 8085 (Data Transfer, Arithmetic, Logical,Branching, Stack & I/O , Machine Control)
	4th	Instruction Set of 8085 (Data Transfer, Arithmetic, Logical,Branching, Stack & I/O , Machine Control)
	5th	Instruction Set of 8085 (Data Transfer, Arithmetic, Logical,Branching, Stack & I/O , Machine Control)
5th Week	1st	Simple Assembly language Programming of 8085
	2nd	Simple Addition & Substraction
	3rd	Logic Operations (AND, OR, Complement 1's & 2's) & Masking of Bits
	4th	Counters & Time Delay (Single Register, Register pair, More than two Register)

WEEK	DAY	TOPIC
	5th	Looping, Counting & Indexing (Call/ JMP etc.)
6th Week	1st	Code Conversion, BCD Arithmetic & 16 Bit Data Operation
	2nd	Block Transfer
	3rd	Compare Between Two Numbers
	4th	Array handling (Largest Number & Smallest Number in the Array)
	5th	Memory & I/O Addressing
7th Week	1st	Define Opcode, Operand, T-state, Fetch Cycle
	2nd	Machine CycleInstruction Cycle & Discuss the concept of timing Diagram
	3rd	Draw Timing Diagram for Memory Read Machine Cycle
	4th	Draw Timing Diagram for Memory Write Machine Cycle
	5th	Draw Timing diagram for I/O Read Machine Cycle
8th Week	1st	Draw a neat Sketch for the timing Diagram for 8085 Instruction (MOV Instruction)
	2nd	Draw a neat Sketch for the timing Diagram for 8085 Instruction (MVI Instruction)
	3rd	Draw a neat Sketch for the timing Diagram for 8085 Instruction (LDA Instruction)
	4th	Concept of Interfacing
	5th	Define Mapping & Data transfer mechanisms - memory Mapping & I/OMapping
9th Week	1st	Concept of Memory Interfacing - Interfacing EPROM & RAM Memories
	2nd	Concept of Address Decoding for I/O Devices
	3rd	Programmable Peripheral interface : 8255
	4th	ADC & DAC with Interfacing
	5th	Interfacing Seven Segment Displays
10th Week	1st	Generate Square Waves on all lines of 8255
	2nd	Design Interface a traffic light control system using 8255, Design interface for Stepper Motor Control Using 8255
	3rd	Basic Concept of other Interfacing DMA Controller USART
	4th	Register Organisation of 8086
	5th	Internal Architecture of 8086
11th Week	1st	Internal Architecture of 8086
	2nd	Signal Description of 8086
	3rd	Signal Description of 8086
	4th	General Bus Operation & Physical Memory Organisation
	5th	Minimum Mode & Timings

WEEK	DAY	TOPIC
12th Week	1st	Maximum Mode & Timings
	2nd	Interrupts and Interrupt Service Routines, Interrupt Cycle, Non-Maskable Interrupt, Maskable Interrupt
	3rd	Instruction Set & programming : Addressing Modes
	4th	Instruction Set, Assembler Directives and Operators
	5th	Simple Assembly Language Programming Using 8086 Instruction
13th Week	1st	Distinguish Between Microprocessor & Microcontroller
	2nd	8 Bit & 16 Bit Microcontroller
	3rd	CISC & RISC Processor
	4th	Architecture of 8051 Microcontroller
	5th	Signal Description of 8051 Microcontrollers
14th Week	1st	Signal Description of 8051 Microcontrollers
	2nd	Memory Organisation - RAM Structure, SFR
	3rd	Registers, Timers, Interrupts of 8051 Microcontrollers
	4th	Addressing Modes of 8051
	5th	Simple 8051 Assembly Language programming Arithmetic & Logic Instructions
15th Week	1st	JUMP, LOOP, CALL Instructions, I/O Port Programming
	2nd	JUMP, LOOP, CALL Instructions, I/O Port Programming
	3rd	Interrupts, timer & Counters
	4th	Serial Communication
	5th	Microcontroller Interrupts and Interfacing to 8255

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Academic Lesson Plan of Summer 2024

Department : CSE	Semester : 4TH	Name of the Teaching Faculty : JITENDRA PRASAD DASH
Subject : Data base Management System	No. of Days/per week class allotted :	Semester from : 16TH JANUARY 2024
		No of Weeks : 15 Weeks
		Topic to be covered :

WEEK	DAY	TOPIC
1st Week	1st	Basic Concepts of DBMS
	2nd	Purpose of Databasa Systems
	3rd	Explain data Abstraction
	4th	Database Users
2nd Week	1st	Data Definition Language
	2nd	Continue
	3rd	Data Dictionary
	4th	Data Models
3rd Week	1st	Data Independence
	2nd	Entity Relationship models
	3rd	Continue
	4th	Entity Sets and Relationship Sets
4th Week	1st	Explain Attributes
	2nd	Mapping Constraints
	3rd	E-R Diagram
	4th	Relational Model
5th Week	1st	Hierachical Model
	2nd	Network Model
	3rd	Relational database
	4th	Relational Algebra
6th Week	1st	Different Operators Select, Project, Join, Sample Example
	2nd	Different Operators Select, Project, Join, Sample Example
	3rd	Different Operators Select, Project, Join, Sample Example
	4th	Continue
7th Week	1st	Introduction of Normalization
	2nd	Functional Dependencies
	3rd	Continue
	4th	Lossless Join
8th Week	1st	Lossless Join
	2nd	Importance of Normalization

WEEK	DAY	TOPIC
8th Week	3rd	First Normal Form
	4th	Second Normal Forms
9th Week	1st	Third Normal Forms
	2nd	Explain BCNF
	3rd	Introduction of SQL
	4th	Elementary Idea of Query Language
10th Week	1st	Queries in SQL
	2nd	Simple Queries to create in SQL
	3rd	Simple Queries to Insert, Alter in SQL
	4th	Simple Queries to Update in SQL
11th Week	1st	Introduction of Transaction Processing Concepts
	2nd	Continue
	3rd	Transaction and System Concept
	4th	Continue
12th Week	1st	Desirable properties of Transaction
	2nd	Continue
	3rd	Schedules and Recoverability
	4th	Continue
13th Week	1st	Introduction of Concurrency Control Concepts
	2nd	Continue
	3rd	Locks, Live Lock, Dead Lock
	4th	Continue
14th Week	1st	Serializability
	2nd	Introduction of Security and Integrity
	3rd	Authorization and views
	4th	Continue
15th Week	1st	Secuirity Constraints
	2nd	Integrity Constraints
	3rd	Discuss encryption
	4th	Revision of all topics with Semester Questions

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