4th CS

— Silver Jubilee Year —
Nilachal Polytechnic
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ନୀଳାଚଳ ପଲିଟେକ୍‌ନିକ୍
ଭୁବନେଶ୍ୱର

TEACHING-CUM-LESSON PLAN

1) Subject Code: TH-1
2) Subject Title: OS
3) Semester: 4TH
4) Branch: Computer Science Engg.
5) No. of Classes / Week: 06
6) Pre Requisite for the Subject: NIL
7) Text Book to be referred by students:

Sl No.	Book	Author	Publication	Year (Edition)	Whether availa Library
i	Operating System	Donovan	TMH		YES
ii	Operating System	Silvers chz& Galvin,	PHI		YES
iii	Operating System	Er Rajiv Chopra	S.CHAND		YES

8) Course Coverage Schedule:

Sl No.	Week No.	Ch. No	No. of classes planed	Topic to be covered	Article		Expected Date of Completion	Remark
					From	To		
i	1	1	06	INTRODUCTION	1.1	1001	26.03.22	
ii	2	2	06	PROCESS MANAGEMENT	2.1	2.2	-	
iii	3	2	06	PROCESS MANAGEMENT	2.2	1002	11.04.22	
iv	4	3	06	MEMORY MANAGEMENT	3.1	3.2	-	
v	5	3	06	MEMORY MANAGEMENT	3.3	3.4	-	
vi	6	3	06	DEVICE MANAGEMENT	3.5	1003	03.05.22	
vii	7	4	06	DEVICE MANAGEMENT	4.1	4.2	-	
viii	8	4	06	DEAD LOCKS	4.3	1004	20.05.22	
ix	9	5	06	FILE MANAGEMENT	5.1	1005	24.05.22	
x	10	6	06	SYSTEM PROGRAMMING	6.1	6.1.2	03.06.22	
Total:		6	60					

9) **Detail Class wise Plan:**

Detailed Topic Plan:

Chapter No: 01,02 **Chapter Name:** INTRODUCTION, PROCESS MANAGEMENT

1.1 Objectives and Explain functions of operating system.
1.2 Evolution of Operating system
1.3 Structure of operating system.
2.1 Process concept, process control, interacting processes, inter process messages.
2.2 Implementation issues of Processes.
2.3 Process scheduling, job scheduling.

Sl No.	Week No.	Lecture No.	Topic to be Covered	Article No.	Date of Completion	Signature
1	1	1	Objectives and Explain functions of operating system.	1.1	15.3.22	
2		2	Evolution of Operating system Structure of operating system	1.2,1.3	16.3.22	
3		3	Process concept, process control, interacting processes, inter process messages.	2.1	17.3.22	
4		4	Implementation issues of Processes.	2.2	21.3.22	
5		5	Process scheduling, job scheduling.	2.3	22.3.22	
6		6(Last Class)	**Question Discussion/Dobuts**	1001	23.3.22	

REVIEW:-

Detailed Topic Plan:

Chapter No: 02,03 **Chapter Name:** PROCESS MANAGEMENT

2.4 Process synchronization, semaphore.
2.5 Principle of concurrency, types of scheduling.
3.1Memory allocation Techniques
- Contiguous memory allocation
- non contiguous memory allocation

3.2 Swapping

Sl No.	Week No.	Lecture No.	Topic to be Covered	Article No.	Date of Completion	Signature
1	2	7	Process synchronization, semaphore	2.4	24.3.22	
2		8	Principle of concurrency, types of scheduling.	2.5	25.3.22	
3		9	Process synchronization, semaphore	2.4	26.3.22	
4		10	Principle of concurrency, types of scheduling.	2.5	28.3.22	
5		11	Process scheduling, job scheduling.	2.3	29.3.22	
6		12(Last Class)	**Question Discussion/Dobuts**	1002	30.3.22	

REVIEW:-

Detailed Topic Plan:

Chapter No: 03,04 **Chapter Name:** MEMORY MANAGEMENT

3.1Memory allocation Techniques
- Contiguous memory allocation
- non contiguous memory allocation

3.2 Swapping

3.3 Paging

3.4 Segmentation, virtual memory using paging

Demand paging, page fault handling.

Sl No.	Week No.	Lecture No.	Topic to be Covered	Article No.	Date of Completion	Signature
1	3	13	Memory allocation Techniques	3.1	31.3.22	
2		14	Memory allocation Techniques	3.1	1.4.22	

3		15	Swapping	3.2	2.4.22	
4		16	Swapping	3.2	4.4.22	
5		17	Swapping, Segmentation, virtual memory using	3.2.3.3	5.4.22	
6		18(Last Class)	**Question Discussion/Dobuts**	1003	6.4.22	

REVIEW:-

Detailed Topic Plan:

Chapter No: 04 **Chapter Name:** MEMORY MANAGEMENT

DEVICE MANAGEMENT

3.4 Demand paging, page fault handling.

4.1 Techniques for Device Management

Sl No.	Week No.	Lecture No.	Topic to be Covered	Article No.	Date of Completion	Signature
1	4	19	Paging	3.3,3.4	7.4.22	
2		20	paging Demand paging, page fault handling.	3.4	8.4.22	
3		21	paging Demand paging, page fault handling.	3.4	9.4.22	
4		22	Techniques for Device Management	4.1	11.4.22	
5		23	Techniques for Device Management	4.1	12.4.22	
6		24(Last Class)	**Question Discussion/Dobuts**		13.4.22	

REVIEW:-

Detailed Topic Plan:

Chapter No: 04 Chapter Name: DEVICE MANAGEMENT

4..2 Device allocation considerations I/O traffic control & I/O Schedule, I/O Device handlers.
4.3 SPOOLING.

Sl No.	Week No.	Lecture No.	Topic to be Covered	Article No.	Date of Completion	Signature
1	5	25	Device allocation considerations I/O traffic control & I/O Schedule, I/O Device handlers.	4.2	14.4.22	
2		26	Device allocation considerations I/O traffic control & I/O Schedule, I/O Device handlers.	4.2	15.4.22	
3		27	Device allocation considerations I/O traffic control & I/O Schedule, I/O Device handlers.	4.2	16.4.22	
4		28	SPOOLING	4.3	18.4.22	
5		29	SPOOLING.	4.3	19.4.22	
6		30(Last Class)	Question Discussion/Dobuts	1004	20.4.22	

REVIEW:-

Detailed Topic Plan:

Chapter No: 05 **Chapter Name:** DEAD LOCKS

5.1 Concept of deadlock.
5.2 System Model
5.3 Dead Lock Detection
5.4 Resources allocation Graph

Sl No.	Week No.	Lecture No.	Topic to be Covered	Article No.	Date of Completion	Signature
1	6	31	Concept of deadlock.	5.1	21.4.22	
2		32	Concept of deadlock,system model	5.1,5.2	22.4.22	
3		33	Dead Lock Detection	5.3	23.4.22	
4		34	Dead Lock Detection	5.3	25.4.22	
5		35	Resources allocation Graph	5.4	26.4.22	
6		36(Last Class)	**Question Discussion/Dobuts**		27.4.22	

REVIEW:-

Detailed Topic Plan:

4. **Chapter No: 05,06** **Chapter Name: DEAD LOCKS**
5.5 Methods of Deadlock handling
5.6 Recovery &Prevention, Explain Bankers Algorithm & Safety Algorithm

Sl No.	Week No.	Lecture No.	Topic to be Covered	Article No.	Date of Completion	Signature
1	7	37	Methods of Deadlock handling	5.5	28.4.22	
2		38	Methods of Deadlock handling	5.5	29.4.22	
3		39	Methods of Deadlock handling	5.5	30.4.22	
4		40	Recovery &Prevention, Explain Bankers Algorithm & Safety Algorithm	5.6	2.5.22	
5		41	Recovery &Prevention, Explain Bankers Algorithm & Safety	5.6	3.5.22	

			Algorithm			
6		42(Last Class)	**Question Discussion/Dobuts**	1005	4.5.22	

REVIEW:-

Detailed Topic Plan:

5. Chapter No: 06 Chapter Name: **FILE MANAGEMENT**

6.1 File organization, Directory & file structure, sharing of files
6.2 File access methods, file systems, reliability

Sl No.	Week No.	Lecture No.	Topic to be Covered	Article No.	Date of Completion	Signature
1	8	43	File organization	6.1	5.5.22	
2		44	File organization	6.1	6.5.22	
3		45	Directory & file structure, sharing of files	6.1	7.5.22	
4		46	File access methods, file systems, reliability	6.2	9.5.22	
5		47	File access methods, file systems, reliability	6.2	10.5.22	
6		48(Last Class)	**Question Discussion/Dobuts**	1006	11.5.22	

REVIEW:-

Detailed Topic Plan:

6. Chapter No: 06 ,07 Chapter Name: **FILE MANAGEMENT, SYSTEM PROGRAMMING**

6.3 Allocation of disk space
6.4 File protection, secondary storage management.
7.1 Concept of system programming and show difference from Application Complier

Sl No.	Week No.	Lecture No.	Topic to be Covered	Article No.	Date of Completion	Signature
1	9	49	Allocation of disk space	6.3	12.5.22	
2		50	Allocation of disk space	6.3	13.5.22	
3		51	File protection, secondary storage management.	6.4	14.5.22	
4		52	File protection, secondary storage management.	6.4	16.5.22	
5		53	Concept of system programming and show difference from Application Complier	7.1	17.5.22	
6		54(Last Class)	**Question Discussion/Dobuts**	1006	18.5.22	

REVIEW:-

Sl No.	Week No.	Lecture No.	Topic to be Covered	Article No.	Date of Completion	Signature
1	10	55	Compiler , functions of compiler	7.2	19.5.22	
2		56	Compiler , functions of compiler	7.2	20.5.22	
3		57	Compare compiler and interpreter.	7.3	21.5.22	
4		58	Seven phases of compiler, brief description of each phase.	7.4	23.5.22	
5		59	Seven phases of compiler, brief description of each phase.	7.4	24.5.22	
6		60(Last Class)	**Question Discussion/Dobuts**	1007	26.5.22	

REVIEW:-

10) **Examination Schedule:**

Sl No.	Particulars of Test	Schedule	Type
1	Weekly Test (2^{nd} Week onwards)	Wednesday (4^{th} Sem.) & Thursday (6^{th} sem.)	10 Short Questions (02 Marks):
2	Internal Exam -1	4^{th} Week	30 Marks (Long Questions)
3	Internal Exam -2	8^{th} Week	30 Marks (Long Questions)

11) **Assignment Collection/ Evaluation:**

Sl No.	Assignment No.	Content	Schedule
1	Assignment-1	Long Questions 7 Nos.(10 Marks) Short Questions 6 Nos. (5 Marks)	3^{rd} Week
2	Assignment-2	Long Questions 8 Nos.(10 Marks) Short Questions 6 Nos. (5 Marks)	6^{th} Week
3	Assignment-3	Long Questions 11 Nos.(10 Marks) Short Questions 8 Nos. (5 Marks)	9^{th} Week
4	Assignment-4	VST 100 Marks	$10^{th}/11^{th}$ Week

Signature of Faculty **Signature of Asst. HOD** **Signature of HOD**

Principal 05/4/2022

TEACHING-CUM-LESSON PLAN

1) Subject Code: TH-3
2) Subject Title: MPMC
3) Semester: 4TH
4) Branch: Computer Science Engg.
5) No. of Classes / Week: 05
6) Pre Requisite for the Subject: NIL
7) Text Book to be referred by students:

Sl No.	Book	Author	Publication	Year (Edition)	Whether available in Library
i	Microprocessor & Microcontroller	S.K.Mandal	Tata McGraw Hill Education	2011	YES

8) Course Coverage Schedule:

Sl No.	Week No.	Ch. No	No. of classes planed	Topic to be covered	Article		Expected Date of Completion	Remark
					From	To		
i	1	1	05	Microprocessor(Architecture and Programming-8 bit-8085)	1.1	1.4	-	
ii	2	1	05	Microprocessor(Architecture and Programming-8 bit-8085)	1.5	1001	34-04-2022	
iii	3	2	05	Instruction Set and Assembly Language Programming(8 bit)	2.1	2.4.1	-	
iv	4	2	05	Instruction Set and Assembly Language Programming(8 bit)	2.4.2	2.4.8	-	
v	5	2	01	Instruction Set and Assembly Language Programming(8 bit)	2.5	1002	23-04-2022	
		3	04	TIMING DIAGRAMS	3.1	1003	27-04-2022	
vi	6	4	05	Microprocessor Based System Development Aids	4.1	4.5	-	
vii	7	4	05	Microprocessor Based System Development Aids	4.6	1004	10-05-2022	

viii	8	5	05	Microprocessor (Architecture and Programming-16 bit-8086)	5.1	5.7	-	
ix	9	5	04	Microprocessor (Architecture and Programming-16 bit-8086)	5.8	1005	26-05-2022	
		6	01	Microcontroller (Architecture and Programming-8 bit)	6.1	6.3	-	
x	10	6	05	Microcontroller (Architecture and Programming-8 bit)	6.4	1006	03-06-2022	
Total:		6	50					

9) Detail Class wise Plan:

Detailed Topic Plan:

Chapter No: 01 **Chapter Name: Microprocessor (Architecture and Programming-8 bit-8085)**

1.1 Introduction to Microprocessor and Microcomputer & distinguish between them. 1.2 Concept of Address bus, data bus, control bus & System Bus 1.3 General Bus structure Blockdiagram. 1.4 Basic Architecture of 8085 (8 bit) Microprocessor 1.5 Signal Description (Pin diagram) of 8085 Microprocessor 1.6 Register Organizations,Distinguish between SPR & GPR, Timing & Control Module, 1.7 Stack, Stack pointer & Stack top. 1.8 Interrupts:-8085 Interrupts, Masking of Interrupt(SIM,RIM)

Sl No.	Week No.	Lecture No.	Topic to be Covered	Article No.	Date of Completion	Signature
1	1	1	Introduction to Microprocessor and Microcomputer & distinguish between them	1.1		
2	1	2	Introduction to Microprocessor and Microcomputer & distinguish between them	1.1		
3	1	3	Concept of Address bus, data bus, control bus & System Bus	1.2		
4	1	4	General Bus structure Blockdiagram	1.3		
5	1	5	Basic Architecture of 8085 (8 bit) Microprocessor	1.4		
6	2	6	Signal Description (Pin diagram) of 8085 Microprocessor	1.5		
7	2	7	Register Organizations,Distinguish between SPR & GPR, Timing & Control Module	1.6		

	2	8	Stack, Stack pointer & Stack top	1.7		
9	2	9	Interrupts:-8085 Interrupts, Masking of Interrupt(SIM,RIM)	1.8		
10	2	10(Last Class)	Teachers Exam./ Doubt Clear/Revision:	1001		

REVIEW:-

Detailed Topic Plan:

Chapter No: 02 Chapter Name: Instruction Set and Assembly Language Programming

2.1 Addressing data & Differentiate between one-byte, two-byte &three-byte instructions with examples.
2.2 Addressing modes in instructions with suitable examples.
2.3 Instruction Set of 8085(Data Transfer, Arithmetic, Logical, Branching, Stack& I/O , Machine Control)
2.4 Simple Assembly Language Programming of 8085
2.4.1 Simple Addition & Subtraction
2.4.2 Logic Operations (AND, OR, Complement 1's & 2's) & Masking of bits
2.4.3 Counters & Time delay (Single Register, Register Pair, More than Two Register)
2.4.4 Looping, Counting & Indexing (Call/JMP etc).
2.4.5 Stack & Subroutinesprogrames.
2.4.6 Code conversion, BCD Arithmetic & 16 Bit data Operation, Block Transfer.
2.4.7 Compare between two numbers
2.4.8 Array Handling (Largest number & smallest number in the array)
2.5 Memory & I/O Addressing

Sl No.	Week No.	Lecture No.	Topic to be Covered	Article No.	Date of Completion	Signature
1	3	11	Addressing data & Differentiate between one-byte, two-byte &three-byte instructions with examples.	2.1		
2	3	12	Addressing modes in instructions with suitable examples.	2.2		
3	3	13	Instruction Set of 8085(Data Transfer, Arithmetic, Logical, Branching, Stack& I/O , Machine Control)	2.3		
4	3	14	Simple Assembly Language Programming of 8085	2.4		
5	3	15	Simple Addition & Subtraction	2.4.1		
6	4	16	Logic Operations (AND, OR, Complement 1's & 2's) & Masking of bits Counters & Time delay (Single Register, Register Pair, More than	2.4.2 2.4.3		

			Two Register)			
7	4	17	Looping, Counting & Indexing (Call/JMP etc). Stack & Subroutines programs.	2.4.4 2.4.5		
8	4	18	Code conversion, BCD Arithmetic & 16 Bit data Operation, Block Transfer.	2.4.6		
9	4	19	Compare between two numbers Array Handling (Largest number & smallest number in the array)	2.4.7 2.4.8		
10	4	20	Memory & I/O Addressing	2.5		
11	5	21(Last Class)	Teachers Exam./ Doubt Clear/Revision:	1002		

REVIEW:-

Detailed Topic Plan:

Chapter No: 03 Chapter Name: TIMING DIAGRAMS

1.1 Define opcode, operand, T-State, Fetch cycle, Machine Cycle, Instruction cycle & discuss the concept of timing diagram.
1.2 Draw timing diagram for memory read, memory write, I/O read, I/O write machine cycle.
1.3 Draw a neat sketch for the timing diagram for 8085 instruction (MOV,MVI,LDA instruction).

Sl No.	Week No.	Lecture No.	Topic to be Covered	Article No.	Date of Completion	Signature
1.	5	22	Define opcode, operand, T-State, Fetch cycle, Machine Cycle, Instruction cycle & discuss the concept of timing diagram.	1.1		
2.	5	23	Draw timing diagram for memory read, memory write, I/O read, I/O write machine cycle.	1.2		
3.	5	24	Draw a neat sketch for the timing diagram for 8085 instruction (MOV,MVI,LDA instruction).	1.3		
4.	5	25(Last Class)	Teachers Exam./ Doubt Clear/Revision:	1003		

REVIEW:-

tailed Topic Plan:

Chapter No: 04 Chapter Name: Microprocessor Based System Development Aids

4.1 Concept of interfacing
4.2 Define Mapping &Data transfer mechanisms - Memory mapping & I/O Mapping
4.3 Concept of Memory Interfacing:- Interfacing EPROM & RAM Memories
4.4 Concept of Address decoding for I/O devices
4.5 Programmable Peripheral Interface: 8255
4.6 ADC & DAC with Interfacing.
4.7 Interfacing Seven Segment Displays
4.8 Generate square waves on all lines of 8255
4.9 Design Interface a traffic light control system using 8255.
4.10 Design interface for stepper motor control using 8255.

Sl No.	Week No.	Lecture No.	Topic to be Covered	Article No.	Date of Completion	Signature
1	6	26	Concept of interfacing	4.1		
2	6	27	Define Mapping &Data transfer mechanisms - Memory mapping & I/O Mapping	4.2		
3	6	28	Concept of Memory Interfacing:- Interfacing EPROM & RAM Memories	4.3		
4	6	29	Concept of Address decoding for I/O devices	4.4		
5	6	30	Programmable Peripheral Interface: 8255	4.5		
6	7	31	ADC & DAC with Interfacing.	4.6		
7	7	32	Interfacing Seven Segment Displays	4.7		
8	7	33	Generate square waves on all lines of 8255 Design Interface a traffic light control system using 8255.	4.8 4.9		
9	7	34	Design interface for stepper motor control using 8255.	4.10		
10	7	35(Last Class)	Teachers Exam./ Doubt Clear/Revision:	1004		

REVIEW:-

Chapter No: 05 Chapter Name: Microprocessor (Architecture and Programming bit-8086)

5.1 Register Organisation of 8086
5.2 Internal architecture of 8086
5.3 Signal Description of 8086
5.4 General Bus Operation& Physical Memory Organisation
5.5 Minimum Mode &Timings,
5.6 Maximum Mode &Timings,
5.7 Interrupts and Interrupt Service Routines, Interrupt Cycle, Non-Maskable Interrupt, Maskable Interrupt
5.8 8086 Instruction Set & Programming: Addressing Modes, Instruction Set, Assembler Directives and Operators,
5.9 Simple Assembly language programming using 8086 instructions.

Sl No.	Week No.	Lecture No.	Topic to be Covered	Article No.	Date of Completion	Signature
1	8	36	Register Organisation of 8086 Internal architecture of 8086	5.1 5.2		
2	8	37	Signal Description of 8086	5.3		
3	8	38	General Bus Operation& Physical Memory Organisation	5.4		
4	8	39	Minimum Mode &Timings Maximum Mode &Timings,	5.5 5.6		
5	8	40	Interrupts and Interrupt Service Routines, Interrupt Cycle, Non-Maskable Interrupt, Maskable Interrupt	5.7		
6	9	41	8086 Instruction Set & Programming: Addressing Modes, Instruction Set, Assembler Directives and Operators,	5.8		
7	9	42	8086 Instruction Set & Programming: Addressing Modes, Instruction Set, Assembler Directives and Operators,	5.8		
8	9	43	Simple Assembly language programming using 8086 instructions.	5.9		
9	9	44(Last Class)	Teachers Exam./ Doubt Clear/Revision:	1005		

VIEW:-

Detailed Topic Plan:

Chapter No: 06 Chapter Name: Microcontroller (Architecture and Programming-8 bit):-

6.1 Distinguish between Microprocessor & Microcontroller
6.2 8 bit & 16 bit microcontroller
6.3 CISC & RISC processor
6.4 Architectureof8051Microcontroller
6.5 Signal Descriptionof8051Microcontrollers
6.6 Memory Organisation-RAM structure, SFR
6.7 Registers,timers,interruptsof8051Microcontrollers
6.8 Addressing Modes of 8051
6.9 Simple 8051 Assembly Language Programming Arithmetic& Logic Instructions , JUMP, LOOP, CALL Instructions, I/O Port Programming
6.10 Interrupts, Timer & Counters
6.11 Serial Communication
6.12 Microcontroller Interrupts and Interfacing to 8255

Sl No.	Week No.	Lecture No.	Topic to be Covered	Article No.	Date of Completion	Signature
1	9	45	Distinguish between Microprocessor & Microcontroller 8 bit & 16 bit microcontroller CISC & RISC processor	6.1 6.2 6.3		
2	10	46	Architectureof8051Microcontroller SignalDescriptionof8051Microcontrollers	6.4 6.5		
3	10	47	Memory Organisation-RAM structure, SFR Registers,timers,interruptsof8051Microcontrollers	6.7 6.8		
4	10	48	Simple 8051 Assembly Language Programming Arithmetic& Logic Instructions , JUMP, LOOP, CALL Instructions, I/O Port Programming Interrupts, Timer & Counters	6.9 6.10		
5	10	49	Serial Communication Microcontroller Interrupts and Interfacing to 8255	6.11 6.12		
6	10	50(Last Class)	Teachers Exam./ Doubt Clear/Revision:	1006		

REVIEW:-

10) **Examination Schedule:**

Sl No.	Particulars of Test	Schedule	Type
1	Weekly Test (2^{nd} Week onwards)	Wednesday (4^{th} Sem.) & Thursday (6^{th} sem.)	10 Short Questions (02 Marks):
2	Internal Exam.-1	4^{th} Week	30 Marks (Long Questions)
3	Internal Exam.-2	8^{th} Week	30 Marks (Long Questions)

11) **Assignment Collection / Evaluation:**

Sl No.	Assignment No.	Content	Schedule
1	Assignment-1	Long Questions 7 Nos.(10 Marks) Short Questions 6 Nos. (5 Marks)	3^{rd} Week
2	Assignment-2	Long Questions 8 Nos.(10 Marks) Short Questions 6 Nos. (5 Marks)	6^{th} Week
3	Assignment-3	Long Questions 11 Nos.(10 Marks) Short Questions 8 Nos. (5 Marks)	9^{th} Week
4	Assignment-4	VST 100 Marks	10^{th}/11^{th} Week

J. Sahoo 29.3.22
Signature of Faculty

Signature of Asst. HOD

Signature of HOD

Principal

TEACHING-CUM-LESSON PLAN

1) Subject Code: TH-2

2) Subject Title: Data Communication and Computer Network

3) Semester: 4TH

4) Branch: Computer Science Engg

5) No. of Classes / Week 05

6) Pre Requisite for the Subject: NIL

7) Text Book to be referred by students:

Sl No.	Book	Author	Publication	Year (Edition)	Whether available in Library
i	Data Communication & Network	Forouzen	TMH	2006	YES

8) Course Coverage Schedule:

Sl No.	Week No.	Ch. No	No. of classes planed	Topic to be covered	Article		Expected Date of Completion	Remark
					From	To		
i	1	1	05	NETWORK& PROTOCOL	1.1	1.3,1001	26-03-2022	
ii	2	2	05	DATA TRANSMISSION & MEDIA	2.1	2.3		
iii	3	2	03	DATA TRANSMISSION & MEDIA .	2.4	2.4,1002	11-04-2022	
		3	02	DATA ENCODING	3.1	3.2		
iv	4	3	03	DATA ENCODING	3.3	3.5,1003	06-04-2022	
		4	02	DATA COMMUNICATION & DATA LINK CONTROL	4.1	4.3		
v	5	4	05	DATA COMMUNICATION & DATA LINK CONTROL	4.4	4.8,1004	27-04-2022	
vi	6	5	05	SWITCHING & ROUTING	5.1	5.5		
vii	7	5	05	SWITCHING & ROUTING	5.6	5.8,1005	10-04-2022	
viii	8	6	05	LAN TECHNOLOGY	6.1	6.4		
ix	9	6	03	LAN TECHNOLOGY	6.5	6.6,1006	25-05-2022	
		7	02	TCP/IP	7.1	7.1		
x	10	7	05	TCP/IP	7.2	7.5,1007	03-06-2022	
Total:		7	50					

9) Detail Class wise Plan

Detailed Topic Plan:

Chapter No: 01 **Chapter Name: Network& Protocol**

1.1 Data Communication
1.2 Networks
1.3 Protocol & Architecture, Standards, OSI, TCP/IP

Sl No.	Week No.	Lecture No.	Topic to be Covered	Article No.	Date of Completion	Signature
1	01	1	Data Communication , Networks	1.1,1.2		
2		2	Protocol & Architecture, Standards	1.3		
3		3	OSI	1.3		
4		4	TCP/IP	1.3		
5		5(Last Class)	**Teachers Exam./ Doubt Clear/Revision:**	1001		

REVIEW:-

Detailed Topic Plan:

Chapter No: 02 **Chapter Name: Data Transmission & Media**

2.1 Data transmission Concepts and Terminology
2.2 Analog and Digital Data transmission
2.3 Transmission impairments, Channel capacity
2.4 Transmission media, Guided Transmission, Wireless Transmission

Sl No.	Week No.	Lecture No.	Topic to be Covered	Article No.	Date of Completion	Signature
1	02	6	Data transmission Concepts and Terminology	2.1		
2		7	Data transmission Concepts and Terminology	2.1		
3		8	Analog and Digital Data transmission	2.2		
4		9	Transmission impairments, Channel capacity	2.3		
5		10	Transmission media, Guided Transmission	2.4		
6	03	11	Transmission media, Guided Transmission	2.4		
7		12	Transmission media, Wireless Transmission	2.4		
8		13(Last Class)	**Teachers Exam./ Doubt Clear/Revision:**	1002		

REVIEW:-

Detailed Topic Plan:

Chapter No: 03 Chapter Name: Data Encoding

3.1 Data encoding
3.2 Digital data digital signals
3.3 Digital data analog signals
3.4 Analog data digital signals
3.5 Analog data analog signals

Sl No.	Week No.	Lecture No.	Topic to be Covered	Article No.	Date of Completion	Signature
1.	03	14	Data encoding	3.1		
2.		15	Digital data digital signals	3.2		
3.	04	16	Digital data analog signals	3.3		
4.		17	Analog data digital signals Analog data analog signals	3.4,3.5		
5.		18Last Class)	Teachers Exam./ Doubt Clear/Revision:	1003		

REVIEW:-

Detailed Topic Plan:

Chapter No: 04 Data Communication & Data link control

4.1 Asynchronous and Synchronous Transmission
4.2 Error Detection
4.3 Line configuration
4.4 Flow Control,
4.5 Error Control
4.6 Multiplexing
4.7 FDM synchronous TDM
4.8 Statistical TDM

Sl No.	Week No.	Lecture No.	Topic to be Covered	Article No.	Date of Completion	Signature
1	04	19	Asynchronous and Synchronous Transmission Error Detection	4.1,4.2		
2		20	Line configuration	4.3		
3	05	21	Flow Control	4.4		

4		22	Error Control	4.5		
5		23	Multiplexing	4.6		
6		24	FDM synchronous TDM, Statistical TDM	4.7,4.8		
7		25(Last Class)	**Teachers Exam./ Doubt Clear/Revision:**	1004		

REVIEW:-

Detailed Topic Plan:

Chapter No: 05 **Chapter Name: Switching & Routing**

5.1 Circuit Switching networks
5.2 Packet Switching principles
5.3 X.25
5.4 Routing in Packet switching
5.5 Congestion
5.6 Effects of congestion, congestion control
5.7 Traffic Management
5.8 Congestion Control in Packet Switching Network.

Sl No.	Week No.	Lecture No.	Topic to be Covered	Article No.	Date of Completion	Signature
1	06	26	Circuit Switching networks	5.1		
2		27	Packet Switching principles	5.2		
3		28	X.25	5.3		
4		29	Routing in Packet switching	5.4		
5		30	Congestion	5.5		
6	07	31	Effects of congestion, congestion control	5.6		
7		32	Effects of congestion, congestion control	5.6		
8		33	Traffic Management	5.7		
9		34	Congestion Control in Packet Switching Network.	5.8		
10		35(Last Class)	**Teachers Exam./ Doubt Clear/Revision:**	1005		

REVIEW:-

Detailed Topic Plan:

Chapter No: 06 **Chapter Name: LAN Technology**

6.1. Topology and Transmission Media
6.2 LAN protocol architecture
6.3. Medium Access control
6.4 Bridges, Hub, Switch
6.5 Ethernet (CSMA/CD), Fiber Channel
6.6 Wireless LAN Technology

Sl No.	Week No.	Lecture No.	Topic to be Covered	Article No.	Date of Completion	Signature
1	08	36	Topology	6.1		
2		37	Transmission Media	6.1		
3		38	LAN protocol architecture	6.2		
4		39	Medium Access control	6.3		
5		40	Bridges, Hub, Switch	6.4		
6	09	41	Ethernet (CSMA/CD), Fiber Channel	6.5		
7		42	Wireless LAN Technology	6.6		
8		43(Last Class)	**Teachers Exam./ Doubt Clear/Revision:**	1006		

REVIEW:-

Detailed Topic Plan:

Chapter No: 07 **Chapter Name: TCP/IP**

7.1 TCP/IP Protocol Suite
7.2 Basic Protocol functions
7.3 Principles of Internetworking
7.3 Internet Protocol operations
7.4 Internet Protocol

Sl No.	Week No.	Lecture No.	Topic to be Covered	Article No.	Date of Completion	Signature
1	09	44	TCP/IP Protocol Suite	7.1		
2		45	TCP/IP Protocol Suite	7.1		
3	10	46	Basic Protocol functions	7.2		
4		47	Principles of Internetworking	7.3		
5		48	Internet Protocol operations	7.3		
6		49	Internet Protocol	7.4		
7		50(Last Class)	**Teachers Exam./ Doubt Clear/Revision:**	1007		

RE VIEW:-

10) **Examination Schedule:**

Sl No.	Particulars of Test	Schedule	Type
1	Weekly Test (2^{nd} Week onwards)	Wednesday (4^{th} Sem.) & Thursday (6^{th} sem.)	10 Short Questions (02 Marks):
2	Internal Exam.-1	4^{th} Week	30 Marks (Long Questions)
3	Internal Exam.-2	8^{th} Week	30 Marks (Long Questions)

11) **Assignment Collection Evaluation:**

Sl No.	Assignment No.	Content	Schedule
1	Assignment-1	Long Questions 7 Nos.(10 Marks) Short Questions 6 Nos. (5 Marks)	3^{rd} Week
2	Assignment-2	Long Questions 8 Nos.(10 Marks) Short Questions 6 Nos. (5 Marks)	6^{th} Week
3	Assignment-3	Long Questions 11 Nos.(10 Marks) Short Questions 8 Nos. (5 Marks)	9^{th} Week
4	Assignment-4	VST 100 Marks	$10^{th}/11^{th}$ Week

Bijayalaxmi Parida

Signature of Faculty

Signature of Asst. HOD

Signature of HOD

08/04/2022

Principal

TEACHING-CUM-LESSON PLAN

1) Subject Code: Th-4 2) Subject Title: DATABASE MANAGEMENT SYSTEM

3) Semester:4th 4) Branch: Computer Sc & Engg

5) No. of Classes / Week: 05

6) Pre Requisite for the Subject: NIL

7) Text Book to be referred by students:

Sl No.	Book	Author	Publication	Year (Edition)	Whether available in Library
i	Database System Concepts	A. Silberschatz, H.F. Korth	TMH	3RD	YES

8) Course Coverage Schedule:

Sl No.	Week No.	Ch. No	No. of classes planed	Topic to be covered	Article From	Article To	Expected Date of Completion	Remark
i	1	01	05	BASIC CONCPETS OF DBMS	1.1	1.5,1001	25-03-2022	
ii	2	02	05	DATA MODELS	2.1	2.8		
iii	3	02	02	DATA MODELS	2.9	1002	02-04-2022	
iv		03	03	RELATIONAL DATABASE	3.1	3.2		
v	4	03	02	RELATIONAL DATABASE	3.2	3.2,1003	08-04-2022	
vi		04	03	NORMALIZATION IN RELATIONAL SYSTEM	4.1	4.2		
vii	5	04	04	NORMALIZATION IN RELATIONAL SYSTEM	4.3	4.5,1004	16-04-2022	
viii		05	01	STRUCTURED QUERY LANGUAGE	5.1	5.1		
ix	6	05	05	STRUCTURED QUERY LANGUAGE	5.2	5.2		
x	7	05	01	STRUCTURED QUERY LANGUAGE	5.3	1005	25-04-2022	
		06	04	TRANSACTION PROCESSING CONCEPTS	6.1	6.3		
xi	8	06	03	TRANSACTION PROCESSING CONCEPTS	6.4	1006	03-05-2022	
xii		07	02	CONCURRENCY CONTROL CONCEPTS	7.1	7.2		
xiii	9	07	05	CONCURRENCY CONTROL CONCEPTS	7.3	1007	11-05-2022	
	10	08	05	SECURITY AND INTEGRITY	8.1	8.4,1008	21-05-2022	
Total:		08	50					

9) **Detail Class wise Plan:**

Detailed Topic Plan:

Chapter No: 01_ **Chapter Name:-** BASIC CONCPETS OF DBMS

1.1 Purpose of database Systems
1.2 Explain Data abstraction
1.3 Database users
1.4 Data definition language
1.5 Data Dictionary

Sl No.	Week No.	Lecture No.	Topic to be Covered	Article No.	Date of Completion	Signature
01	01	01	Purpose of database Systems Explain Data abstraction	1.1,1.2		
02		02	Explain Data abstraction Database users	1.2,1.3		
03		03	Data definition language	1.4		
04		04	Data Dictionary	1.5		
05		05	**Teachers Exam./ Doubt Clear/Revision:**	1001		

REVIEW:-

Detailed Topic Plan:

Chapter No: __02___ Chapter Name: DATA MODELS

2.1 Data independence
2.2 Entity relationship models
2.3 Entity sets and Relationship sets
2.4 Explain Attributes
2.5 Mapping constraints
2.6 E-R Diagram
2.7 Relational model
2.8 Hierarchical model
2.9 Network model

Sl No.	Week No.	Lecture No.	Topic to be Covered	Article No.	Date of Completion	Signature
1	02	6	Data independence Entity relationship models	2.1,2.2		
2		7	Entity sets and Relationship sets Explain Attributes	2.3,2.4		
3		8	Mapping constraints E-R Diagram	2.5,2.6		
4		9	Relational model	2.7		
5		10	Hierarchical model	2.8		
6	03	11	Network model	2.9		
7		12	**Teachers Exam./ Doubt Clear/Revision:**	1002		

REVIEW:-

Detailed Topic Plan:

Chapter No: __03___ Chapter Name: RELATIONAL DATABASE

3.1 Relational algebra
3.2 Different operators select, project, join , simple Examples

Sl No.	Week No.	Lecture No.	Topic to be Covered	Article No.	Date of Completion	Signature
1	03	13	Relational algebra	3.1		
2		14	Relational algebra	3.1		
3		15	Different operators select	3.2		
4	04	16	Different operators select	3.2		
5		17	**Teachers Exam./ Doubt Clear/Revision**	1003		

REVIEW:-

Detailed Topic Plan:

Chapter No: __04___ Chapter Name: NORMALIZATION IN RELATIONAL SYSTEM

4.1 Functional Dependencies
4.2 Lossless join
4.3 Importance of normalization
4.4 Compare First second and third normal forms
4.5 Explain BCNF

Sl No.	Week No.	Lecture No.	Topic to be Covered	Article No.	Date of Completion	Signature
1	04	18	Functional Dependencies	4.1		
2		19	Lossless join	4.2		
3		20	Importance of normalization	4.3		
4	05	21	Compare First second and third normal forms	4.4		
5		22	Explain BCNF	4.5		
6		23	Explain BCNF	4.5		
7		24	**Teachers Exam./ Doubt Clear/Revision:**	1004		

REVIEW:-

Detailed Topic Plan:

Chapter No: __05___ Chapter Name: STRUCTURED QUERY LANGUAGE

5.1 Elementary idea of Query language
5.2 Queries in SQL
5.3 Simple queries to create, update, insert in SQL

Sl No.	Week No.	Lecture No.	Topic to be Covered	Article No.	Date of Completion	Signature
1	05	25	Elementary idea of Query language	5.1		
2	06	26	Queries in SQL	5.2		
3		27	Queries in SQL	5.2		
4		28	Queries in SQL	5.2		
5		29	Simple queries to create	5.3		
6		30	Simple queries to create	5.3		
7	07	31	**Teachers Exam./ Doubt Clear/Revision)**	1005		

REVIEW:-

Detailed Topic Plan:

Chapter No: __06___ Chapter Name: TRANSACTION PROCESSING CONCEPTS

6.1 Idea about transaction processing
6.2 Transaction & system concept
6.3 Desirable properties of transaction
6.4 Schedules and recoverability

Sl No.	Week No.	Lecture No.	Topic to be Covered	Article No.	Date of Completion	Signature
1	07	32	Idea about transaction processing	6.1		
2		33	Transaction & system concept	6.2		
3		34	Transaction & system concept	6.2		
4		35	Desirable properties of transaction	6.3		
5	08	36	Desirable properties of transaction	6.3		
6		37	Schedules and recoverability	6.4		
7		38	**Teachers Exam./ Doubt Clear/Revision:**	1006		

REVIEW:-

Detailed Topic Plan:

Chapter No: __07__ Chapter Name: CONCURRENCY CONTROL CONCEPTS

7.1 Basic concepts,
7.2 Locks, Live Lock, Dead Lock,
7.3 Serializability (only fundamentals)

Sl No.	Week No.	Lecture No.	Topic to be Covered	Article No.	Date of Completion	Signature
1	08	39	Basic concepts	7.1		
2		40	Locks, Live Lock, Dead Lock	7.2		
3	09	41	Serializability	7.3		
4		42	Serializability	7.3		
5		43	Serializability	7.3		
6		44	Serializability	7.3		
7		45	**Teachers Exam./ Doubt Clear/Revision:**	1007		

REVIEW:-

Detailed Topic Plan:

Chapter No: __08___ Chapter Name: SECURITY AND INTEGRITY

8.1 Authorization and views
8.2 Security constraints
8.3 Integrity Constrains
8.4 Discuss Encryption

Sl No.	Week No.	Lecture No.	Topic to be Covered	Article No.	Date of Completion	Signature
1	10	46	Authorization and views	8.1		
2		47	Security constraints	8.2		
3		48	Integrity Constraints	8.3		
4		49	Discuss Encryption	8.4		
5		50	**Teachers Exam./ Doubt Clear/Revision:**	1008		

REVIEW:-

10) **Examination Schedule:**

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3	Assignment-3	Long Questions 11 Nos.(10 Marks) Short Questions 8 Nos. (5 Marks)	9th Week
4	Assignment-4	VIVA/ST 100 Marks	10th/11th Week

Signature of Faculty

Signature of HOD

Principal

08/02/2022