Chaitanya Bharathi Institute of Technology(A)
Gandipet, Hyderabad-75

Lesson Plan

Faculty Name with Designation: Dr M Ganeshwara Rao & Professor

Course Name with code: CALCULUS-20MTCO5
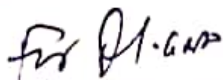
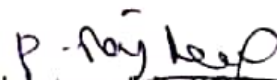**Semester:** I   A.Y:2021-22

Date of MID-I: 21.01.2021

Date of MID-II: 01.03.2021

Department: Mathematics

Section: Chemical

S.No	Topic	No. of hours	Cumulative Hours
1	**UNIT - I (MATRICES)**		
2	Rank of a matrix, Echelon form, consistency of linear system of equations	2	2
3	Linear dependence and independence of vectors	2	4
4	Eigen values, Eigenvectors, Properties of Eigenvalues& Eigen vectors	2	6
5	Cayley- Hamilton theorem,	1	7
6	Quadratic form, Reduction of quadratic form to canonical form by linear transformation, Nature of quadratic form.	2	9
7	Nature of quadratic form.	1(10)	10
8	**UNIT -2(Calculus)**		
9	Rolle's Theorem, Lagrange's Mean value theorem	2+1	13
10	Cauchy's mean value theorem ,Curvature	2	15
11	Radius of curvature, Centre of curvature	3	18
12	Evolute and Involute.	2(10)	20
13	**UNIT-3 (Multivariable Calculus (Differentiation)**		
14	Functions of two variables, Partial derivatives, Higher order partial derivatives,	2	22
15	Total derivative, Differentiation of implicit functions	2	24
16	Change of variables, Jacobians	2	26
17	Taylor's theorem for functions of two variables	2	28
18	Maxima and minima of functions of two variables.	2(10)	30
19	**UNIT-4 (Sequences and Series)**		
20	Convergence of sequence and series. Tests for convergence of series: Comparisontes, limit comparison test, D'Alembert's ratio test	2+2	34
21	Raabe's test, Cauchy's root test	2+1	37
22	Alternating series, Leibnitz's series, absolute and conditional convergence	2+1(10)	40
23	**UNIT-5(Fourier series)**		
24	Periodic functions, Euler' formulae, Conditions for a Fourier expansion, functions having points of discontinuity	2	42
25	Change of interval, even and odd functions,	2	44
26	Half range sine series, half range cosine series	2	46
27	Applications in practical Harmonic analysis	2(8)	48
	TOTAL		48

Signature of the Faculty

Signature of the HOD

HEAD
Dept.of Mathematics and Humanities
Chaitanya Bharathi Institute of Technology
Gandipet, Hyderabad-500 075.

Chaitanya Bharathi Institute of Technology(A)
Gandipet,Hyderabad-75

Lesson Plan

Faculty Name with Designation: Dr.G.Deepa, Asst. Prof.   **Semester: II**   A.Y:2021-22
Course Name: VECTOR CALCULUS AND DIFFERENTIAL EQUATIONS   **Code: 20MTCO6**
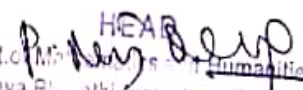**Date of Class Test I:** 14-7-2022   **Date of Class Test II:** 05-09-2022
Department: Mathematics   **Section:** Mechanical I(F1)

S.No	Topic	No. of hours	Cumulative hours
	UNIT-1(Multivariable Calculus (*Integration*))		
1	Applications of definite integrals to evaluate surface areas and volumes of revolutions.	2+2	4
2	Double integrals, Change of order of integration, Area enclosed by plane curves.	2+2	8
3	Triple integrals, Volumes of solids.	2	10
		10	
	UNIT-2 (Vector Differential Calculus)		
4	Scalar and vector point functions, Gradient, Directional derivative,	2+2	14
5	Divergence, Physical interpretation of Divergence, Curl, Physical interpretation of curl	2	16
6	Vector identities	2	18
		8	
	UNIT -3 (Vector Integral Calculus)		
7	Line integral, Surface integral and Volume integral	2+2	22
8	Green's theorem in a plane (without proof) Only problems	2	24
9	Stoke's theorem(without proof) Only problems	2	26
10	Gauss's divergence theorem (without proof) Only problems	2	28
		10	
	UNIT-4 (First Order Ordinary Differential Equations)		
11	Exact differential equations, Equations reducible to exact equations.	2+2	32
12	Linear equations & Bernoulli's equation.	2	34
13	Clairaut's equation, & Riccati's equation.	2	38
14	Orthogonal trajectories, Chemical reactions and solutions, Rate of decay of Radio-active materials.	2+2	42
		12	
	UNIT-5 (Higher Orders Linear Differential Equations)		
15	Higher order linear differential equations with constant coefficients, rules for finding Complementary function	2	44
16	Rules for finding Particular integrals of Higher order linear differential equations with constant coefficients	4	48
17	Method of variation of parameters	1	49
18	Solution of Cauchy's homogeneous linear equation.	1	50
19	Applications: LR and LCR circuits.	2	52
20	Ordinary point, singular point, regular singular point and Power Series solution.	4	54
		14	
	TOTAL		54

Signature of the Faculty

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CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY
Gandipet, Hyderabad-75
LESSON PLAN

Department	: **Biotechnology**	Class	: **B. Tech**
Academic Year	: **2021-22**	Semester	: **IV SEM**
Subject	: **Bioprocess Engineering**	Subject Code	: **20BTC12**
Faculty	: **Dr. Dharmalingam K**	No of Periods	: **3/week**
Commencement of Instruction	: 24. 01. 2022	Completion of Instruction	: 01. 07. 2022
Date of Mid-I	: 02. 05. 2022.	Date of Mid-II	: 29. 06. 2022.

Time table of the Subject

Day	Tuesday	Wednesday	Thursday
Duration	11.30 am to 12.30 pm	3.30 pm to 4.30 pm	10.20 am to 11.20 am

Day & Date		Tuesday, 3/5/22	Wednesday, 4/5/22	Thursday, 5/5/22	
Occasion		Ramzan	Following day	Mid-I exam	

S. No	Topic/Sub Topic covered	No of periods estimated	Remarks
1	Introduction to bioprocess engineering	1	.
	UNIT-I: Introduction to Fermentation Processes (09 Periods)		
2	The range of fermentation processes	2	
3	The chronological development of the fermentation industry	1	
4	Industrial applications	2	
5	Future trends in fermentations	1	
6	Aseptic transfer of spore suspension	1	
7	Transfer of inoculums from seed tank to Fermentor	2	
	UNIT– II: Media Design (11 Periods)		
8	General requirements of fermentation processes	1	
9	Basic design and construction of fermenter and ancillaries	1	
10	Main parameters to be monitored and controlled in fermentation processes	2	.
11	Typical media, Media formulation	1	
12	Energy resources: carbon and nitrogen components, etc	3	
13	Solid- substrate, submerged fermentation and its applications & Placket Burman design	3	

	UNIT – III: Aeration and Agitation in Fermentations (07 Periods)		
14	Basic Mass transfer concepts; Oxygen transfer from gas bubble to cells	2	
15	Oxygen transfer in fermentations; Bubble aeration and Mechanical agitation	1	
16	Correlations for mass transfer coefficients; Gas Hold up; Determination of oxygen transfer rates K_La values	3	
17	Other Factors affecting the values of mass transfer coefficients in fermentation vessels	1	
	UNIT – IV: Cell Growth Kinetics (07 Periods)		
18	Batch Growth, Balanced Growth, Effect of Substrate Concentration, Monod Equation	1	
19	Kinetics of Substrate Uptake in Cell Culture, Effect of Culture Conditions on Cell Kinetics Determining Cell Kinetic Parameters from Batch Data	2	
20	Yields in Cell Culture, Batch and continuous sterilization kinetics	3	
21	Effect of Maintenance on Yields, Kinetics of Cell Death	1	
	UNIT – V: Bioreactors/Fermentors (08 Periods)		
22	Batch, Fed-batch and Continuous Fermentation systems; Dual and multiple fermentations; Comparison between batch and continuous fermentations	2	
23	Steady state, unsteady state continuous fermentation theories; Examples of continuous fermentation	2	
24	Practical problems with continuous operations, Monitoring and Control of fermentations	2	
25	The behavior of microbes in different reactors viz. air lift, fluidized, batch, packed bed, Bubble column, trickle bed reactors	2	
	Total no of classes	43	

K. Dhan 24/01/22

Signature of the Faculty

with date

24/1/22

Signature of HOD

with date

11/05

LESSON PLAN

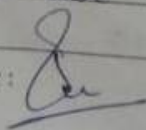|			
Department	: CHEMICAL	Class	: IV Sem (2nd yr)
Academic Year	: 2021-22	Semester	: IV Sem
Subject	: CRE-I	Subject Code	: 20CH07
Faculty	: Dr. P. Madhuri	No. of Periods	: 52
Commencement of Instruction	: 24/1/22	Last Date of Instruction : 12/6/22.	
Dates of I Mid Exam	: 2/5/22 to II Mid Exam : 29/6/22 to 1/7/22 III Mid Exam : —		

Classes lost due to Holidays and Mid-Sessional Exams

Day & Date	1/3/22	18/3/22	5/4/22	14/4/22	15/4/22
Occasion	Shivaratri	Holi	Jagjivan Bday	Ambedkar Bday	Good friday

Day & Date	3/5/22				
Occasion	Ramzan				

Unit No.	Topic	No. of Periods	Cumulative Periods
	UNIT-I		
1.	Classification of variables affecting Rxns.	02	10
2.	Testing Kinetic models	02	
3.	Fitting a rate law for the given mechanism	02	
4.	Temperature dependency from Arrhenius law	02	
5.	Comparison of theories	02	
	UNIT-II		
1.	Analysis of Total Pressure data, conversion.	02	10
2.	Integral & differential method of analysis	02	
3.	Variable volume batch reactor	02	
4.	fractional change in volume of the system	02	
5.	Auto catalytic Rxns.	02	
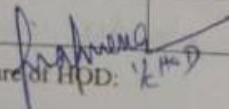
LESSON PLAN

Unit No.	Description	No. of Periods	Cumulative Periods
	UNIT - III		
1.	Design equations - ideal batch Reactor, MFR, PFR	02	10
2.	Space time & space velocity	02	
3.	Size comparison of single Reactors	02	
4.	Recycle Reactor	02	
5.	Reactor combinations.	02	
	UNIT - IV		
1.	Qualitative & Quantitative Product distribution.	02	11
2.	Temp & Pressure effects for single Rxns.	02	
		01	
3.	Heat effects	02	
4.	Non - adiabatic operations	02	
5.	Exothermic Rxns in MFR.	02	
	UNIT - V		
1.	Basics of non ideal flow	02	11
2.	RTD, State of aggregation & Early & late mixing	02	
		01	
3.	F & E curves	02	
4.	The convolution integral	02	
5.	Axial dispersion & correlations for axial dispersion.	02	

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LESSON PLAN

CONSTRUCTION ENGINEERING AND MANAGEMENT (18CEC24)

S.No	Topic Name	No. of lectures	Total lectures per Unit
UNIT – I			
1	Construction And Unique Features Of Construction,	01	06
2	Construction Projects-Types And Features, Phases Of A Construction Project	01	
3	Agencies Involved And Their Methods Of Execution-	01	
4	Project Delivery Methods: BOT, SBOO, BOOT; Public Private Partnership (PPP);	01	
5	Significance Of Construction Management, Construction Team	01	
6	Organisation – Principles And Types.		
UNIT- II			
7	Stages of project planning: pre-tender planning, pre-construction planning	01	
8	Detailed construction planning, Types of Project plans	01	
9	Time plan, man power plan, material plan, construction equipment plan;	01	
10	Work break-down structure- Methodologies of WBS	01	
11	Estimating durations, sequence of activities, activity utility data	01	
12	Techniques of planning- Bar charts. Networks: basic terminology, types of precedence relationships,	01	09
13	Preparation of CPM networks: activity on link and activity on node representation, computation of float values, critical and semi critical paths,	01	
14	Calendaring networks. Pert assumptions underlying pert analysis, determining three time estimates	01	
15	Analysis, slack computations, calculation of probability of completion.	01	
UNIT – III			
16	Introduction - Supervision, record keeping, periodic progress reports.	01	
17	Updating of plans: purpose, frequency and methods of updating- using bar charts	01	
18	PERT/CPM, and Precedence network. Schedule/time progress control;	01	05
19	Cost control- Classification of costs, time-cost trade-off in construction projects; Implement	01	
20	Cost control- Classification of costs, time-cost trade-off in construction projects; Implement	01	
UNIT – IV			

21	Safety, Health and Environment on project sites: accidents; their causes	·01	07
22	Effects and preventive measures, costs of accidents,	01	
23	Occupational health problems in construction, organizing for safety and health;	01	
24	Quality control: construction quality, Quality control and Quality Assurance in construction projects,	01	
25	ISO Standards-Benefits of ISO 9000,	01	
26	Principles of quality management systems,	01	
27	ISO 9000 -2000 family of Standards	01	
UNIT – V			
28	Equipment for Earthmoving	01	
29	Dewatering; Concrete mixing, transporting & placing;	01	
30	Cranes, Hoists and other equipment for lifting	01	
31	Equipment for transportation of materials	01	
32	Contracts: Introduction, types of construction contracts	01	
33	Advantages and disadvantages	01	11
34	Conditions of contracts,	01	
35	Tender: Tender form, Tender Documents, Tender Notice,	01	
36	Work Order. Delays, penalties and liquidated damages;	01	
37	Force Majeure, Suspension and Termination. Changes & variations	01	
38	Dispute Resolution methods.	01	
TOTAL			38

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with date

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with date

LESSON PLAN

Department	: 2021 – 2022	Class	: IV B.E. – CSE c1, c2, c3
Academic Year	: CSE	Semester	: VII sem
Subject	: Cyber Security	Subject Code	: PE IV : 18CSE20
Faculty	: M. Venkata Krishna Reddy	No. of Periods	: 40
Commencement of Instruction	: 03.08.2021	Last Date of Instruction	: 20.11.2021
Dates of I Mid Exam	: 27.09.2021	Dates of II Mid Exam	: 22.11.2021

Classes lost due to Holidays and Mid-Sessional Exams

Day & Date	Tuesday 31.08.2021	Friday 10.09.2021	Tuesday 28.09.2021	Wednesday 29.09.2021	Wednesday 06.10.2021
Occasion	Sri Krishna Astami	Vinayaka Chavithi	Mid – I	Mid – II	Bathukamma

Day & Date	Friday 15.10.2021	Tuesday 19.10.2021	Friday 19.11.2021		
Occasion	Vijaya Dasami	Eid Miladun Nabi	Karthika pournami		

Lesson Plan – Cyber Security – 18CSE20

S.No	Date	Topic	No. of classes
UNIT I			
1	03.08.2021	Introduction to Cyber Crime: Cyber Crime: Definition and Origins of the Word	1
2	04.08.2021	Cyber crime and Information Security, Classification of Cyber Crimes	1
3	06.08.2021 10.08.2021 11.08.2021 13.08.2021	Classification of Cyber Crimes, Different Types	4
4	17.08.2021 18.08.2021	Cyber Crime: The Legal Perspective, Cyber Crime: An Indian Perspective, A Global Perspective of Cyber Crime, , **Unit Summary**	2
			08
UNIT II			
5	20.08.2021	Cyber Offenses: Introduction	1
6	24.08.2021 25.08.2021	How Criminals plan the Attacks, Slip Test – 1	2
7	27.08.2021	Social Engineering, Cyber stalking	1
8	01.09.2021 03.09.2021	Cyber café and Cybercrimes, Botnets: The Fuel for Cybercrime, Attack Vector, **Assignment - I**	2
9	07.09.2021	Tools and Methods Used in Cybercrime: Introduction, Proxy Servers and Anonymizers	1
10	08.09.2021	Phishing, Password Cracking, Keyloggers	1
11	14.09.2021	Spywares, Virus and Worms	1
12	15.09.2021 17.09.2021	Trojan Horse and Backdoors , Steganography, DoS and DDoS attacks, SQL Injection, Buffer Overflow, **Unit Summary**	2
			11
UNIT III			
13	21.09.2021	Cyber Security: The Legal Perspectives: Cyber Crime and the Legal Landscape around the World .	1
14	22.09.2021	Cyber Crime and the Legal Landscape around the World	1
15	24.09.2021	Need of Cyber laws: the Indian Context, The Indian IT Act , Mid I Revision	1

LESSON PLAN

16	01.10.2021	Challenges to Indian Law and Cyber Crime Scenario in India	1
17	05.10.2021	Digital Signatures and the Indian IT Act	1
18	08.10.2021	Cyber Crime and Punishment, Cyber Law , Technology and Students: The Indian Scenario, **Unit Summary**	1
			06
UNIT IV			1
19	12.10.2021	Understanding Cyber Forensics: Introduction ,Digital Forensics Science	1
20	13.10.2021	Need for Computer Forensics, Cyber Forensics and Digital Evidence	2
21	20.10.2021 22.10.2021	Forensics Analysis of Email, Digital Forensics Life Cycle, **Assignment - 2**	1
22	26.10.2021	Digital Forensics Life Cycle, Chain of Custody Concept	1
23	27.10.2021	Network Forensics, Approaching a Cyber Forensics Investigation	1
24	29.10.2021	Challenges in Computer Forensics, **Unit Summary**	07
UNIT V			1
25	02.11.2021	Cyber Security: Organizational Implications: Introduction	1
26	03.11.2021	Cost of Cybercrimes and IPR issues, Web threats for Organizations	1
27	05.11.2021	Security and Privacy Implications	1
28	09.11.2021	Social media marketing: Security Risks and Perils for Organizations, **Slip Test - 2**	1
29	10.11.2021	Social Computing and the associated challenges for Organizations, **Unit Summary, Mid II Revision**	1
30	12.11.2021	Case Study - Discussion	1
31	16.11.2021	**Revision and discussion of previous question papers**	1
32	17.11.2021	**Revision and discussion of previous question papers**	08

Total No of Classes: 40

Signature of Faculty :

Signature of HOD :

Chaitanya Bharathi Institute of Technology, Hyderabad – 500075
Dept. of Electronics & Communication Engineering

LESSON PLAN

Academic year: 2021-2022
Subject: Control Systems
Faculty: Dr. Sai Krishna Kondoju
Commencement of Instruction: 31-01-2022
1st Mid Exam: 02-05-2022

Year & Semester: 2022 – IV Sem
Subject Code: 20EC C10
Total No. of classes: 40 ± 10%
Completion of Instruction: 26-06-2022
2nd Mid Exam: 20-06-2022

Time Table of the subject:

Day	Monday	Tuesday	Thursday
Period/s	1	1	1

S.no.	Topics	No. of classes estimated
	UNIT-I	
1	Classification of control systems: open and closed loop control systems	02
2	Block diagram reduction techniques	02
3	Signal flow graphs	02
4	Mathematical modeling of Electrical & Mechanical systems	02
5	Conversion of mechanical system into electrical system	01
	UNIT –II	
6	Transfer function and impulse response	01
7	Types of inputs	01
8	Transient response of first and second order system with different inputs	02
9	Time domain specifications	01
10	Types of systems, static error coefficients, error series	01
11	PD, PI, PID controllers	02
	UNIT-III	
12	Routh-Hurwitz criteria for stability	02
13	Root locus techniques, analysis of typical systems using root locus techniques	03
14	Effect of location of roots on system response	01
	UNIT-IV	
15	Frequency domain specifications	02
16	Bode plot, Gain and Phase margins	03
17	Principle of Argument, Nyquist plot and stability criterion, Gain and Phase Margin Marginmargins	02
18	Lead, Lag and Lead-lag Compensators	01
	UNIT-V	
19	Concept of state, state variable, state vector and state space	02
20	State space representations of linear time invariant systems	02
21	State transition matrix, Solution of state equation	02
22	Controllability, observability and design of control syatem using state variable feedback	02

K. Sai Krishna
Signature of the faculty

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LESSON PLAN

CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY
Gandipet, Hyderabad-75.

LESSON PLAN
Department: ELECTRONICS & COMMUNICATION ENGINEERING

Academic year: 2021-22
Subject: DSP PROCESSORS AND ARCHITECTURES
Faculty: Smt. N Dhana Lakshmi
Commencement of Instruction: 03-08-21
Class Test - I: 27-09-21
Time Table of the subject:

Year & Semester: BE E2 V Sem
Subject Code: 18ECE16
Total No. of classes: 35 ±10%
Completion of Instruction: 20-11-21
Class Test - II: 22-11-21

Day	Monday	Wednesday	Thursday
Periods	1 (6ᵗʰ Hr.)	1 (4ᵗʰ Hr.)	1(3ʳᵈ Hr.)

S.no	Topics/ Sub. Topics/ Experiments	No. of Classes estimated
1.	**UNIT I** **Introduction to DSP Processors:** Differences between DSP and other microprocessor architectures	1
2.	Number formats- Fixed point, Floating point and block Floating point formats	1
3.	IEEE-754 Floating point	2
4.	Dynamic range and precision, Relation between data word size and instruction word size, Q-notation.	2
5.	Basic elements of real time DSP systems, DSP Hardware	2
6.	**UNIT II** **Fundamentals of Programmable DSPs:** Multiplier and Multiplier Accumulator Pipelining	1
7.	Modified Bus structures and memory access in PDSPs — Multiple access memory, multiport memory	1
8.	SIMD, VLIW Architectures	1
9.	Special addressing modes in PDSPs	2
10.	On-chip peripherals.	1
11.	**UNIT III** **Overview of TMS320C55X:** Architecture of TMS320C55X Processor, Buses, Memory map	1
12.	Addressing modes	2
13.	Instruction set	2
14.	Pipeline and parallelism	1
15.	Mixed C and Assembly language programming and on-chip peripherals	1
16.	**UNIT IV** **Interfacing Memory and Parallel I/O Peripherals to Programmable DSP Devices:** Memory space organization, External bus interfacing signals	1
17.	Memory interface, Parallel IO interface, Programmed I/O	2
18.	Interrupts and I/O, Direct Memory Access (DMA).	2
19.	Software Development Tools-Code Composer Studio (CCS)	1
20.	C compiler, Assembler and Linker.	1
21.	**UNIT V** **Application Programs:** Implementation of algorithms on DSP processors — Sine wave generators	1
22.	Convolution, Correlation	1
23.	FFT	1
24.	FIR filter	1
25.	IIR filter	1
26.	Decimation and Interpolation	1
27.	sub band coding of signals	1

Signature of faculty

Head
Dept, of ECE

ISO 9001:2015   REC-403

Department: **Information Technology**   Programme: **B.E. (IT)**
Section: **IT-2**   Semesters: **VII**
Academic Year: **2021-2022**   Faculty: **Ms K Sugamya**
Course: **Embedded Systems**   Course Code: **18IT C28**
No. of Periods per Week: **3**   Total No. of Classes: **40**
Commencement of Instruction: **03.08.2021**   Completion of Instruction: **20.11.2021**
Date of I-Class Test: **27.09.2021**   Date of II-Class Test: **22.11.2021**

I. Time Table of the Course:

Day	Monday	Tuesday	Wednesday
Time	11.30 AM to 12.30 PM	1.10 PM to 2.10 PM	9.10AM to 10.10 AM

II. No. of Public Holiday(s) during the Semester: 03

Day& Date	Tuesday&31.08.2021	Tuesday&19.10.2021	Wednesday&06.10.2021
Occasion	Krishnastami	Miladunnabi	Bathukamma

III. Course Objectives:
1. To introduce the architecture, instruction set of 8085 and Assembly language programming.
2. To facilitate with the understanding of the functionality and interfacing of various peripheral devices.
3. To provide basic concepts of embedded system development using 8051.
4. To deal with theoretical aspects of the design and development of an embedded system.
5. To familiarize with different debugging techniques, hardware and software tools.

IV. Course Outcomes:
Upon completing this course, students will be able to:
1. Understand the architecture, instruction set of 8085 and write assembly language programs using 8085 instruction set. **BL 2**
2. Know interfacing with various peripheral devices. **BL 3**
3. Develop of embedded systems using 8051 Microcontroller. **BL 3**
4. Understand design issues of embedded systems. **BL2**
5. Design and develop embedded systems using Hardware and Software tools. **BL 3**

V. Course Plan:

S.No.	Topics / Sub. Topics /Experiments	No. of Classes Estimated	Remarks
	UNIT – I		
1.	Introduction to Processor and Controller Definition , Course Objectives, Course Outcomes	01	1
2.	Introduction to Microprocessors, The 8085 MPU: The 8085 Microprocessor	01	2
3.	Microprocessor Communication and Bus Timings, De-multiplexing the Bus AD7-AD0	01	3
4.	Generating Control Signals, A Detailed Look at the 8085 MPU and its Architecture	01	4

	Programming the 8085: Introduction to 8085 instructions: Decoding and Executing an Instruction	01	5
6.	Data Transfer Operations, Arithmetic Operations, Logic Operations, Branch Operations	01	6
7.	Writing Assembly Language Programs, Debugging a Program. Programming techniques with Additional instructions.	01	7
8.	Programming Techniques-Looping, Counting and Indexing	01	8
9.	Additional Data Transfer and 16-Bit Arithmetic Instructions	01	9
10.	Arithmetic Operations Related to memory, Logic Operations: Rotate and Compare	01	10
UNIT – II			
11.	Stacks and subroutines: Stack, Subroutine	01	11
12.	Restart, Conditional CALL and RETURN in0structions	01	12
13.	Advanced Subroutine Concepts. Interrupts: The 8085 Interrupt	01	13
14.	8085 Vectored Interrupts: TRAP, RST 7.5, 6.5, AND 5.5	01	14
15.	Additional I/O Concepts and Processes	01	15
16.	Programmable Interrupt Controller (8259A)	01	16
17.	Direct Memory Access (DMA) and 8257 DMA controller.	01	17
18.	Programmable Peripheral Interface (Intel 8255A),	01	18
19.	Programmable Communication Interface (Intel 8251).	01	19
UNIT – III			
20.	The 8051 Architecture: Introduction, 8051 Micro controller	01	20
21.	Micro controller Hardware, Input/output Ports and Circuits,	01	21
22.	External Memory, Counter and Timers, Serial data Input/Output, Interrupts	01	22
23.	Programming using 8051:DataTransfer& Logical Instructions	01	23
24.	Arithmetic Operations, Decimal Arithmetic	01	24
25.	Jump and Call Instructions,	01	25
26.	Applications:Interfacing with Keyboard, Displays ,Converters	01	26
UNIT – IV			
27.	Embedded System Design Cycle: Embedded system design	01	27
28.	Embedded system design and co-design issues in system development process, Design Cycle and Development Phase	01	28
29.	Embedded software development tools, Host and Target machines, Linker/Locators for embedded software	01	29
30.	Linker/Locators for embedded software	01	30
31.	Embedded software into the target system.	01	31
32.	Slip test 2	01	32
UNIT – V			
33.	Debugging tools and Applications	01	33
34.	Integration and testing of embedded hardware	01	34
35.	Testing methods, Debugging techniques	01	35
36.	Laboratory tools and target hardware debugging	01	36
37.	Logic Analyzer, Simulator, Emulator and In-Circuit Emulator	01	37
38.	IDE, RTOS services, VxWorks features	01	38
39.	Case Studies: Embedded system design for Automatic Vending machines,	01	39
40.	Case Studies: Embedded system design for digital camera , Model Paper discussion	01	40

VI. Text Books:

1. Ramesh S Gaonkar, "Microprocessor Architecture, Programming and Applications with the 8085", 5th Edition, Prentice Hall, 2002.
2. Kenneth J.Ayala, "The 8051 Microcontroller", 3 rd Edition, Thomson.
3. Raj Kamal, "Embedded Systems-Architecture, Programming and Design," 3 rd Edition, Tata McGraw Hill Education, 2015.

VII. Suggested Reading:

1. William Stallings, "Computer Organization and Architecture, Design for Performance", Pearson, 9th Edition, 2013
2. Shibu K V, "Introduction to Embedded systems", 1st Edition, McGraw Hill Education, 2009.

VIII. Web Resources:

1. https://slideplayer.com/slide/3944480/
2. https://nptel.ac.in/noc/individual_course.php?id=noc17-cs05
3. https://slideplayer.com/slide/5740917/
4. http://www.technolamp.co.in/2011/04/computer-organization-carl-hamacher.html
5. https://inspirit.net.in/viewer/Li9ib29rcy9hY2FkZW1pYy84MDg1IE1pY3JvcHJvY2Vzc29yIC0gUmFt ZXNoIEdhb25rYXIucGRm
6. https://nptel.ac.in/courses/106103068/

IX. Evaluation Scheme:

EC NO	Evaluation Components	Nature of Component	Duration	Marks	Date
1.	I-Class Test	Closed Book	60 Minutes	20	27.09.2021
2.	II-Class Test	Closed Book	60 Minutes	20	20.11.2021
3.	Assignment #1	Open Book	-	10	4th Week
4.	Slip Test #1	Closed Book	15 Minutes	10	7th Week
5.	Assignment #2	Open Book	-	10	12th Week
6.	Slip Test #2	Closed Book	15 Minutes	10	15th Week
7.	Final Exam	Closed Book	3 Hours	70	Will be Announced

X. Attendance Policy:

1. Student must maintain a minimum of 75% attendance.
2. Student must be regular and punctual to the Classes.

XII. Notices:
All notices will be sent to the class group and displayed on VII Sem Notice Board.

XIII. General Timings for Consultation:

1. Saturday 09.40 AM to 12.15 PM

Instructor's Contact Details:
Ms. K Sugamya, Assistant Professor, Dept of IT
Mobile : 9849673938 , Email: ksugamya_it@cbit.ac.in

Signature of Faculty   **Signature of Course Coordinator**   **Signature of HoD**

CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY(A)
Department of Information Technology
BE IV Sem - 2021-2022
LESSON PLAN

REC-403

Department: Information Technology
Section: IT-3
Academic Year: 2021-2022
Course: Design and Analysis of Algorithms
No. of Periods per Week: 3
Commencement of Instruction: 31.01.2022
Date of I-Class Test: 05.05.2022

Programme: B.E. (IT)
Semester: IV
Faculty: Mr S Rakesh
Course Code: 20ITC15
Total No. of Classes: 41
Completion of Instruction: 25.06.2022
Date of II-Class Test: 21.06.2022

I. Time Table of the Course:

Day	Wednesday	Thursday	Friday
Time	2:20 PM to 3:20 PM	10.20 AM to 11.20 AM	3.20 PM to 4.20 PM

II. No. of Public Holiday(s) during the Semester:

Day & Date	Thursday 14/04/2022	Friday 14/04/2022	Wednesday 04/05/2022
Occasion	Dr.B.R Ambedkar Birth Day	Good Friday	Following Day of Ramzan

III. Course Objectives:
1. To analyse the performance of various algorithms.
2. To illustrate different paradigms of problem solving.
3. To learn about various algorithm design techniques and illustrates them using a number of well-known problems and applications.
4. To familiarize graph traversal and search techniques.
5. To discuss NP hard and NP complete problems and their applications

IV. Course Outcomes:
Upon completing this course, students will be able to:
1. Analyze best, average and worst-case complexities of algorithms and choose appropriate data structure for designing algorithm.
2. Develop solutions using Divide and Conquer, Greedy techniques.
3. Design algorithms using dynamic programming approach, apply traversal and search techniques.
4. Apply backtracking, branch and bound techniques to solve problems.
5. Identify P, NP, NP-Complete and NP-Hard classes to which an algorithm belongs and design a feasible solution.

V. Course Plan:

S.No.	Topics / Sub. Topics /Experiments	No. of Classes Estimated	Remarks
	UNIT – I		
1	Introduction: Algorithm Specification	01	
2	Performance analysis: Space Complexity	01	
3	Time Complexity	01	
4	Asymptotic Notation (O, Omega, Theta)	01	

5	Practical Complexities, Performance Measurement	01	
6	Elementary Data Structures: Stacks and Queues	01	
7	Trees, Dictionaries	01	
8	Priority Queues	01	
9	Sets and Disjoint Set Union.	01	
UNIT – II			
1	Divide and Conquer: The general method, Finding the Maximum and Minimum, Binary Search	01	
2	Merge Sort	01	
3	Quick Sort	01	
4	Strassen's Matrix Multiplication	01	
5	Greedy Method: The General Method, Knapsack Problem	01	
6	Job Sequencing with Deadlines,	01	
7	Minimum Cost Spanning Trees	01	
8	Optimal Storage on Tapes, Optimal Merge Patterns	01	
9	Single Source Shortest Paths	01	
UNIT – III			
1	Dynamic Programming: The General Method, Multistage graphs	01	
2	All Pair Shortest Paths	01	
3	Single Source Shortest Paths	01	
4	Optimal Binary Search Trees	01	
5	0/1 Knapsack, Reliability Design	01	
6	The Traveling Salesperson Problem	01	
7	Traversal and Search Techniques: Breadth First Search and Traversal, Depth First Search and Traversal	01	
8	Connected Components and Spanning Trees, Biconnected Components and DFS.	01	
UNIT – IV			
1	Backtracking: The General Method, 8-Queens Problem	01	
2	Graph Colouring, Hamilton cycles	01	
3	Knapsack Problem	01	
4	Branch and Bounds: The Method: Least Cost (LC) Search	01	
5	The 15 puzzle	01	
6	FIFO Branch and Bound, LC Branch and Bound	01	
7	0/1 Knapsack Problem	01	
8	Traveling Salesperson Problem.	01	
UNIT – V			
1	NP-Hard and NP-Complete Problems: Basic Concepts: Non-Deterministic Algorithms	01	
2	The Classes NP Hard and NP Complete. Cook's theorem	01	
3	NP-Hard Graph Problems: Node Cover Decision Problem	01	
4	Chromatic Number Decision Problem,	01	
5	Directed Hamiltonian Cycle	01	
6	Traveling Salesperson Decision Problem	01	
7	NP Hard Scheduling Problems: Job Shop Scheduling.	01	
		41	

VI. Text Books:

1. Ellis Horowitz, Sartaj Sahani, Sanguthevar Rajasekaran, "Fundamentals of Computer Algorithm, 2nd Edition", Universities Press, 2011.
2. Thomas H. Cormen, Charles E. Leiserson, Ronald L. Rivest, Clifford Stein, "Introduction to Algorithms", 2nd Edition, Prentice Hall of India Private Limited, 2006.

VII. Suggested Reading:

1. AnanyLevitin, "Introduction to the Design & Analysis of Algorithms", Pearson Education, 2003.
2. Aho, Hopcroft, Ullman, "The Design and Analysis of Computer Algorithm", Pearson Education, 2000.
3. Parag H.Dave, Himanshu B. Dave, "Design and Analysis of Algorithms", 2nd Edition, Pearson Education, 2014.

VIII. Web Resources:

1. http://nptel.ac.in/courses/ 106101060
2. http://nptel.ac.in/courses/106106131

IX. Evaluation Scheme:

EC NO	Evaluation Components	Nature of Component	Duration	Marks	Date
1.	I-Class Test	Closed Book	60 Minutes	20	07-02-2020
2.	II-Class Test	Closed Book	60 Minutes	20	07-04-2020
3.	Assignment #1	Open Book	-	10	4th Week
4.	Slip Test #1	Closed Book	15 Minutes	10	7th Week
5.	Assignment #2	Open Book	-	10	12th Week
6.	Slip Test #2	Closed Book	15 Minutes	10	15th Week
7.	Case study/ project	Open Book	-	05	-
8.	Attendance	-	-	05	-
9.	Final Exam	Closed Book	3 Hours	60	Will be Announced

X. Attendance Policy:

1. Student must maintain a minimum of 75% attendance.
2. Student must be regular and punctual to the Classes.

XI. Notices: All notices will be sent to the class group and displayed on IV Sem Notice Board.

XII. General Timings for Consultation:

1. Monday 03.20 PM to 04.20 PM
2. Saturday 09.30 AM to 12.30 PM

Instructor's Contact Details:
Mr. S.Rakesh, Assistant Professor, Dept of IT
Mobile : 9951397356 Email: srakesh_it@cbit.ac.in

Signature of Faculty   **Signature of Course Coordinator**   **Signature of HoD**

LESSON PLAN

Department	: MCA	Class	:
Academic Year	: 2022	Semester	: II SEM
Subject	: BI & A	Subject Code	: 20 MCE 103
Faculty	: M Kali das	No. of Periods	: Appox 40
Commencement of Instruction	: 09 May 22	Last Date of Instruction :	
Dates of I Mid Exam	:	II Mid Exam :	III Mid Exam :

Classes lost due to Holidays and Mid-Sessional Exams

Day & Date	4/7/22	5/7/22	9/8/22	15/8/22		
Occasion	I Mid	I Mid	Tues day Moharram	Monday Indp day		

Day & Date						
Occasion						

Unit No.	Topic	No. of Periods	Cumulative Periods
I	Introduction to Buiss_ Analytics	1	1
1)	Role & Responsibilities of B-Analyst		
2)	Big data - challenges Inside and outside	1	2
3)	B ASP [Frame work]-Appl q Analytics	1	3
4)	Data- Info- knowledge		
5)	Reqs & charachters of Buiss Analysis	1	4
6)	Hy pothesis - Driven Methods	2	6
7)	Data Mining target variables	1	7
8)	Explorative Methods	2	9
II 1)	Descriptive analytics	1	10
2)	Data warehouse concepts & chaucht	2	12
3)	Data marts Vs meta data	1	13
4)	Data ware house process	1	14
5)	Buissiness Reporting - visual analytics	2	16
6)	Justification q Data ware house	1	17
7)	Data ware house Architecture & process	2	19
.	Tips & Techniques		
IV 1)	Intro to predictive Analytics	1	20
2)	Datamining concept & Applications	1	21
3)	DM- methods - classifications-tech	1	22

LESSON PLAN

Unit No.	Description	No. of Periods	Cumulative Periods
III	4) Text mining - Text Analytics	1	23
	5) Sentiment Vs text analytics	1	24
	6) Webmining & mgt - collabrative systems	2	26
iv			
1)	Perspective Analytics - catogories & Models	1	27
2)	optimization - simulative Models	1	28
3)	Heauristics - predictive models	1	29
4)	Decision & Expert systems	2	31
5)	Knowledge Management	1	32
6)	Collabrative mgt systems	1	33
V	— 1) Introduction to Big Data	1	34
	2) Big data Land scape	1	35
	3) Buissiness Implications & Big data	1	36
	4) Technology Implmentations & BIG DATA	2	38
	5) Management & Applications & BIG data	2	40
		Appx	40 cl

Mruta
9/5/12

CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY
(A),GANDIPET, HYDERABAD - 500075.
Lesson Plan

Department: **Mechanical Engineering**	Faculty: **MrsJyothirmayi Narne**	No of periods: 3 (per week)Only5weeksofinstruction
Academic Year:**2021-2022.**		Commencement of Instruction: **09.05.22**
Subject:**Engineering Exploration** Class:**BE II Semester CSE-1** Subject code: **20MEC03**		Completion of class work: **02.09.2022**

S. No.	Topics/Sub-topics	No. ofPeri ods estim ated
1	**Role of Engineers:** Introduction, science, engineering, technology.	01
2	Engineer,scientist,roleofengineer,variousdisciplinesofengineering,misconceptionofengineering, expectations forthe 21stcentury engineerandNBA graduateattributes.	02
3	**Engineeringproblems and Design:** Multidisciplinary facet of design, pair wise comparison chart.	01
4	Introductiontoeconometricssystem,generationofmultiplesolution,Pughchart,motorand battery sizing concepts, introduction to PCB design	02
5	**Mechanisms:**Basiccomponentsofamechanism,degreesoffreedomormobilityofa mechanism.	01
6	4-bar chain, crank rocker mechanism, slider crank mechanism, simple robotic arm building.	02
7	**Platform-baseddevelopment:**Introductiontoprogrammingplatforms(Arduino)anditsessentials, sensors, transducers and actuators and their interfacing with Arduino.	01
8	**DataAcquisitionandAnalysis:**Typesofdata,descriptivestatisticstechniquesasapplicable to different types of data, types of graphs and their applicability, usage of toolsfordescriptivestatistics,dataacquisition.usingsensorsinterfacedwithArduino,exporting acquired data to spreadsheets, and analysis using representation.	02
9	**Process Management:** Introduction to Agile practice, significance of team work.	01
10	Importanceofcommunicationinengineeringprofession,projectmanagementtools,checklist, timeline, Gantt chart, significance of documentation.	02
11	**EngineeringEthics&SustainabilityinEngineering:**IdentifyingEngineeringasa profession, significance of professional ethics, code of conduct for engineers.	01
12	Identifyingethicaldimensionsindifferenttasksofengineering,applyingmoraltheoriesand codes of conduct for resolution of ethical dilemmas. **Sustainability in Engineering:** Introduction, sustainability leadership, life cycleassessment, carbon foot print.	02
	Total estimated hours	15

Signature of the Faculty.

Head, MED.

CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY
Gandipet,Hyderabad-75

LESSON PLAN

Department: Mechanical Engineering   Class   : B.E Mechanical-1   Semester: VII

Name of the subject: Operations Research   Subject Code   : 18ME C23

Academic Year   : 2021-2022   No of Periods   : 3/week

Commencement of Instruction   : 03-08-2021   Completion of Instruction : 20-11-2021

Date of Mid-I   : 27-09-2021   Date of Mid-II   : 22-11-2021

Name of Faculty   :V.Sandhya

Timetable of the Subject

Day	Wednesday	Thursday	Friday
Duration	10.20 AM To 11.20 AM	11.30 AM To 12.30 PM	09.10AM To 10.10AM

Sl No	Topic/Sub Topic covered	No of periods estimated	Remarks
	UNIT-I (8 Periods)		
1.	Introduction: Definition and Scope of Operations Research.	1	
2.	Linear Programming: Introduction ,Formulation of linear programming problems	1	
3.	Graphical method of solving LP problem	1	
4.	Simplex method	1	
5.	Simplex method - Big M Method	1	
6.	Simplex method - Two Phase Method	1	
7.	Degeneracy in Simplex	1	
8.	Duality in Simplex	1	
	UNIT-II (8 Periods)		
9.	Transportation Models : Introduction	1	
10.	Finding an initial feasible solution - North West corner method, Least cost method	1	
11.	Vogel's Approximation method	1	
12.	Finding the optimal solution	1	
13.	Finding the optimal solution	1	
14.	Special cases in Transportation problems Unbalanced Transportation problem	1	
15.	Degeneracy in Transportation	1	
16.	Profit Maximization in Transportation	1	
	UNIT-III (8 Periods)		
17.	Assignment Problems: Introduction,	1	
18.	Hungarian technique of Assignment problems	1	
19.	Hungarian technique of Assignment problems	1	
20.	Unbalanced problems	1	
21.	Problems with restrictions	1	

22.	Maximization in Assignment problems		
23.	Unbalanced and maximization Assignment Problem	1	
24.	Travelling salesman problems	1	
		1	
	UNIT-IV **(8 Periods)**		
25.	Project Management: Definition, Procedure and Objectives of Project Management	1	
26.	Differences between PERT and CPM	1	
27.	Rules for drawing Network diagram,	1	
28.	Scheduling the activities, Fulkerson's rule, Earliest and Latest times.	1	
29.	Determination of ES and EF times in forward path, LS & LF times in backward path	1	
30.	Determination of critical path, Duration of the project	1	
31.	Free float, Independent float, Total float	1	
32.	Crashing of network	1	
	UNIT-V **(8 Periods)**		
33.	Sequencing Models: Introduction, General assumptions	1	
34.	Processing 'n' jobs through 2 machines	1	
35.	Processing 'n' jobs through 3 machines	1	
36.	Processing 'n' jobs through 3 machines	1	
37.	Queuing Theory : Introduction	1	
38.	Kendal's Notation	1	
39.	Single channel - Poisson arrivals - Exponential Service times	1	
40.	Single channel - Poisson arrivals - Exponential Service times	1	
	Total No of classes	40	

Signature of the faculty

Signature of the HOD

CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY (AUTONOMOUS)
Gandipet, Hyderabad – 500 075
LESSON PLAN

Department: PHYSICS   Class   : B.E. IT-2

Academic Year: 2021-2022   Semester : I

Subject   : Optics and Semiconductor Physics (Theory)   Subject Code: 20PY C01

Faculty   : **Dr. S. Shanmukharao Samatham**   No. of Periods   : 51

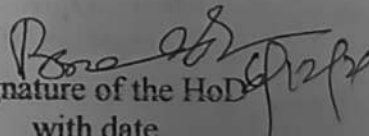Commencement of Instruction: 06-12-2021   Completion of Instruction: 01-04-2022

Dates of I Mid exam: 15.02.2022   II Mid exam: 31.03. 2022

Unit No.	Topics	No. of Periods	Cumulative Periods
	UNIT - I		
I	**Wave Optics:** Huygens' principle, superposition of waves and interference of light by wave front splitting and amplitude splitting	1	1
I	Fresnel's biprism	1	2
I	Interference in thin films in reflected light	1	3
I	Newton's rings	1	4
I	Fraunhofer diffraction from a single slit and double slit	2	6
I	Rayleigh criterion for limit of resolution	1	7
I	Concept of N-slits, Diffraction grating and its resolving power	1	8
I	Exercises	1	9
	UNIT - II		
II	**Lasers:** Characteristics of lasers, Einstein's coefficients	1	10
II	Amplification of light by population of inversion and other important terms	1	11
II	Solid-state lasers: Ruby and Nd:YAG	1	12
II	Gas lasers: He-Ne & CO_2	1	13
II	Semiconductor laser and Applications of lasers in engineering and medicine	1	14
II	**Holography:** Principle, Recording and reconstruction, Applications	1	15
II	**Fiber Optics:** Introduction, Construction, Principle, Propagation of light through an optical fiber, Numerical aperture and acceptance angle	2	17

II	Step-index and graded-index fibers, Pulse dispersion	1	18
II	Fiber losses, Fiber optic communication system and Applications	1	19
II	Exercises	1	20
UNIT - III			
III	**Principles of Quantum Mechanics:** Introduction, Wave nature of particles, de-Broglie hypothesis, Physical significance of ψ	1	21
III	Time-dependent and time-independent Schrodinger equations	2	23
III	Born interpretation, Probability current	1	24
III	Wave packets, Uncertainty principle	1	25
III	Particle in infinite square well potential	2	26
III	Scattering from potential step	2	27
III	Potential barrier and tunneling	1	28
III	Exercises	2	29
UNIT - IV			
IV	**Band Theory of Solids:** Salient features of free electron theory of metals (Classical and Quantum)	1	30
IV	Fermi level, Density of states	2	31
IV	Bloch's theorem for particles in a periodic potential	1	32
IV	Kronig-Penney model	1	33
IV	Classification of solids: metals, semiconductors and insulators	1	34
IV	Exercises	1	35
UNIT - V			
V	**Semiconductors:** Intrinsic and extrinsic semiconductors	1	36
V	Charge carrier concentration in intrinsic semiconductors	2	38
V	Dependence of Fermi level on carrier concentration and temperature in extrinsic semiconductors (qualitative)	2	40
V	Carrier generation and recombination, Carrier transport: diffusion and drift	1	41
V	P-N junction	1	42
V	Thermistor, Hall effect	1	43
V	LED, Solar cell	1	44
V	Exercises	1	45

Signature of the Faculty
with date

Signature of the HoD
with date

Lesson Plan

Faculty Name with Designation: Dr. P. Suresh

Course Name with code: DIFFERENTIAL EQUATIONS & TRANSFORM THEORY, 20MTCO3   **Semester:** II

Date of MID-I: 14/07/2022   **Date of MID-II:** 05/09/22

Department: Mathematics   **Section:** IT-I

S.No	Topic	No. of hours
	UNIT-1(Differential Equations of First Order)	
1	Exact Differential Equations, Equations Reducible To Exact Equations	2+2
2	Linear Equations, Bernoulli's Equations	2
3	Riccati's and Clairaut's Equations, Orthogonal trajectories.	1+2
		9
	UNIT-2 (Higher Order Linear Differential Equations)	
4	Higher order linear differential equations with constant coefficients, rules for finding Complementary function	2
5	Rules for finding Particular integrals of Higher order linear differential equations with constant coefficients	3
6	Method of variation of parameters	1
7	Solution of Cauchy's homogeneous linear equation.	2
8	Applications: LR and LCR circuits.	1
		9
	UNIT -3 (Series Solutions of Differential Equations)	
9	Ordinary point, singular point and regular singular point	1
10	Series solution when $x=a$ is an ordinary point of the equation. Legendre's equation, Legendre's Polynomial of first kind (without proof)	4
11	Rodrigue's formula, orthogonality of Legendre polynomials. Bessel's equation, Bessel's function of the first kind of order n (without proof), recurrence formulae for $J_n(x)$ and related problems (i.e $J_0(x)$, $J_1(x)$, $J_{1/2}(x)$, $J_{-1/2}(x)$, $J_{3/2}(x)$, $J_{-3/2}(x)$).	4
		9
	UNIT-4 (Fourier Transforms)	
12	Fourier integral theorem (statement), Complex form of Fourier integrals. Fourier transforms	2
13	Inverse Fourier Transforms, Fourier Sine and Cosine transforms	2
14	Inverse Fourier Sine and Cosine Transforms. Properties of Fourier transforms: Linear property, change of scale property, shifting property and Modulation theorem.	2+2
		8
	UNIT-5 (Z-Transforms)	
15	Z-Transforms -Definition, some standard Z-transforms	2
16	Linearity property, Damping rule, shifting U_n to the right, shifting U_n to the left, multiplication by 'n', initial and final value theorems.	2+2
17	Inverse Z-Transform: evaluation of Inverse Z-transform by Convolution theorem, partial fractions method. Z- Transform application to difference equations.	2+2
		10
	TOTAL	45

Signature of the Faculty   **Signature of the HOD**

CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY (A), HYDERABAD-75
Department of Electrical and Electronics Engineering

LESSON PLAN

Academic Year: **2021-22**
Subject: **Electrical Machines-I**
Faculty: **N.SANTOSH KUMAR**
Commencement of Instruction: **31.01.2022**

Semester: **IV (EEE-I)**
Subject Code: **20EE C10**
No. of Hours: **40**
Completion of Instruction: **25.06.2022**

Class Test-1 02/05/2022 to 06/05/2022 Class Test 2 29/06/2022 to 01/07/2022

Day	Tuesday	Thursday	Friday	01.03.2022 (Tuesday)	18.03.2022 (Friday)	05.04.2022 (Tuesday)	15.04.2022 (Friday)	03.05.2022 (Tuesday)
Hour	1st	3rd	6st	Shivaratri	Holi	Babu Jagjivan ram Jayanthi	Good Friday	Ramzan

UNIT-1
ELECTROMECHANICAL ENERGY CONVERSION

S.no	Topic	No.of Hours
1.	Introduction to Magnetic circuits	1
2.	Forces and torques in magnetic field system	1
3.	Energy balance and co-energy.	1
4.	Singly excited	1
5.	Multiple excited magnetic systems,	1

UNIT-2
DC GENERATORS

S.no	Topic	No.of Hours
6.	Review of Constructional features and Operation of a DC machine	1
7.	Armature windings diagram (Lap and Wave winding)	1
8.	Analysis of EMF equation of a DC generator	1
9.	Armature reaction and its effects.	1
10.	Process of commutation, methods of improving commutation	1
11.	Methods of excitation and classification of DC generators	1
12.	Voltage build-up in a shunt generator, critical field resistance & speed.	1
13.	Generator characteristics, losses and efficiency	1
14.	Parallel operation and applications of DC generators.	1

UNIT-3
DC MOTORS

S.no	Topic	No.of Hours
15.	Review of DC motors, Principle of operation.	1
16.	Back EMF and significance of back EMF, electromagnetic torque.	1
17.	Types of DC motors, Characteristics.	1
18.	Analysis of speed control methods.	1
19.	Necessity of starter, three-point starter and four-point starter.	1
20.	Soft starters (elementary treatment only)	1
21.	Losses and efficiency, applications of DC motors.	1
22.	Swinburne's test, Brake test.	1
23.	Hopkinson's test, Fields test.	1
24.	Retardation test and Separation of losses.	1

UNIT-4
SINGLE PHASE TRANSFORMER

S.no	Topic	No.of Hours
25.	Review of Constructional features, principle of operation.	1
26.	EMF equation and ideal transformer.	1
27.	Transformer on no-load and on-load and its phasor diagrams.	1
28.	Detailed study of equivalent circuit.	1

29.	Voltage regulation and efficiency. All day efficiency.	1
30.	Parallel operation of transformer.	1
31.	Polarity test, analysis of open circuit and short circuit test.	1
32.	Sumpner's test, separation of losses.	1
33.	Auto transformer: Construction, principle.	1
34.	Applications and comparison with two-winding transformer.	1

UNIT-5
THREE-PHASE TRANSFORMERS

35.	Construction of three phase transformers	1
36.	Types of connection and their comparative features.	1
37.	Scott connection.	1
38.	No-load and on-load tap-changing of transformers.	1
39.	Three-winding transformers.	1
40.	Cooling of transformers.	1

Text Books:

1. I. J. Nagrath and D. P. Kothari, "Electric Machines", McGraw Hill Education, 2010
2. P. S. Bimbra, "Electrical Machinery", Khanna Publications, 2011
3. H. Cotton, Advanced Electrical Technology, Wheeler & Co, CBS Publishers, 7th Edition, 2005
4. J. B. Gupta, Theory and performance of Electrical Machines, S.K. Kataria & Sons, 14th Edition, 2014

Faculty
N.Santosh Kumar,
Asst. Professor, EEE Dept.

Head, Dept. of EEE

Department of English:

Academic year: 2021 - 2022

Subject : English

Name of the Faculty:

Commencement of Instruction:
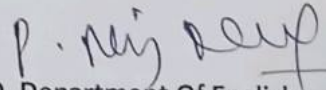
Class. BE /B.Tech I Sem

Branch:

Code: 20EGC01

No of periods : 02

Completion of Instruction:

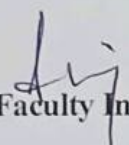| S. No	Topics to be Covered	No. of period/s	Cumulative Periods
	CO-1 : Unit -I : Understanding Communication in English		
1	Introduction, nature and importance of communication. Process of communication. Types of Communication - Verbal	1	1
2	Non-verbal communication. Barriers to communication	1	2
3	Intrapersonal and Interpersonal communication. Johari Window	1	3
4	Concept of word formation	1	4
5	Use of appropriate prepositions, Articles	1	5
6	Tenses	1	6
	CO-2 : Unit -II :Developing Writing Skills I		
7	Correct punctuation	1	7
8	Structure and features of paragraph. Cohesion and coherence	1	8
9	Email and Mobile Etiquette	1	9
10	Rearranging Jumbled sentences. Use of cohesive devices	1	10
11	Essay writing	1	11
	CO-3 :UNIT -III :Developing Writing Skills II		
12	Precis writing	1	12
13	Letter writing- structure and format of a formal letter.	1	13
14	Letter of request and response	1	14
15	Subject- verb agreement	1	15
16	Word derivatives - Prefixes and Suffixes. Redundancies	1	16
	CO-4 :UNIT -IV: Developing Writing Skills III		
17	Report writing - Importance and structure.	1	17
18	Elements of style	1	18
19	Describing, Defining, Classifying. Writing introduction and conclusion	1	19
20	Misplaced modifiers	1	20
21	Synonyms, Antonyms	1	21
	CO-5 :UNIT -V: Developing Reading Skills		
22	Process, importance and purpose of reading - different kinds of texts	1	22
23	Techniques of comprehension - Skimming, scanning, drawing inferences and conclusions	1	23
24	Reading comprehension - Practice	1	24
25	Words often confused	1	25
26	Standard abbreviations	1	26
27	Phrasal verbs		27
	Total	24	24

Faculty Incharge

HEAD, Department Of English

HEAD

Dept.of Mathematics and Humanities

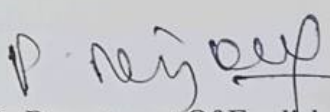Chaitanya Bharathi Institute of Technology

Gandipet, Hyderabad-500 075.

CHAITANYABHARATHIINSTITUTEOFTECHNOLOGY(Autonomous)
Gandipet,Hyderabad–500075
LESSON PLAN

Department : English
Academic Year: 2021-2022
Subject : ENGLISH LAB
Faculty :

Class : B.E/B.Tech
Semester : I
Subject Code : 20EGC02
No. of Periods: 02

Commencement of Instruction:

Completion of Instruction:

S No	Topics to be Covered Cumulative Periods	No. of Periods	Cumulative Periods
1	Public speaking	2	2
2	Introduction to Phonetics, Organs of Speech, Vowels	2	4
3	Group discussion - Watching video & instruction	2	6
4	Phonetic symbols and phonemic sounds - Monophthongs, Diphthongs & Consonants	2	8
5	Group Discussion - Practice, Internal Assessment -1	2	10
6	Transcription, Minimal Pairs, Syllables & Consonant Clusters	2	12
7	Pictionary - Instruction and practice	2	14
8	Word Accent, Word Stress	2	16
9	Situational Dialogue and Role Play, Information Gap Activity	2	18
10	Listening Skills & Internal Assessment- 2	2	20
11	Poster Making - Discussion. Brain storming on themes and layout	2	22
12	Intonation & Rhythm	2	24
		24	24
	Total		

Faculty Incharge

HEAD, Department Of English

CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY, (AUTONOMOUS)
GANDIPET, HYDERABAD -75
LESSON PLAN

Department of English:

Academic year: 2021 - 2022

Subject : English for Research Paper Writing

Name of the Faculty:

Commencement of Instruction:

Class. ME /M.Tech I Sem

Branch: All Branches

Code: 20EGA101

No of periods : 30

Completion of Instruction:

S. No	Topics to be Covered	No. of period/s	Cumulative Periods
	Unit I: Academic Writing	1	1
1	Introduction, Meaning & Definition of a Research Paper, General writing	1	2
2	Purpose of a Research Paper	1	3
3	Scope of a Research Paper	1	4
4	Benefits of Writing a Research Paper	1	5
5	Limitations of a Research Paper		
6	Outcomes of a Research Paper	1	6
	Unit II: Research Paper Format	1	7
7	Title Selection, Writing an Abstract	1	8
8	Research Hypothesis - Introduction	1	9
9	Introduction & Discussion		
10	Research Findings & Conclusion	1	10
11	Style of Indentation – Font size/Font types	1	11
12	Indexing	1	12
13	Citation of Sources	1	13
	Unit III: Research Methodology	1	14
14	Research Methods		
15	Qualitative Method	1	15
16	Quantitative Method	1	16
17	Review of Literature: Necessity, methods and utilization	1	17
18	Criticizing, Paraphrasing	1	18
19	Ethics in Research, Plagiarism	1	19
	Unit IV: Process of Writing a Research Paper		
20	Choosing the Research Topic, Conceptualising the Research Design	1	20
21	Formulating the Thesis Statement, Preparing the Outline	1	21
22	Note Taking and Organizing	1	22
23	Language of Research – Word order, Paragraphs	1	23
24	Writing first draft	1	24
25	Revising/Editing - The final draft	1	24
26	Proof Reading	1	25
	Unit V: Research Paper Publication		
27	Reputed Journals – National/International – ISSN No, No. of volumes	1	27
28	Scopus Index/UGC Journals, Journal names	1	28
29	Free publications - Paid Journal publications	1	29
30	Advantages/Benefits of Publication in Reputed Journals	1	30
	Total		30

Faculty Incharge

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Dept.of Mathematics and Humanities

Chaitanya Bharathi Institute of Technology

Gandipet, Hyderabad-500 075.

HEAD, Department Of English

CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY, (AUTONOMOUS)
GANDIPET, HYDERABAD -75
GENDER SENSITIZATION
Lesson Plan

Academic year: 2021 - 2022
Subject : Gender Sensitization
Faculty : K. Naveen Kumar
Commencement of Instruction: 31.01.2022

Semester: VI
Subject Code: 18EG O 02
No. of classes : 03
Completion of Instruction:

S.No	Topics to be Covered	No. of periods
	Unit I - Understanding Gender	
1	Gender: Why Should We Study It?	
		1
2	Milestones in the history of gender equality	
		1
3	Socialization: Making Men & Making Women	
		1
4	Growing up Male : Counter Socialization	
		1
5	Different Masculinities	
		1
6	Telugu film Hero: The dangerous model of Masculinity	
		1
7	Preparing for Womanhood: Girl poem	
		1
8	First lessons in Caste	
		1
9	Radom; Vetti; Video: Casteism in India	
		1
	Unit II- Gender And Biology	
10	Missing Women: Declining Sex Ratio	
		1
11	PC & PNDT Act	
		1
12	Sex determination technologies	
		1
13	Why are sons preferred over daughters?	
		1
14	Demographic Consequences	
		1
15	Gender Spectrum: Beyond the Binary: Two or Many?	
		1
16	Struggles with Discrimination	
		1
17	Acceptability of Other Genders	
		1
18	Video: Transgender, Manabi Bandopadhyay	
		1
	Unit III- Gender and Labour	
19	Housework: the Invisible Labour	
		1
20	My Mother doesn't Work: Vantillu	
		1
21	Share the Load: I want a wife	
		1

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Gandipet, Hyderabad-500 075.

21	Types of work at home	
23	Women's Work: National Sample Survey(NSS)	1
24	Women in (unusual) professions	1
25	Types of women's work	1
26	Wages and conditions of Women's work	1
27	Video: Women in Commercials on TV	1
Unit IV - Issues Of Violence		
28	Domestic Violence: Speaking Out	
29	The National Family Health Survey	1
30	Bell Bajao and BOL campaigns	
31	When Women Unite: Adalats and Women Jamats	1
32	Sexual Harassment: Say No!	1
33	Sexual Harassment, not Eve-teasing	1
34	Coping with Everyday Harassment - Chupulu	1
35	The Nirbhaya Act, 2013	1
36	I Fought for my Life....	1
37	The Caste Face of Violence	1
Unit V- Gender: Co - Existence		
38	Mary Kom and Onler	1
39	Telugu Cinema: the hero, the heroine and the romance	1
40	Love and Acid just do not Mix	1
41	Consent is everything, No means No	1
42	Emma Watson's Speech	1
43	Love Letters	1
44	Queen and her gang of friends	1
45	Rosa Parks-The Brave Heart	1
46	Revision/Review	1
Total no. of periods		**46**

Faculty Incharge

HEAD
Dept.of Mathematics and Humanities
Chaitanya Bharathi Institute of Technology
Gandipet, Hyderabad-500 075.

HEAD, Department Of English
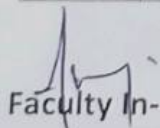
Indian Constitution and Fundamental Principles

Department	: English	Class	: Chemical
Academic Year	: 2021-22	Semester	: III/IV
Subject	: IC&FP	Subject Code	: 20EGM01
Faculty	:	No. of classes : 02	
Commencement of Instruction:		Completion of Instruction:	

Sl No	Topics to be Covered	No. of periods
	Unit -I : Constitution of India	
1	Constitutional History-Introduction, Regulating and Charter Acts	1
2	Government of India Acts: 1909, 1919, 1935 and 1947; Features	2
3	Constituent Assembly and Features of Constitution	1
4	Direct Principles of state policy -its importance and Implementation.	2
	Unit -II : Scheme of the Fundamental Rights & Duties	
5	The Fundamental Rights - To Equality, to certain Freedom under Article 19, to Life and Personal Liberty Under Article 21.	2
6	Fundamental Duties - the legal status.	2
	Unit -III : Union Government and its Administration	
7	Structure of the Indian Union : Federalism- Distribution of Legislative and Financial powers between the Union and the States.	2
8	Parliamentary form of government in India: President- Power and Position.	2
9	Emergency Provisions in Indian Constitution: Articles 352, 356 and 360	2
	UNIT -IV: Union Legislature and Judiciary	
10	Parliament: Lok Sabha and Rajya Sabha, Powers of Speaker and Chairman	1
11	Functions of Parliament and Parliamentary Committees	2
12	Judiciary-Structure and functions of Supreme Court of India	2
	UNIT -V: Local Self Government	
13	District's Administration Head: Collector's Role and Importance	1
14	74th Amendment Act: History of Urban Local Bodies	1
15	Municipalities and Municipal Corporations: Structure and Functions, Role of Mayor and Commissioner	1
16	73rd Amendment Act: Evolution of Panchayati Raj Institutions	1
17	Zilla Panchayats-Structure and Functions, Role of CEO	1
18	Mandal Level: Organizational Hierarchy, Role of MPDO, Village level: Structure and Functions of Gram Panchayat	1
	Model Paper Discussion	1
	Total	28

Faculty In-charge

HEAD
Dept.of Mathematics and Humanities
Chaitanya Bharathi Institute of Technology
Gandipet, H   1-500 075.

I/c Head, Department Of English

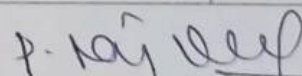# CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY, (AUTONOMOUS)
GANDIPET, HYDERABAD -75

Indian Traditional Knowledge

Department   :English   Class   :Chemical / Mech/Civil/EEE

Academic Year :2021-22   Semester   :IV

Subject   :ITK   Subject Code :20EGM02

Faculty   :   No. of classes :02

Commencement of Instruction: Completion of Instruction:

Sl No	Topics to be Covered	No. of periods
	Unit -I :Culture and Civilization	
1	Culture, Civilization and Heritage	1
2	General characteristics of Culture, importance of culture in human literature	1
3	Cultural diversity, Aesthetics, Martial Arts	1
4	Women seers. Indian Cuisine, Indus Culture	1
	Unit -II :Education System	
5	Education in Ancient, medieval and modern India	1
6	Aim of education, subjects, languages	1
7	Science and scientists of Ancient India	1
8	Science and scientists of medieval India	1
9	Science and scientists of modern India	1
	Unit -III :Linguistic Wealth	
10	Indian Languages and literature	1
11	Role of Sanskrit	1
12	Paleography	1
13	Significance of scriptures to current society, Bhakti Literature, Darsanas	1
14	Indian semantics and Lexicography	1
	UNIT -IV: Art, Technology & Engineering	
15	Sculpture, painting and Handicrafts	1
16	Indian Music, Dance, Drama and Theatre	1
17	Iron and Steel Technology, use of metals in medicinal preparations	1
18	Use of metals in medicinal preparations	1
	UNIT -V: Science and Logic	
19	Helio-centric system	1
20	Sulba-sutras, Ka-Ta-Pa-Ya-di , Hindu calendar	1
21	6 Pramanas in Indian logic	1
22	Scientific method applied to Therapeutics, Fallacies	1
23	Tarka- Induction & deduction	1
24	Ayurvedic biology, Definition of Health	1
	Model Paper Discussion	1
	Total	25

Faculty In-charge

HEAD
Dept. of Mathematics and Humanities
Chaitanya Bharathi Institute of Technology
Gandipet, Hyderabad-500 075.

I/c Head, Department Of English

CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY, (AUTONOMOUS)
GANDIPET, HYDERABAD -75
PROFESSIONAL COMMUNICATION IN ENGLISH

Academic year: 2021 - 2022

Subject : PCE

Faculty : Dr. Shirisha Deshpande

Commencement of Instruction:

Semester: I MCA
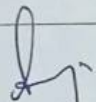
Subject Code: 20EG 101
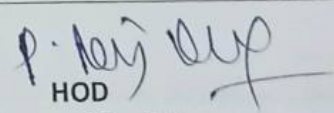
No. of classes : 03

Completion of Instruction:

Lesson Plan

SNO	Topics to be Covered	No. of Hours
1	Introduction to English Phonetics and Organs of speech	3
2	Sound system of English – Vowel sounds	3
3	Sound system of English – Consonant Sounds	3
4	Practice Sounds – Identify and differentiate	3
5	The Syllable and its types	3
6	Word stress	3
7	Listening skills – practice with IELTS and TOEFL material	3
8	Soft Skills	3
9	Business Etiquette - Email and Mobile Etiquette.	3
10	Public Speaking – JAM	3
11	Group Discussions	3
12	GD Practice and Assessment	3
13	Presentation Skills – Making of a PPT and Body language	3
14	Student Presentations	3
15	Interview Skills	3
16	Resume' Writing and Mock Interviews	3

Faculty Incharge

HOD

Dept of English

HEAD

Dept.of Mathematics and Humanities

Chaitanya Bharathi Institute of Technology

Gandipet, Hyderabad 075.

CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY, (AUTONOMOUS)
GANDIPET, HYDERABAD -75
SOFT SKILLS & EMPLOYABILITY ENHANCEMENT LAB

Academic year: 2021 - 2022

Subject : SS&EE Lab

Faculty :

Commencement of Instruction:

Year & Semester: B.E /B.Tech III & IV SEM

Subject Code: 20EGCO3
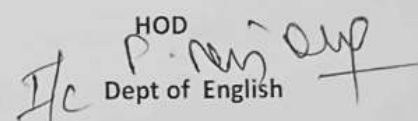
Total No. of classes : 32

Completion of Instruction:

S No	Topics to be Covered	No. of periods
	Unit I	
1	Introduction of soft skills Lab Indianisms & Using English in different situations	2
2	Corporate Culture – Grooming & Etiquette	2
3	Effective Time Management & Goal Setting	2
	Unit II	
4	Mini project -Description & Discussion	2
5	Dynamics of Group Discussion (with videos)	2
6	Group Discussion - Practice	2
	Unit III	
7	Effective Presentation skills – structure, tools, Creating an effective PPT	2
8	Individual Power Point Presentations - Practice	2
9	Individual Power Point Presentations - Practice	2
	Unit IV	
10	Interview Skills – Concept & Process	2
11	Pre interview planning, FAQs, Answering strategies	2
12	Mock Interviews	2
	Unit V	
13	Mini project seminar	2
14	Mini project seminar	2
15	Self confidence & Assertiveness	2
16	Academic ethics & Integrity	2
	Total no. of periods	32

Faculty Incharge

HOD

I/c Dept of English

HEAD
Dept.of Mathematics and Humanities
Chaitanya Bharathi Institute of Technology
Gandipet, Hyderabad-500 075,

CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY, (AUTONOMOUS) GANDIPET, HYDERABAD -75
LESSON PLAN

Academic year: 2020 - 2021

Subject : TECHNICAL WRITING SKILLS

Faculty :

Commencement of Instruction:

Semester: B.E /B.Tech- VII Sem

Subject Code: 18EG O 01

No. of classes : 03

Completion of Instruction:

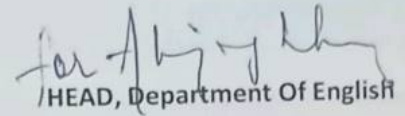| S No.	Topics to be Covered	Method/Material	No. perio
	Unit -I		
1	Definition; oral and written communication.	ppt, notes	1
2	Importance and Need for Technical Communication,	ppt, pdf	1
3	Nature of Technical communication.	ppt, pdf	1
4	Communication Process	Illustration, chart	1
5	Channels of Communication.	ppt, pdf	1
6	Barriers to communication.	Lecture, Ppt	1
7	Aspects and forms of Technical communication.	Explanation	1
8	Technical Communication Skills - Listening, Speaking,	Ppt, lecture	1
9	Technical Communication Skills –Reading & Writing.	Flipped session	1
	Unit -II		
10	Technical Writing – Introduction	Lecture, Notes, examples	1
11	Differences between technical writing and general writing.	ppt, pdf	1
12	Techniques of writing	Instructions, ppt	1
13	Selection of words and phrases in technical writing	Lecture, exercise	1
14	Abstract and specific words	Ppt, exercise	1
15	Sentence structure	Lecture, exercise	1
16	Requisites of sentence construction	ppt, pdf	1
17	Paragraph Writing, Paragraph length, Structure	ppt, sample	1
18	Features of a paragraph	ppt, pdf	1
19	Developing a Paragraph	Writing activity	1
20	Paragraph Writing-Activity		1
	UNIT -III		
21	Business correspondence, Claim and Adjustment letters.	Ppt, discussion	1
22	Sales letters, Letters of Quotation	ppt, discussion	1
23	Technical Articles: Nature	ppt, pdf	1
24	Significance of Technical Articles	Ppt, samples	1
25	Types of technical articles	Samples, lecture	1
26	Elements of Technical Articles	Lecture, sample	1
27	Writing an abstract	Guidelines	1
28	Journal articles, Conference papers	Video, samples	1
	UNIT -IV		
29	Technical Reports: Significance, Types, Routine Reports, Project Reports	Discussion, pdf	1
30	Technical Reports: Structure	Discussion, pdf	1
31	Technical Reports : Style and Writing of Reports	Video	1
32	Technical Proposals : Definition, Types	Lecture, ppt	1
33	Technical Proposals : Characteristics	Video	1
34	Technical Proposals: Structure and significance	Ppt, examples	1
	UNIT -V		1
35	Mechanics of Meetings-Agenda, Participation	Lecture, ppt	1
36	Chairing and writing Minutes, Memorandum	ppt, sample	1

37	Information Transfer-Graphic to verbal (written)and verbal to graphic	ppt, pdf	1
38	Technical Presentations – Important aspects of oral and visual presentations Purpose, audience, locale	Lecture	1
39	Organizing content - presentations.	Video	1
40	Use of audiovisual aids	Student activity	1
41	Nuances of delivery, Body language and voice dynamics	Guidelines	1
42	Revision, Model Question Paper Discussion	Discussion	1
	Total		42

Faculty Incharge

/HEAD, Department Of English

Head
Dept. of English
CBIT (A), Hyderabad-75.

LESSON PLAN

Classes lost due to Holidays and Mid-Sessional Exams

Day & Date		
Occasion		
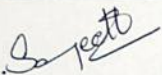
Unit No	Topic	No.of Periods	Cumulative Periods
I	**Introduction**		
	Operation Research, Definitions, Evolution, Scope and Applications in Business.	4	4
	Linear Programming: Models, Assumptions of LPP, Formulation, Graphical Method, Simplex Method	4	8
	Big-M Method. Formulation of Dual to Primal.	2	10
II	**Unit-II Transportation and Assignment**		
	Transportation Problem, Initial Solution Methods, North -West Corner Method, Least Cost Method (LSM) and Vogel's Approximation Method	3	13
	Degeneracy, Unbalanced TP. Optimality Test - Stepping Stone Method and MODI Method.	4	17
	Assignment Problem, Hungarian Method, Unbalanced problems, Restricted AP. The Traveling - Salesman problem.	3	20
III	**Unit-III Statistical Decision Theory and Game Theory**		
	Decision Theory, Criteria for Decision Making under Risk and Uncertain Environments, Concept of Utility	4	24
	Expected Monetary Value, EVPI Utility as a Concept of Decision Making. Game theory, Zero Sum Game	4	28
	Saddle point, Pure strategies, Mixed strategies, Dominance, Graphical Method for (mx2) and (2xn) games.	2	30

IV	Unit-IV Project Management by Network Analysis		
	Network fundamentals - Scheduling the Activities - PERT Vs CPM	4	34
	Three Time estimates - beta Distribution	2	36
	Identifying Critical Path - Probability of completing the Project within Scheduled time, Critical Path Method – Optimization of Project parameters - Crashing.	5	41
V	Unit-V Queuing Theory and Simulation		
	Queuing Theory - Concepts of Queue/Waiting Line - General structure of a Queuing system - Operating characteristics of Queues	3	44
	Probabilistic Queuing model - Single Channel Queuing model - Poisson arrival and Exponential service times with infinite Population	3	47
	Simulation: Process of Simulation, Applications of Simulation to different Management Problems.	3	50

Signature of the Faculty:

Signature of the HOD:

LESSON PLAN

CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY(Autonomous)
Gandipet, Hyderabad-75
LESSON PLAN

REC409

Department	: Biotechnology	Class	: IV yr B.Tech
Academic Year	: 2020-21	Semester	: VIIISem
Subject	: Tissue Engineering EL-VII	Subject Code	: 16BT E52
Faculty	: Dr. G Vijaya Laxmi	No of Periods	: 3/week
Commencement of Instruction	: 8-2-2021	Completion of Instruction	: 26-5-2021
Date of Mid-I	: 29-31Mar, 2021	Date of Mid-II	: 24-26 May,2021

Timetable of the Subject

Day			
Duration			

Classes lost due to holidays and mid sessional exams

Date & occasion				

S.No	Topic/Sub Topic covered	No of periods estimated	Remarks
UNIT-I INTRODUCTION TO TISSUE ENGINEERING (7 Periods)			
1	Introduction to Tissue Engineering	1	
2	Basic definition and overview and its applications;	2	
3	History of Tissue engineering and its Basic steps	2	
4	General scientific issues, Ethical issues	1	
5	Revision of Unit 1	1	7
UNIT- II CELLS AND TISSUE ORGANIZATION (11periods)			
7	Cells- cell growth and death	1	
8	Cell differentiation; Cells in tissues and organs	1	
9	Cell to cell interactions; cell adhesion molecules (CAM)	1	
10	Organization of cells into higher ordered structures- Mesenchymal	2	
11	Molecular mechanisms and control of EMT process	1	
12	Vascularity, angiogenesis,wound healing	2	
13	ECM (extra cellular matrix) –components; dynamics of cell-ECM	2	18
14	(Revision for Mid 1)	1	
UNIT- III FUNCTIONAL TISSUE ENGINEERING (8 Periods)			
15	Cell and tissue culture- media; culture initiation	1	
16	Transformation and immortalization; validation; differentiation	1	
17	Maintenance of cells in vitro; cryopreservation	1	
18	Stem cells in tissue engineering	1	
19	Bioreactors for tissue engineering- Bioreactor design requirements;	2	
20	Spinner flask bioreactors . Rotating-wall bioreactors , Compression	1	
21	Flow perfusion bioreactors, Combined bioreactors	1	23
UNIT-IV BIOMATERIALS OF TISSUE ENGINEERING (10 Periods)			
22	Scaffolds- fabrication	1	
23	3D scaffolds Biodegradable polymers; synthetic polymers;	1	
24	Hybrid of synthetic and biological polymers; prosthetic devices.	1	
25	Engineering biomaterials for tissue engineering.	1	
26	Discussion and revision of unit 4	1	28
UNIT-V APPLICATIONS OF TISSUE ENGINEERING (8 periods)			
27	Tissue replacement –crucial factors Skin grafting	1	
28	Bone tissue engineering	2	
29	Neural tissue engineering	2	
30	Cardiac and vascular tissue engineering engineering	2	36
31	Discussion and revision for mid-2 and main exams	1	
	Total no of classes	44	

online

Signature of the faculty 8/2/2021

Signature of the HOD 8/2/21

LESSON PLAN

Department	: Chemical Engg	Class	: B.TECH
Academic Year	: 2020-21	Semester	: VIII
Subject	: PDIE	Subject Code	: 16CHC31
Faculty	: Dr. B.GANESH	No. of Periods	:
Commencement of Instruction	: 08-02-2021	Last Date of Instruction	: 22-05-2021
Dates of I Mid Exam	: 29-03-2021	Dates of II Mid Exam	: 24-05-2021

Classes lost due to Holidays and Mid-Sessional Exams

Day & Date	03.03.21 wednesday	29.3.21 Monday	02.04.2021 Friday	05.04.2021 Monday	13.04.2021 Tuesday
Occasion	Sudhee 2k)	Holi	Good Friday	Babugagajjin Rab Jayus	Ugadi

Day & Date	14-04-21	21.04.2021			
Occasion	Dr.BR Ambed Kar Jaycan	Srisamanavi mi			

Unit No.	Topic	No. of Periods	Cumulative Periods
I	Economic equations, present and future worm	1	1
	Equivalence and value for money	1	2
	Nominal and effective interest rates	2	4
	Capitalized cost, sinking fund	1	5
	definition of bond and problems	3	8
	Types of depreciation and problems	3	11
II	Capital requirements by chilton addays	1	12
	Schweyer, cost indices methods	1	13
	Total investment schedule, source of capital	2	15
	Balance sheet and problems	1	16
	Economic charts problems on break even	1	17
	Variable cost, fixed cost	1	18
	Estimation of profit and capitel ratios	1	19
III	Selection of alternative equipements	1	20
	or plants by annual cost	1	21
	Present cost and Capitalized cost methods	1	22
	Replacement of existing equipements	1	23
	Rate of return and payment time	1	24
	methods and problems.	1	25

LESSON PLAN

Unit No.	Topic	No. of Periods	Cumulative Periods
IV	process evolution, stage of process design	1	26
	Types of flowsheets, selection criteria	1	27
	of process equipements	1	28
	Materials handling, separation equipment	2	30
	Size reduction equipements	1	31
	agitators, drying equipements	1	32
	filteration equipements	1	33
	reactors, procedure for material	2	35
	selection. Design and Automation	1	36
	of process plants with examples	1	37
V	Piping and tube specification	1	38
	pipe fabrication methods	1	39
	piping materials, principles of	1	40
	Piping Layout, piping stresses	1	41
	Stress design and supports	1	42
	pressure drop in lines	1	43
	Piping friction factor	1	44
	design of pipelines for natural	1	45
	gas, selection of values	1	46
	Introduction to P&ID diagrams	1	47

Signature of Faculty:

Signature of HOD

LESSON PLAN

Department	:		Class	:	
Academic Year	:		Semester	:	
Subject	:		Subject Code	:	
Faculty	:		No. of Periods	:	
Commencement of Instruction	:		Last Date of Instruction	:	
Dates of I Mid Exam	:		Dates of II Mid Exam	:	

CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY, GANDIPET, HYDERABAD
LESSON PLAN
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENINGEERING

Academic year: 2020-21

Subject : **Basic ELECTRONICS**

Faculty : **Smt.D.Nagadevi**

Commencement of Instruction:08-02-2021

Year & Semester: **IV Sem CSE-2**

Subject Code: **18ECC34**

Total No of classes: **40±10%**

Completion of Instruction:22-05-2021

Time Table of the subject:

Day	Tuesday	Wednesday	Thursday
Periods	10.20 – 11.20 AM	09.10 -10.10 AM	1.10- 2.10 PM

	Topics	No. of classes estimated
Unit-1	**Semiconductor Theory:** Energy levels, Intrinsic and Extrinsic Semiconductor, Mobility, Diffusion and Drift current,	2
	Hall effect, Law of mass action, Characteristics of P-N Junction diode,	2
	current equation, Parameters and Applications.	1
	Rectifiers: Half wave and Full wave Rectifiers Bridge and center tapped without filters, Ripple factor, regulation and efficiency.	2
	Rectifiers: Half wave and Full wave Rectifiers Bridge and center tapped with filters, Ripple factor, regulation and efficiency.	1
Unit-2	**Transistors:** Bipolar and field effect transistors with their h-parameter equivalent circuits,	2
	Basic Amplifiers classification and their circuits (Qualitative treatment only).	2
	Regulators and Inverters: Zener Diode, Breakdown mechanisms, Characteristics	1
	,Effect of Temperature, Application as voltage regulator	1
Unit-3	**Feedback Amplifiers:** Properties of Negative Feedback Amplifier, ,	1
	Types of Negative Feedback, Effect of negative feedback on Input impedance and Output impedance	2
	Applications (Qualitative treatment only).	1
	Oscillators: principle of oscillations, LC Type-Hartley, Colpitt and RC Type- Phase shift, Wien Bridge and Crystal Oscillator (Qualitative treatment only).	2
Unit-4	**Operational Amplifiers:** Basic Principle, Ideal and practical Characteristics and Applications- Summer, Integrator,	2
	Differentiator, Instrumentation Amplifier.	1
	Digital System: Review of basic gates, Universal gates, Demorgan's theorem.	1
	Minimization with Karnaugh Map up to three variables and realization of half, Full Adder and half, Full Sub tractors	2
Unit 5	**Data Acquisition systems:** Study of transducers-LVDT, Strain gauge.	2
	Photo Electric Devices and Industrial Devices: Photo diode, Photo Transistor, LED, LCD,	1
	SCR, UJT Construction and Characteristics and their applications only.	2
	Display Systems: Constructional details of C.R.O and Applications.	2

Signature of the faculty

Signature of the HOD

CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY, GANDIPET, HYDERABAD-75
Department of Electrical and Electronics Engineering
LESSON PLAN

Academic year: **2020-2021**   Semester: **IV Sem (EEE-D2)**
Subject: **DIGITAL ELECTRONICS**   Subject Code: **18EE C09**
Faculty: **C HARISH**   No. of Periods: 38±10%
Commencement of Instruction: **08-02-2021**   Completion of Instruction: **22-05-2021**

Time Table of the subject:

Day	Monday	Tuesday	Wednesday
Periods	2.20 – 3.20	11.30 – 12.30	1.10 – 2.10

No. of Public Holidays during the semester which axe the instruction:

Day & Date	Monday 29-03-2021	Monday 05-04-2021	Tuesday 13-04-2021	Wednesday 14-04-2021	Wednesday 21-04-2021
Occasion	Holi	Babu Jagjivan Ram's Birthday	Uqadi	Dr BR. Ambedkar's birthday	Sri Rama Navami

Class Test – I: 25 -03 -2021 to 27 -O3 -2021   **Class Test – II:** 24-05-202t to 26-05-2021

S.No	Topics	No. of periods
	Unit I	
1.	Fundamentals of Digital Systems and Logic families: Digital signals, digital circuits, AND, OR, NOT, NAND, NOR and Exclusive-OR operations,	1
2.	Boolean algebra, examples of IC gates, number systems-binary	1+1
3.	Signed binary, octal hexadecimal number, binary arithmetic, one's and two's complements arithmetic, codes,	1+1
4.	Error detecting and correcting codes, characteristics of digital ICs,	1
5.	Digital logic families, TTL, Schottky TTL and CMOS logic, interfacing CMOS and TTL, Tri – state logic.	1
	Unit II	
6.	Combinational Digital Circuits: Standard representation for logic functions, K-map representation, simplification of logic functions using K-map,	1+1
7.	Minimization of logical functions. Don't care conditions,	1
8.	Multiplexer, De-Multiplexer/Decoders, Adders, Subtractors,	1+1
9.	BCD arithmetic, carry look ahead adder, serial adder, digital comparator,	1+1
10.	parity checker/generator, code converters, priority encoders,	1+1
11.	Decoders/Seven segment display device, Q-M method of function realization.	1
	UNIT – III	

12.	Sequential circuits and systems: A 1-bit memory, the circuit properties of bistable latch, the clocked SR flip flop, J- K-T and D-types flip-flops,	1+1
13.	Applications of flip-flops, shift registers, applications of shift registers, serial to parallel converter, parallel to serial converter,	1+1
14.	Ring counter, sequence generator,	1+1
15.	Ripple (Asynchronous) counters, synchronous counters, counters design using flip flops, applications of counters.	1+1
	UNIT – IV	
16.	A/D and D/A Converters: Digital to analog converters: weighted resistor/ converter, R-2R Ladder D/A converter, specifications for D/A converters.	1+1
17.	Examples of D/A converter ICs, sample and hold circuit,	1
18.	Analog to digital converters: quantization and encoding, parallel comparator A/D converter, successive approximation A/D converter, counting A/D converter,	1+1
19.	Dual slope A/D converter, A/D converter using voltage of frequency and voltage to time conversion, specifications of A/D converters, example of A/D converter ICs.	1+1
	UNIT – V	
20.	Semiconductor memories and Programmable logic devices: Memory organization and operation,	1
21.	Expanding memory size, classification and characteristics of memories, sequential memory,	1+1
22.	Read only memory (ROM), read and write memory (RAM),	1
23.	Commonly used memory chips, ROM as a PLD,	1
24.	Programmable logic array, Programmable array logic.	1

References:

1. Morris Mano M. -Digital Design, Prentice Hall of India,3rd edition, 2002.
2. Donald Pleach / Albert Paul Malvino / Goutam saba "Digital Principles and Applications" McGraw-Hill, 6th edition, 2006.
3. B. Somnath Nair, Digital Electronics and Logic Design, Prentice Hall of India, Eastern economy edition, 2006.

Faculty   **Head, Dept. of EEE**

Chaitanya Bharathi Institute of Technology (A)
<u>LESSON PLAN</u>

ISO 9001:2015

REC-403

Department: **Information Technology**
Section: **IT-2**
Academic Year: **2020-21**
Course: **SOCIAL MEDIA ANALYTICS**
No. of Periods per Week: **3**
Commencement of Instruction: **08.02.2021**
Date of I-Class Test: **29.03.2021**

Programme: **B.E. (IT)**
Semester: **VIII**
Faculty: **Ms K.Swathi**
Course Code: **16ITE 17**
Total No. of Classes: **39**
Completion of Instruction: **22.05.2021**
Date of II-Class Test: **24.05.2021**

I. Time Table of the Course:

Day	Monday	Tuesday	Wednesday
Time	11.15 AM to 12.15 PM	11.15 AM to 12.15 PM	1.15 PM to 2.15 PM

II. No. of Public Holiday(s) during the Semester:

Day & Date	Monday 05.04.2021	Tuesday 13.04.2021	Wednesday 14.04.2021	Wednesday 21.04.2021
Occasion	Babu Jagjivan Ram's Birthday	Ugadi	Dr BR. Ambedkar's birthday	Sri Rama Navami

III. Course Objectives:
1. Present basics of Social media mining and challenges in mining social media data.
2. Discuss graph essentials, network essentials and network models for social media mining.
3. Deal with the process of detecting, analyzing communities and Information diffusion in the context of Social media analytics.
4. Impart knowledge about mining essentials and importance of influence and homophily.
5. Discuss recommendation systems in the context of social media.
6. Present the working of prediction systems.

IV. Course Outcomes:
Upon completing this course, students will be able to:
1. Understand and analyze the challenges posed by social media data.
2. Represent social media using a suitable network model.
3. Perform community analysis and analyze herd behavior.
4. Model, measure and distinguish between influence and homophily.
5. Understand and build recommendation systems.
6. Understand how a prediction system works.

V. Course Plan:

S.No.	Topics / Sub. Topics /Experiments	No. of Classes Estimated	Remarks
	UNIT – I		
1.	**Introduction:** Social Media Mining, New Challenges for Mining,	1	
2.	**Graph Essentials:** Graph Basics, Graph Representation,	1	
3.	Types of Graphs	1	
4.	Connectivity in Graphs, Special Graphs,	1	
5.	Graph Algorithms-I	1	

6.	Graph Algorithms-II		
7.	**Network Measures:** Centrality,	1	
8.	Transitivity and Reciprocity,	1	
9.	Balance and Status, Similarity	1	
10.	**Network Models:** Properties of Real-World Networks, Random Graphs	1	
11.	Small-World Model, Preferential Attachment Model.	1	
	UNIT – II	1	
12.	**Community Analysis:** Community Detection,	1	
13.	Community Evolution	1	
14.	Community Evaluation and Review on Community Analysis	1	
15.	Information Diffusion in Social Media: Herd Behaviour	1	
16.	Information Cascades	1	
17.	Diffusion of Innovations,	1	
18.	Epidemics	1	
19.	Review of all topics.	1	
	UNIT – III		
20.	**Data Mining Essentials:** Data, Data Preprocessing,	1	
21.	Data Mining Algorithms: Supervised Learning,	1	
22.	Unsupervised Learning	1	
23.	**Influence and Homophily:** Measuring Assortativity	1	
24.	Influence, Homophily,	1	
25.	Distinguishing Influence and Homophily	1	
26.	Discuss previous question papers.		
	UNIT – IV		
27.	**Recommendation in Social Media:** Challenges	1	
28.	Classical Recommendation Algorithms-I	1	
29.	Classical Recommendation Algorithms-II	1	
30.	Recommendation Using Social Context,	1	
31.	Evaluating Recommendations	1	
32.	**Behavior Analytics:** Individual Behavior,	1	
33.	Collective Behavior	1	
	UNIT – V	1	
34.	**Prediction:** Predicting the future,	1	
35.	Prediction of learning,	1	
36.	Predicting elections,	1	
37.	Predicting Box offices,	1	
38.	Predicting Stock market, Closing predictions.	1	
39.	Review of all topics.		

VI Mode of Teaching:- White board, online(Google meet)

VII. Text Books:
1. Zafarani R., Abbasi M.A., Liu H, "Social Media Mining: An Introduction", Cambridge University Press, 2014.
2. Lutz Finger, Soumitra Dutta, "Ask, Measure, Learn: Using Social Media Analytics to Understand and Influence Customer Behavior", O'Reilly Media, 2014.

VIII. Suggested Reading:

1. David Easley and Jon Kleinberg, "Networks, Crowds and Markets", Cambridge University Press, 2010 2.
2. Bing Liu, "Sentiment Analysis: mining opinions, sentiments, and emotions", Cambridge University Press, 2015.
3. Matthew A. Russell, "Mining the Social Web: Analyzing Data from Facebook, Twitter, LinkedIn, and Other Social Media Sites", O'Reilly Media 2011.

IX. Web Resources:

1. http://www.kdd.org/kdd2015/tutorial.html
2. http://thinktostart.com/category/social-media/
3. http://blogs.iit.edu/iit_web/social-media-2/social-media-whats-yourstrategy/4

X. Evaluation Scheme:

EC NO	Evaluation Components	Nature of Component	Duration	Marks	Date
1.	I-Class Test	Closed Book	60 Minutes	20	29.03.2021
2.	II-Class Test	Closed Book	60 Minutes	20	24.05.2021
3.	Slip Test #1	Closed Book	15 Minutes	10	5th Week
4.	Slip Test #2	Closed Book	15 Minutes	10	10th Week
5.	Slip Test #3	Closed Book	15 Minutes	10	15th Week
6.	Final Exam	Closed Book	3 Hours	70	Will be Announced

XI. Attendance Policy:

1. Student must maintain a minimum of 75% attendance.
2. Student must be regular and punctual to the Classes.

XII. Notices: All notices will be sent to the class google group, whatsup group

XIII. General Timings for Consultation:

1. In Lunch Break
2. Saturday between 09.40 AM to 12.40 PM

Instructor's Contact Details:
Ms.K.Swathi, Assistant Professor, Dept of IT
Mobile : 9491388749 Email: kswathi_it@cbit.ac.in

4/2/2021

Signature of Faculty

4/2/2021

Signature of Course Coordinator

Signature of HoD

Mech-2

Sub: CALCULUS (20MTC05)

Sem-1

Instruction
Duration of SEE
SEE
CIE
Credits

2020-2021
3 L+1T /2P Hours per week
3 Hours
60 Marks
40 Marks
4

LESSON PLAN

S.No	Topics	No of Hours
	UNIT - I (MATRICES)	
1	Rank of a matrix, Echelon form, consistency of linear system of equations,	2
2	Linear dependence and independence of vectors	2
3	Eigen values, Eigenvectors, Properties of Eigenvalues& Eigen vectors	2
4	Cayley- Hamilton theorem,	1
5	Quadratic form, Reduction of quadratic form to canonical form by linear transformation, Nature of quadratic form.	2
6	Nature of quadratic form.	1(10)
	UNIT -2(Calculus)	
7	Rolle's Theorem, Lagrange's Mean value theorem	2+1
8	Cauchy's mean value theorem ,Curvature,	2
9	Radius of curvature, Centre of curvature	3
10	Evolute and Involute.	2(10)
	UNIT-3 (Multivariable Calculus (Differentiation))	
11	Functions of two variables, Partial derivatives, Higher order partial derivatives,	2
12	Total derivative, Differentiation of implicit functions	2
13	Change of variables, Jacobians	2
14	Taylor's theorem for functions of two variables	2
15	Maxima and minima of functions of two variables.	2(10)
	UNIT-4 (Sequences and Series)	
16	Convergence of sequence and series. Tests for convergence of series: Comparison test, limit comparison test, D'Alembert's ratio test	2+2
17	Raabe's test, Cauchy's root test	2+1
18	alternating series, Leibnitz's series, absolute and conditional convergence	2+1(10)
	UNIT-5(Fourier series)	
19	Periodic functions, Euler' formulae, Conditions for a Fourier expansion, functions having points of discontinuity	2
20	change of interval, even and odd functions,	2
21	half range sine series, half range cosine series	2
22	applications in practical Harmonic analysis	2(8)
23	**TOTAL**	48

Faculty

G. Nanty

HoD

CALCULUS
((Common to ECE, EEE, MECH, CHEM, CIVIL)

2020-21.

Instruction	3 L+1T /2P Hours perweek
Duration ofSEE	3Hours
SEE	60Marks
CIE	40Marks
Credits	4

Sem-2

branch: EEE

LESSON PLAN

SL.No	Topic	No of Hours
	UNIT - I (MATRICES)	
1	Rank of a matrix, Echelon form, consistency of linear system of equations,	2
2	Linear dependence and independence of vectors	2
3	Eigen values, Eigenvectors, Properties of Eigenvalues& Eigen vectors	2
4	Cayley- Hamilton theorem,	1
5	Quadratic form, Reduction of quadratic form to canonical form by linear transformation, Nature of quadratic form.	2
6	Nature of quadratic form.	1(10)
	UNIT -2(Calculus)	
7	Rolle's Theorem, Lagrange's Mean value theorem	2+1
8	Cauchy's mean value theorem ,Curvature,	2
9	Radius of curvature, Centre of curvature	3
10	Evolute and Involute.	2(10)
	UNIT-3 (Multivariable Calculus (Differentiation))	
11	Functions of two variables, Partial derivatives, Higher order partial derivatives,	2
12	Total derivative, Differentiation of implicit functions	2
13	Change of variables, Jacobians	2
14	Taylor's theorem for functions of two variables	2
15	Maxima and minima of functions of two variables.	2(10)
	UNIT-4 (Sequences and Series)	
16	Convergence of sequence and series. Tests for convergence of series: Comparison tes,limit comparison test, D'Alembert's ratio test	2+2
17	Raabe's test, Cauchy's root test	2+1
18	alternating series, Leibnitz's series,absolute and conditional convergence	2+1(10)
	UNIT-5(Fourier series)	
19	Periodic functions, Euler' formulae, Conditions for a Fourier expansion,functions having points of discontinuity	2
20	change of interval, even and odd functions,	2
21	half range sine series, half range cosine series	2
22	applications in practical Harmonic analysis	2(8)
	TOTAL	48

Faculty

Lesson Plan

Faculty Name with Designation: Dr. Pulle Kiran

Course Name with code: DIFFERENTIAL EQUATIONS & TRANSFORM THEORY, 20MTC03   **Semester:** II

Date of MID-I: 19|6|21   **Date of MID-II:** 26|7|21

Department: Mathematics   **Section:** CSE4

S.No	Topic	No. of hours
	UNIT-1(Differential Equations of First Order)	
1	Exact Differential Equations, Equations Reducible To Exact Equations	2+2
2	Linear Equations, Bernoulli's Equations	2
3	Riccati's and Clairaut's Equations, Orthogonal trajectories.	2+2
		10
	UNIT-2 (Higher Order Linear Differential Equations)	
4	Higher order linear differential equations with constant coefficients, rules for finding Complementary function	2
5	Rules for finding Particular integrals of Higher order linear differential equations with constant coefficients	3
6	Method of variation of parameters	1
7	Solution of Cauchy's homogeneous linear equation.	2
8	Applications: LR and LCR circuits.	2
		10
	UNIT -3 (Series Solutions of Differential Equations)	
9	Ordinary point, singular point and regular singular point	2
10	Series solution when $x=a$ is an ordinary point of the equation. Legendre's equation, Legendre's Polynomial of first kind (without proof)	4
11	Rodrigue's formula, orthogonality of Legendre polynomials. Bessel's equation, Bessel's function of the first kind of order n (without proof), recurrence formulae for $J_n(x)$ and related problems (i.e $J_0(x)$, $J_1(x)$, $J_{1/2}(x)$, $J_{-1/2}(x)$, $J_{3/2}(x)$, $J_{-3/2}(x)$).	4
		10
	UNIT-4 (Fourier Transforms)	
12	Fourier integral theorem (statement), Complex form of Fourier integrals. Fourier transforms	2
13	Inverse Fourier Transforms, Fourier Sine and Cosine transforms	2
14	Inverse Fourier Sine and Cosine Transforms. Properties of Fourier transforms: Linear property, change of scale property, shifting property and Modulation theorem.	2+2
		8
	UNIT-5 (Z-Transforms)	
15	Z-Transforms -Definition, some standard Z-transforms	2
16	Linearity property, Damping rule, shifting Un to the right, shifting Un to the left, multiplication by 'n', initial and final value theorems.	2+2
17	Inverse Z-Transform: evaluation of Inverse Z-transform by Convolution theorem, partial fractions method. Z- Transform application to difference equations.	2+2
		10
	TOTAL	48

Signature of the Faculty

Signature of the HOD

LESSON PLAN

Unit No.	Topic	No. of Periods	Cumulative Periods
III	EJB: EJB Architecture, Requirements-chap f-Imp.	2	30
	EJB Session beans - EJB entity beans	2	32
	EJB Clients - tips, trick & traps for building Distribut	2	34
	Implementation and future directions of EJB	1	35
	Variable in Perl.- Perl Control Structures	2	37
	Operators - Functions & Scope	1	38
IV	JSP: Introduction JSP- Examining MVC & JSP	1	39
	JSP Scripting elements & directives	2	41
	Working with variables scopes - Error Pages	1	42
	Using Java Beans in JSP	1	43
	Working with Java Mail- Protocols in mail	1	44
	Components-Java Mail API - Integrating into J2EE	1	45
	JMS - Transactions	2	47
V	JDBC: Introduction to JDBC, JDBC Drivers, API	2	49
	JDBC Data sources, Retrieving Meta Info. DB, RS	1	50
	Distributed Transactions & Row Sets	1	51
	Accessing a DB through Savlets & JDBC	2	53

Signature of Faculty :

Signature of HOD:

LESSON PLAN

Department	: MCA	Class	: MCA
Academic Year	: 2020-21	Semester	: IV
Subject	: AJP - EO	Subject Code	: 16MCC122
Faculty	: RAMESH PONNALA	No. of Periods	: 51
Commencement of Instruction	: 08-02-2021	Last Date of Instruction	: 22-05-2021
Dates of I Mid Exam	: 25-03-21 To 27-03-21	Dates of II Mid Exam	: 24-05-21 to 26-05-21

Classes lost due to Holidays and Mid-Sessional Exams

Day & Date	Mar 3rd Wed.	Mar 4th THU	Mar 11th WED THU	Mar 29th mon	April 5th MON
Occasion	SUDHEE 21	SUDHEE 21	MAHASHIVA RATRI	HOLI	Babu Jagjeewan Ram Jayanthi

Day & Date	Apr 13 TUE	Apr 14 WED	Apr 21st WED		
Occasion	Ugadi	Dr Ambedkar Jayanthi	Sri Ram Navami		

Unit No.	Topic	No. of Periods	Cumulative Periods
I	Introduction and Overview of J2EE, Syllabus	1	1
	Revision of Java se - Pre-requisite	2	3
	Working with Java Reflection APIs - Pre requisite	1	4
	Enterprise Architecture Styles, Containers, Technologies	4	8
	Servlet Overview: The Java Web Server	2	10
	First Servlet Application		11
	Servlet Chaining	2	13
	Server side Includes	1	14
	Session Management	3	17
	Security in Servlets	1	18
	HTML Forms - using JDBC in Servlets	1	19
	Applet to Servlet Communication	1	20
II	Java Beans: The S/w Component assembly model	1	21
	The Java BDK - developing beans	1	22
	Notable beans - using Infobus	1	23
	Glasgow developments	1	24
	Application Builder Tool - JAR files	1	25
	Introspection - Bound Properties, Persistence,	1	26
	Customizers, Java Bean API	2	28

CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY
Gandipet,Hyderabad-75

LESSON PLAN

Department: Mechanical Engineering   Class   : B.E Mechanical   Semester: VII
Name of the subject: Operations Research   Subject Code   : 16ME C34
Academic Year   : 2020-2021   No of Periods   : 3/week
Commencement of Instruction : 10-08-2020   Completion of Instruction   : 28-11-2020
Date of Mid-I   : 12-10-2020   Date of Mid-II   : 26-11-2020
Name of Faculty   :V.Sandhya

Timetable of the Subject

Day	Wednesday	Thursday	Friday
Duration	2.30PM To 3.30PM	01.00 PM To 02.00PM	11.00AM To 12.00Noon

Sl No	Topic/Sub Topic covered	No of periods estimated	Remarks
	UNIT-I **(8 Periods)**		
1.	Introduction: Definition and Scope of Operations Research.	1	
2.	Linear Programming: Introduction ,Formulation of linear programming problems	1	
3.	Graphical method of solving LP problem	1	
4.	Simplex method	1	
5.	Simplex method - Big M Method	1	
6.	Simplex method - Two Phase Method	1	
7.	Degeneracy in Simplex	1	
8.	Duality in Simplex	1	
	UNIT-II **(8 Periods)**		
9.	Transportation Models : Introduction	1	
10.	Finding an initial feasible solution - North West corner method, Least cost method	1	
11.	Vogel's Approximation method	1	
12.	Finding the optimal solution	1	
13.	Finding the optimal solution	1	
14.	Special cases in Transportation problems Unbalanced Transportation problem	1	
15.	Degeneracy in Transportation	1	
16.	Profit Maximization in Transportation	1	
	UNIT-III **(8 Periods)**		
17.	Assignment Problems: Introduction,	1	
18.	Hungarian technique of Assignment problems	1	
19.	Hungarian technique of Assignment problems	1	
20.	Unbalanced problems	1	
21.	Problems with restrictions	1	

No.	Topic	Periods	
22.	Maximization in Assignment problems	1	
23.	Travelling salesman problems	1	
24.	Travelling salesman problems	1	
	UNIT-IV (8 Periods)		
25.	Project Management: Definition, Procedure and Objectives of Project Management	1	
26.	Differences between PERT and CPM	1	
27.	Rules for drawing Network diagram, Scheduling the activities, Fulkerson's rule, Earliest and Latest times.	1	
28.	Determination of ES and EF times in forward path, LS & LF times in backward path	1	
29.	Determination of critical path, Duration of the project	1	
30.	Free float, Independent float, Total float	1	
31.	Problems on PERT	1	
32.	Crashing of network	1	
	UNIT-V (8 Periods)		
33.	Sequencing Models: Introduction, General assumptions	1	
34.	Processing 'n' jobs through 2 machines	1	
35.	Processing 'n' jobs through 3 machines	1	
36.	Processing 'n' jobs through 3 machines	1	
37.	Queuing Theory : Introduction	1	
38.	Kendal's Notation	1	
39.	Single channel - Poisson arrivals - Exponential Service times	1	
40.	Single channel - Poisson arrivals - Exponential Service times	1	
	Total No of classes	40	

Signature of the faculty

Signature of the HOD

Chaitanya Bharathi Institute of Technology (A)
Gandipet, Hyderabad - 500 075

LESSON PLAN

Department: **Production Engineering**
Academic Year: **2020-2021**
Subject: **Kinematics of Machines**
Faculty: **V Jaipal Reddy**
Commencement of Instruction: **08-02-2021**
Date of I Mid Exam: **29-03-2021**

Class: **BE IV-Sem, (production)**
Subject Code: 18 **ME C07**
Number of Periods: **3+1**
Last day of Instruction: **22-05-2021**
Date of II Mid Exam   : **24-05-2021**

S.No	Brief Description of Topics to be Covered	No. of Classes Estimated
Unit – I		
1.	Mechanism, machine and structure, Kinematic link (element), kinematic pair and classification of pair.	2
2	Degrees of freedom, Gruber's Criterion, Kinematic chain, Inversion of a mechanism, Inversions of Quadric cycle chain.	2+1
3	Inversions of single and double slider –crank mechanisms.	2
4	Mechanism with lower pairs- Pantograph and straight line motion mechanisms: Peaucelleir, Hart, Scott-Russel, Watt and Tchebicheff mechanism.	2
5	Steering gear mechanism- Davis & Ackerman's, Geneva mechanism and Hook's joint.	2
UNIT – II		
6	Analysis of Mechanism: graphical methods to find velocities of mechanisms.- Relative velocity method –vector representation, velocity of rubbing, velocity analysis of various links,	2+2+1
7	Instantaneous centre, Body centrode and space centrode, Kennedy's theorem.	2
8	Analytical and graphical determination of acceleration of different mechanisms including coriolis components acceleration.	2+2
9	Synthesis of Mechanisms: Freudenstein's method for four bar linkage.	1
UNIT – III		
10	Laws of friction: friction in screw threads, pivots, collars and clutches. Friction axis of a link and friction circle.	2+2+1+1
12	Brakes & Dynamometers: Block or shoe, Band and Block, Internal Expanding Shoe Brake, Prony, Rope brake Dynamometers. Belt transmission, Epicyclic Torsion Dynamometers.	2+2+1

UNIT – IV			
13	Cams: Types of cams and followers. Displacement diagrams for followers – uniform motion, parabolic motion, simple harmonic motion, cycloidal motion.	2+2
14	Drawing cam profile: with knife – edge follower, translating roller follower and translating flat follower.	2+2
15	Cams of specified contour: tangent cam with roller follower, circular arc (convex) cam with roller follower.	2
UNIT – V			
16	Gears: Classification of gears. Spur Gears: Nomenclature,.	2
17	Law of gear tooth action, involute and cycloid gear tooth profile, interference of involute gears, Comparison of involute and cycloid tooth profile	2
18	Minimum number of teeth to avoid interference, contact ratio, cycloid tooth profiles	2
19	Helical Gears: Helical gear tooth relations, contact of helical gear teeth.	01
20	Gear Trains: Simple, compound, reverted and Epicyclical Gear Trains.	2+1
	Total Lectures	54

Suggested Readings:
1. S.S.Ratan, "Theory of Machines", Tata McGraw Hill Publications, 2012
2. J.E.Shigley, "Theory of Machines", McGrawhill Publications, 2010
3. Thomas Bevan, "Theory of Machines", CBS Publishers 1995.

Faculty: *(signature)* 04/2/21

Head, MED *(signature)* 8/2/2021

CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY (A)
Department of Mechanical Engineering

LESSON PLAN

Class: B.E Mech -2
Academic year: 2020-2021
Subject: **Supply Chain Management** (Elec-VI)
Faculty: V Jaipal Reddy
Commencement of Instruction : 08-02-2021
Date of I Mid Exam: 29-03-2021

Semester: VIII
Subject Code: 18PE E12
No. of Periods: 40

Last day of Instruction: 22-05-2021
Date of II Mid Exam: 24-05-2021

S.No	Topics of the Subject	No. of periods
	UNIT – I	
1	Concept of SCM, Concept of Logistics Management, Supply Chain	02
2	Types of supply chain, functions in SCM	02
3	Transportation Management, Warehousing Management	02
4	Warehouse management systems	02
	UNIT – II	
5	Designing the supply chain Network	02
6	Designing the distribution network	02
7	Network Design	02
8	Network Design in an uncertain environment	02
	UNIT – III	
9	Planning and Demand	02
10	Planning demand & supply in a supply chain	02
11	demand forecasting	02
12	aggregate planning, planning supply & demand	02
	UNIT – IV	
13	Planning & managing inventories in a supply chain	02
14	managing economies of scale	02
15	cycle inventory, and managing uncertainty	02
16	safety inventory optimal level of product availability	02
	UNIT - V	
17	Sourcing, Transporting & Pricing Products, sourcing decisions	02
18	transportation, pricing & revenue management.	02
19	Coordination & technology in the supply chains, coordination in supply chain,	02
20	information technology and supply chain.	02

Faculty

Head, MED

Lesson Plan

Name of the Faculty: Dr M Subhadra   **Branch:** Mech F2 sem2 2020-21

Unit No	Topics	No of Periods	Cumulative Periods
I	Simple harmonic motion	1	1
Oscillations	Harmonic Oscillator	2	3
	Damped harmonic motion – equation , solution	2	5
	Discussion of cases overdamping, critical and underdamping	1	6
	Force oscillations , equation of motion , solutions	2	8
	Resonance and amplitude	1	9
	Numerical	1	10
II	Definition, Rotational Kinematic relations	1	11
Rigid body Dynamics	Angular momentum and torque	1	12
	Equation of motion for a rotating rigid body	1	13
	Inertia tensor and its properties	1	14
	Euler's equations and applications	1	15
	Law of conservation of angular momentum and energy	1	16
	Numerical	1	17
III	Space lattice, unit cell ,crystal systems-Bravais lattices	1	18
Crystallography	No. of atoms per unit cell, Co-ordination number, Atomic radius,	2	20
	Lattice planes, Miller indices, Bragg's law	2	22
	Powder X-ray diffraction method-experimental determination of lattice	2	24
Crystal Imperfections	Classification of defects, Point defects	1	25
	Concentration of Schottky and Frenkel defects	2	27
	Numerical	1	28
IV	Introduction, Dielectric Polarization, Types of dielectric polarization	2	30
Dielectric Materials	Electronic and ionic polarization quantitative	2	32
	Orientation and space charge polarizations qualitative	2	34
	Frequency and temperature dependence of dielectric polarization	2	36
	Determination of dielectric constant (Schering bridge method)	1	37
	Ferroelectricity–Barium titanate	2	39
	Applications of ferroelectrics	1	40
Magnetic Materials	Origin of magnetism	1	41
	Magnetic moment - Bohr magneton–Classification of magnetic	2	43
	Weiss molecular field theory	1	44
	Domain theory –Hysteresis curve,, soft and hard magnetic materials –	2	46
V	Characteristics of lasers – Einstein's coefficients	2	48
Lasers	Amplification of light by population inversion,Ruby laser	1	49
	He-Ne, semiconductor laser, Applications of lasers in engineering and	2	51
Fiber Optics	Introduction – Construction – Principle – Propagation of light through	2	53
	Numerical aperture and acceptance angle – Step-index and graded-	1	54
	Pulse dispersion – Fiber losses	1	55
	Fiber optic communication system – Applications	1	56
Superconductors	General properties of superconductors, Meissner's effect	1	57
	Type I and Type II superconductors, BCS theory (qualitative) – Applications.	2	59
	Numericals	1	60

Signature of the faculty   **Signature of the HoD**

Lesson Plan

Department: PHYSICS

Academic Year: 2020-2021

Subject   : Optics and semiconductor Physics (T)

Faculty   : Dr.K.Rajagopal

Commencement of Instruction: 7-12-2020

Completion of Instruction: 6-12-2021

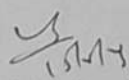Dates of I Mid exam:

Class: B.E. (IT-2)

Semester: I

Subject Code: 20PY C01
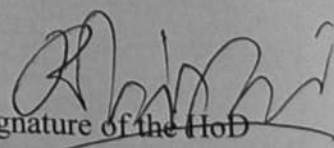
No. of Periods: 60

II Mid exam:

Unit No	Topics	No of Periods	Cummulative Periods
I			
Wave Optics	Introduction, Huygen's Principle, Superposition of waves and interference of light by wave front splitting and amplitude splitting	1	1
	Fresnel's Biprism , description about the biprisim – working, formation of bands, calculation of wavelength of a given source using biprism Additional information: Applications of biprism	2	3
	Interference in thin films in reflected light-Newton's rings Determination of diameter of the bright and dark rings,	2	5
	Applications of Newton's rings: wavelength determination and refractive index of the liquid	1	6
	Types of diffraction, Fraunhoffer diffraction from a single slit Additional information: calculation of resultant amplitude due to n vibrations	2	8
	Double slit diffraction-intensity distribution	1	9
	Rayleigh criterion for limit of resolution, concept of N slits	1	10
	Diffraction grating and its resolving power	2	12
II			
Laser& Holography	Introduction , Einstein's coefficients, Population inversion, Amplification of light - LASER	1	13
	Characteristics of laser, Types of Lasers, Solid state Laser: Ruby &Nd:YAG construction and working	2	15
	Gas Lasers: He-Ne & CO2 laser Construction and working	2	17
	Semiconductor laser, Applications of lasers	1	18
	Principle of Holography, Recording and	1	19

	reconstruction -Applications	1	20
Fiber Optics	Introduction, Principle , Propagation of light through an optical fiber	2	22
	Numerical aperture and acceptance angle, types of fibers –step and graded index fibers	2	24
	Pulse dispersion and fiber losses Fiber optic communication system -Applications		

III			
Principles of Quantum Mechanics	Introduction, wave nature of particles, de-Broglie hypothesis, Wave packet, wave function and its physical significance	1	25
	Time independent and Time dependent Schordinger equations	2	27
	Born interpretation, Expression for Probability current	2	29
	Uncertainty Principle, Particle in infinite square well potential	2	31
	Scattering from potential step	2	33
	Potential barrier and tunneling	2	35
	Tunneling and applications(additional)	1	36

IV			
Band Theory of Solids	Salient features of free electron theory of metals(Classical and quantum)	2	38
	Fermi level, density of states	3	41
	Bloch's theorem for particles in a periodic potential	2	43
	Kronig-Penny model (qualitative)-- conclusions	3	46
	Classification of solids: metals, semiconductors and insulators	2	48

V			
Semiconductors	Intrinsic and extrinsic semiconductors	2	50
	Carrier concentration in intrinsic semiconductors, law of mass action	2	52
	Dependence of Fermi level on carrier concentration and temperature in extrinsic semiconductors(qualitative)	2	54
	Carrier generation and recombination , carrier transport-diffusion and drift	2	56
	PN-junction formation and its characteristics, Thermistor	2	58
	Hall effect , LED	1	59
	Solar cell working and characteristics	1	60

Signature of the faculty

Signature of the HoD

Lesson Plan

Name of the Faculty: Dr M Subhadra **Branch:Mech F2**

Unit No	Topics	No of	Cumulative
I **Oscillations**	Simple harmonic motion	1	1
	Harmonic Oscillator	2	3
	Damped harmonic motion – equation , solution	2	5
	Discussion of cases overdamping, critical and underdamping	1	6
	Force oscillations , equation of motion , solutions	2	8
	Resonance and amplitude	1	9
	Numerical	1	10
II **Rigid body Dynamics**	Definition, Rotational Kinematic relations	1	11
	Angular momentum and torque	1	12
	Equation of motion for a rotating rigid body	1	13
	Inertia tensor and its properties	1	14
	Euler's equations and applications	1	15
	Law of conservation of angular momentum and energy	1	16
	Numerical	1	17
III **Crystallography**	Space lattice, unit cell ,crystal systems-Bravais lattices	1	18
	No. of atoms per unit cell, Co-ordination number, Atomic	2	20
	Lattice planes, Miller indices, Bragg's law	2	22
	Powder X-ray diffraction method-experimental	2	24
Crystal Imperfections	Classification of defects, Point defects	1	25
	Concentration of Schottky and Frenkel defects	2	27
	Numerical	1	28
IV **Dielectric Materials**	Introduction, Dielectric Polarization, Types of dielectric	2	30
	Electronic and ionic polarization quantitative	2	32
	Orientation and space charge polarizations qualitative	2	34
	Frequency and temperature dependence of dielectric	2	36
	Determination of dielectric constant (Schering bridge	1	37
	Ferroelectricity–Barium titanate	2	39
	Applications of ferroelectrics	1	40
Magnetic Materials	Origin of magnetism	1	41
	Magnetic moment - Bohr magneton–Classification of	2	43
	Weiss molecular field theory	1	44
	Domain theory –Hysteresis curve,, soft and hard magnetic	2	46
V **Lasers**	Characteristics of lasers – Einstein's coefficients	2	48
	Amplification of light by population inversion,Ruby laser	1	49
	He-Ne, semiconductor laser, Applications of lasers in	2	51
Fiber Optics	Introduction – Construction – Principle – Propagation of	2	53
	Numerical aperture and acceptance angle – Step-index and	1	54
	Pulse dispersion – Fiber losses	1	55
	Fiber optic communication system – Applications	1	56
Superconductors	General properties of superconductors, Meissner's effect	1	57
	Type I and Type II superconductors, BCS theory	2	59

Signature of the faculty

Signature of the HoD

LESSON PLAN

Department : Biotechnology
    Class : B.Tech

Academic Year : 2019-20
    Semester : 3rd

Subject : **Microbiology and Industrial Biotechnology** Subject Code : 18BT C05

Faculty : Dr. Bishwambhar Mishra
    No.of Periods :

Commencement of Instructions : 1st July 2019
    Last Date of Instruction :

Dates of I Mid Exam :
    II Mid Exam :

Classes lost due to Holidays and Mid- Sessional Exams

Day & Date	Monday, 29/7/19	Friday, 23/8/19	Monday, 2/9/19	Monday, 7/10/19	Wednesday, 9/10/19
Occasion	Bonalu Holiday	Research Day	Ganesh Pooja	Dussera Holiday	Dussera Holiday
Day & Date	Friday, 11/10/19	Monday, 14/10/19	Wednesday, 16/10/19	Friday, 18/10/19	
Occasion	Dussera Holiday (Extention of Dussera Holiday by Telangana Govt.)				

Unit No	Topic	No. of Periods	Cumulative Periods
I	**History and Introduction to Microbiology:**		
	History and scope of microbiology, contributions of Antony van Leuwenhoek,	1	
	Louis Pasteur, Robert Koch, Iwanowskii, Edward Jenner	1	
	Prokaryotic cell components external to cell wall – capsule, slime layer,	2	
	Pili, fimbriae, flagella,	1	9
	Bacterial endospores and their formation.	1	
	Structure – plasma membranes, cytoplasmic matrix –	1	
	Inclusion bodies, ribosome,	1	
	Bacterial chromosome and plasmids, cell wall,	1	
II	**Classification of Microorganisms:**		
	General and colony characters of major groups of microorganisms	1	8
	Algae, fungi, protozoa, bacteria and virus	2	
	Identification of microorganisms by major taxonomical characteristics (morphological, physiological, ecological, cultural, metabolic/biochemical, immunological and genetic)	2	
	Classification of microorganisms - Haeckel's three kingdom concept	1	
	Whittaker's five kingdom concept,	1	
	Three domain concept of Carl Woes.	1	

	Microbiological Techniques and Growth:		
III			
	Methods of culturing of microorganisms - culture media, (liquid, semi-solid and solid media, synthetic media and complex media),	2	9
	Isolation of pure cultures (streak, spread and pour plate methods);	1	
	Concept of sterilization - methods and their application-physical methods (heat, filtration and radiation),	1	
	chemical methods (phenolics, alcohols, halogens, heavy metals, dyes, quaternary ammonium compounds, aldehydes, gaseous agents);	2	
	Methods of preservation of microorganisms and their importance (Bacterial cultures);	1	
	Microbial growth - growth curve, mathematical expression of growth, measurement of microbial growth (cell numbers and cell mass).	2	
IV	**Production of Microbial Metabolites:**		
	Types of fermentation processes: aerobic and anaerobic processes	1	7
	Production of anaerobic fermentation products alcohols (ethanol and n-butanol),	2	
	Production of beverages (beer and wine), Production of organic acid (citric acid);	2	
	Production of aerobic fermentation products	1	
	classification of antibiotics, production of penicillin	1	
V	**Production Of Microbial Enzymes And Specialty Products:**		
	Production of commercially important industrial enzymes -	1	8
	Proteases, amylases, lipases,	2	
	Cellulase, pectinase, and isomerase,	1	
	Bio-fertilizers and plant growth factors (Gibberellins	1	
	Natural biopreservatives (Nisin);	1	
	Biopolymers (PHB); high fructose corn syrup.	2	
	Total Cumulative Periods		41

LESSON PLAN

Department : Chemical Engg   Class :
Academic Year : 2019-20   Semester : VII Sem
Subject : Petrochemical Engg   Subject Code : 16CHC25
Faculty : J. Balakrishna   No. of Periods : 3/week
Commencement of Instruction : 2/7/19   Last Date of Instruction : 26/10/19 (44)
Dates of I Mid Exam : 29/8/19 to 31/8/19   II Mid Exam : 29/10/19 to 31/10/19   III Mid Exam : —

Classes lost due to Holidays and Mid-Sessional Exams

Day & Date	Thursday 15/8/19	Wednesday 2/10/19	Thursday 29/8/19	12/9/	
Occasion	Independance day	Gandhi Jayanthi	I Mid	ganeh nimajanam	
Day & Date					
Occasion					

Unit No.	Topic	No. of Periods	Cumulative Periods
I	Introduction, Origin & formation of petro: Theories for formation of Crude	1+2	
	→ Definitions of refining terms	1+1	
	→ Types of naptha, compositon & application of Crude	1	
	→ Refining: overall refining, production of gasoline, kerosene & lube oils	2	6+2
II	→ Naptha Cracking: Defintion, types, FBC & Reactors	2	
	→ Alkylation HF & H_2SO_4 Process	2	
	→ Isomerisation: Mel3 process, Polymerisation	2	
	→ Polymerisation, Mechanism, polymerisation in presence of H_2SO_4 & Phosphoric Acid	2	(16
III	→ Ethylene Derivatives: Product with C_2H_4 as starting material, PVC Manufacture	1	
	→ percurs ethylene, Pydros of Ccl, Chlorination & pyrolysis method	2	
	→ C_2H_5OH by direct hydration, liquid phase hydration	2	

Expt. No.	Description	No. of Periods	Cumulative Periods
→	Vinyl acetate monomer, Ethylene oxide applications	1	
⇒	Polyethylene & styrene manufacture	2	24
IV ⇒	Propylene derivatives: list, manufacture of IPA	1+1	
→	Acetone by catalytic dehydrogen. propylene oxide	1	
→	Glycerine by Acrolein, allyl chloride	2	
→	Isomerization of propylene oxide to glycerine	1	
→	Derivatives of C₄ : list, derivation butadiene manufacture	1	
⇒	Oxidative dehydrogenation of butadiene purification of butadiene	2	33
V →	Derivation of higher paraffins, manufacture of isoprene	1 1	
⇒	manufacture of olefins of C₃, C₄	1	
→	long chain & sto chain olefins	1	
⇒	Derivatives of aromatics & sources	1	
→	production of aromatics, effects of temp, pressure & catalyst on dehydrogenation process	2	
⇒	Separation of aromatics from N/A	1	
→	Separation of aromatics into individual streams.	1	42
	Revision & old Papers	2	44

Signature of Faculty:

Signature of HOD:

LESSON PLAN

S.NO	Topics / Sub-Topics	No. of classes estimated	Remarks
	UNIT-I: Introduction of Structural Health Monitoring (SHM)		
1	Vision and mission statement of the college, course objectives and course outcomes, Introduction to the subject, discussion of syllabus	2	
2	Introduction, definition of structural health monitoring (SHM), basic components of SHM, Passive and Active SHM	1	
3	Relationship between SHM – NDE (Non- Destructive Evaluation)	2	
4	Relationship between SHM- NDECS (Non- Destructive Evaluation of Co-operative Structures)	1	
5	Materials for sensor design	2	
	UNIT-II: Vibration based techniques used for structural health monitoring		
6	SHM using vibration based technique – Introduction – Local and global methods	1	
7	Local and global methods – Applications	2	
8	SHM using fiber optic sensors – Applications	1	
9	SHM using Low Frequency Electromagnetic Techniques	2	
10	Introduction to applications to the NDE /NDT domain & SHM domain	1	
	UNIT-III: Capacitive Method		
11	Introduction of capacitive methods, the principle, types of capacitive sensing	2	
12	Capacitive probe for cover concrete	1	
13	Capacitive sensing in bridges (case studies)	2	
14	Applications for external post – tensioned cables	1	
	UNIT-IV: Conditions Survey, NDE and NDT of Concrete Structures		
15	Definition and objective of condition survey, stages of conditions survey – planning, inspections and testing stages	2	
16	Stages of conditions survey – planning, **inspections and testing stages**	1	
17	Possible defects in concrete structures, quality control of concrete structures	2	
18	NDT techniques- rebound hammer, infra-red thermography	1	
19	Ground penetration technique, ultra-sonic pulse velocity test	2	
20	Windsor probe test, calibration of NDT equipment and safety audit	1	
21	Semi destructive testing – core cutting	2	
	UNIT-V: Case studies on structures		
22	Case studies on Historical buildings	1	
23	Case studies on Special structures	2	
24	Case studies on bridges and dams	1	
25	Case studies on tunnels	2	
26	Case studies on high rise buildings	1	

Signature of the Faculty
with date

Signature of the HOD
with date

LESSON PLAN

Department	: C S E	Class	: III B.E. – CSE – C3
Academic Year	: 2019 – 20	Semester	: VI sem
Subject	: Compiler construction	Subject Code	: 16CSC25
Faculty	: M. Venkata Krishna Reddy	No. of Periods	:
Commencement of Instruction	: 16.12.2019	Last Date of Instruction	: 03.04.2020
Dates of I Mid Exam	: 06.02.2020	Dates of II Mid Exam	: 06.04.2020

Classes lost due to Holidays and Mid-Sessional Exams

Day & Date	25.12.2019 Wednesday	01.01.2020 Wednesday	14.01.2020 Tuesday	15.01.2020 Wednesday	10.03.2020 Tuesday
Occasion	Christmas	New Year	Sankranthi	Sankranthi	Holi

Day & Date	25.03.2020 Wednesday				
Occasion	Ugadi				
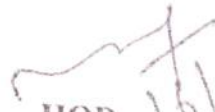
Unit No/S.no.	Topic	No. Of Periods	Cumulative Periods	Tentative Date
I	UNIT-I :			
1.	**Introduction :** Programs related to compilers	01	01	16-12-2019
2.	Translation process, Major data structures	01	02	17-12-2019
3.	Other issues in compiler structure, Boot strapping and porting	01	03	18-12-2019
4.	**Lexical analysis:** The role of Lexical Analyzer, Input Buffering	01	04	23-12-2019
5.	Specification of Tokens, Recognition of Tokens	01	05	24-12-2019
6.	The Lexical- Analyzer Generator - Lex.	01	06	30-12-2019
7.	Examples of Lex Tool	01	07	31-12-2019
8.	Compiler Tools, Lex tool Implementation	01	08	06-01-2020
II	UNIT-II :			
9.	**Syntax Analysis:** Introduction, Top-Down parsing, Brute Forcing	01	09	07-01-2020
10.	Recursive Descent Parsing	01	10	08-01-2020
11.	Predictive LL(1) Parsing	01	11	13-01-2020
12.	Bottom-Up parsing, Introduction to LR Parsing	01	12	20-01-2020
13.	More powerful LR parsers, SLR Parsing	01	13	21-01-2020
14.	CLR Parsing	01	14	22-01-2020
15.	LALR Parsing	01	15	27-01-2020
16.	Using Ambiguous Grammars,	01	16	28-01-2020
17.	**Parser Generators :** YACC, Parsers Overview	01	17	29-01-2020
18.	Solutions for various Parsings, Tools Yacc - Description	01	18	03-01-2020
III	UNIT-III:			
19.	**Syntax Directed Transition:** Syntax Directed Definitions	01	19	04-02-2020
20.	Evaluation orders for SDDs, Important question from previous papers	01	20	05-02-2020
21.	Applications of Syntax Directed Translation	01	21	10-02-2020
22.	**Symbol Table Organization :** Structure of Symbol Table	01	22	11-02-2020
23.	Symbol table organization for block structures and non block Structure Languages	01	23	12-02-2020
24.	Data structures of Symbol table	01	24	17-02-2020
25.	Important question from previous papers	01	25	24-02-2020

LESSON PLAN

V	UNIT-IV:			
26.	**Intermediate Code Generation:** Variants of syntax trees, Three-Address code	01	26	25-02-2020
27.	Three-Address code	01	27	26-02-2020
28.	Types and Declarations, Translation of Expressions, Type Checking, Control Flow.	01	28	02-03-2020
29.	**Storage Organization :** Stack allocation, space Access to non local data on the stack	01	29	03-03-2020
30.	Heap management, Introduction to garbage collection.	01	30	04-03-2020
31.	Case Study of SDD , SDD building for grammars	01	31	09-03-2020
32.	**Code Generation:** Issues in the design of a code generator, The Target Language.	01	32	11-03-2020
33.	Address in the Target code, Basic Blocks and Flow graphs.	01	33	16-03-2020
34.	Optimization of Basic Blocks, Peephole Optimization.	01	34	17-03-2020
V	UNIT-V:			
35.	**Machine Independent Optimizations :** The Principal Sources of Optimizations	01	35	18-03-2020
36.	Introduction to data flow analysis, Foundation of dataflow analysis.	01	36	23-03-2020
37.	**Error Recovery:** Error detecting and reporting in various phases	01	37	24-03-2020
38.	**Introduction to Advanced Topics :** Review of Compiler structure, advanced issues in elementary topics,	01	38	30-03-2020
39.	Importance of optimizations, Structure of optimizing compilers.	01	39	31-03-2020
40.	Previous Papers Gate questions discussions	01	40	01-04-2020

Total No of classes : 40

Instructor 14/12/19

HOD 16/12/19

LESSON PLAN

Department	: CSE	Class	: BE
Academic Year	: 2019-20	Semester	: VIII
Subject	: Human Computer Interaction	Subject Code	: 16CSE19
Faculty	: J Shiva Sai	No. of Periods	: 39
Commencement of Instruction	: 16-12-19	Last Date of Instruction	: 03-04-2020
Dates of I Mid Exam	: 06-02-2020	Dates of II Mid Exam	: 06-04-2020

Classes lost due to Holidays and Mid-Sessional Exams

Day & Date	25-12-2019	15-01-2020	21-02-2020	25-03-2020 Ugadi	02-04-2020
Occasion	Christmas	Sankranthi	Maha Shivrathri	Ugadi	Sri Rama Navami

Day & Date	22-01-2020				
Occasion	Election				

ChaitanyaBharathi Institute of Technology(A)
Gandipet Hyderabad: 500 075
Lecture schedule for BE VIII semester
Subject: HUMAN COMPUTER INTERACTION (16CSE19)

S. No	Topic	No. of classes	Dates
	UNIT I		
1.	Introduction, Foundations:The human, The computer	4	18-12-2019 19-12-2019 20-12-2019 27-12-2019
2.	The Interaction, Paradigms.	1	02-01-2020
3.	Introduction, Our perception is biased	1	03-01-2020
4.	Our vision is optimized to see structure	1	08-01-2020
	UNIT II		
5.	We Seek and Use Visual Structure, Our Color Vision is Limited, Our Peripheral	2	09-01-2020 10-01-2020
6.	Vision is Poor, Reading is Unnatural, Our Attention is Limited;	2	16-01-2020 17-01-2020
7.	Our Memory is Imperfect, Limits on Attention Shape Our Thought and Action	3	22-01-2020 23-01-2020 24-01-2020
	UNIT III		
8.	Recognition is Easy; Recall is Hard	2	29-01-2020 30-01-2020
9.	Problem Solving and Calculation are Hard	2	31-01-2020 05-02-2020
10.	Many Factors Affect Learning, Human Decision Making is Rarely Rational	3	12-02-2020 13-02-2020 14-02-2020

	UNIT IV		
11.	Our Hand–Eye Coordination Follows Laws, We Have Time Requirements	2	26-02-2020 27-02-2020
12.	Well-known User-Interface Design Rules	2	28-02-2020 04-03-2020
13.	Design Process: Interaction design basics, HCI in the software process, Design rules	4	05-03-2020 06-03-2020 11-03-2020 12-03-2020
	UNIT V		
14.	Models and Theories: Cognitive models	2	13-03-2020 18-03-2020
15.	Socio-organizational issues and stakeholder requirements, Communication and collaboration models,	3	19-03-2020 20-03-2020 26-03-2020
16.	Task analysis, Hypertext, multimedia and the World Wide Web.	3	27-03-2020 01-04-2020 03-04-2020

Text books:

1. Jeff Johnson, "Designing with the Mind in Mind – Simple Guide to Understanding", 2nd edition, Elsevier Inc., 2010.

2. Alan Dix, Janet Finlay, Gregory D. Abowd, Russell Beale, "Human Computer Interaction", 3rd edition, Pearson Education Limited, 2004.

Suggested Reading:

1. Ben Shneiderman, CatherinePlaisant, Maxine Cohen, Steven Jacobs, "Designing the User Interface", 5th Edition, Pearson Education Limited, 2013.

2. John Haugeland, "Mind Design II", 2nd Edition, Revised and enlarged edition, The MIT Press, 1997.

Signature of Faculty :   Signature of HOD

LESSON PLAN

CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY(A)
Gandipet, Hyderabad-75.

LESSON PLAN
Department : ELECTRONICS & COMMUNICATION ENGINEERING

Academic year: 2019-20   Year & Semester: BE E(1,2,3) VIII Sem
Subject: Voice over IP   Subject Code: 16 EC E19
Faculty: Smt. A. Satyavati   Total No. of classes: 40 ±10%
Commencement of Instruction: 16/12/2019   Completion of Instruction: 03/04/2020
I – Mid: 06/02/2020   II – Mid: 06/04/2020
Time Table of the subject:

Day	Tuesday	Wednesday
Periods	1,2 (9:10 - 11:10am)	1 (11.15 – 12.15pm)

S.No	Topics/SubTopics/Experiments	No. of Classes estimated
1	UNIT I : Overview of the PSTN and Comparisons to Voice over IP The Beginning of the PSTN, Understanding PSTN, Basics	2
2	PSTN Services and Application	2
3	Drivers Behind the Convergence Between Voice and Data Networking, Packet Telephony	2
4	New PSTN Network Infrastructure Model.	2
5	UNIT II : Basic Telephony Signaling Signaling Overview, E&M Signaling, CAS, ISDN,	2
6	QSIG, DPNSS	2
7	Signaling System 7 : SS7 Network Architecture, SS7 Protocol Overview	2
8	SS7 Examples, List of SS7 Specifications.	2
19	UNIT III : IP Transport Mechanisms An In-Depth Analysis Delay/Latency Jitter. Pulse Code Modulation, Voice Compression,	2
10	Echo, Packet Loss, Voice Activity Detection, Dial-Plan Design	2
11	End Office Switch, Call-Flow Versus IP Phone Call	2
12	Voice over IP Configuration Issues: Dial-Plan Considerations, Feature Transparency.	2
13	UNIT IV : Quality of Service QoS Network Toolkit, Edge Functions, Traffic Policing, Backbone Networks, Rules of Thumb for QoS.	2
14	IP Signaling Protocols H.323, H.323 Elements, H.323 Protocol Suite, H.323 Call-Flows	2
15	Session Initiation Protocol, SIP Overview, SIP Messages, Basic Operation of SIP	2
16	Gateway Control Protocols Simple Gateway Control Protocol, Media Gateway Control Protocol.	2
17	UNIT V : Voice over IP Benefits, Applications and Services: Key Benefits of VoIP Packet Telephony Enterprise Applications and Benefits Enterprise VoIP Case Study: B.A.N.C	2
18	Financing International. Call Centers Service Provider Calling-Card Case Study	2
29	Interfacing and applications: Interfacing with external memory, expansion of I/O ports.	2
20	Value-Added Services Enterprise Case Study: Acme Corporation	2

Signature of faculty   Head, Dept, of ECE

LESSON PLAN

Department	: EEE	Class	: D_2	
Academic Year	: 2019-20	Semester	: VIII	
Subject	: FACTS	Subject Code	: 16EEE19	
Faculty	: Dr. N.V.phanendra	No. of Periods	: 43 (out of 48)	
Commencement of Instruction	: 16/12/19	Last Date of Instruction	: 03/04/20	
Dates of I Mid Exam	: 6,7,8 of Feb, 2020	Dates of II Mid Exam	: 6/04 - 08/04, 2020	

Classes lost due to Holidays and Mid-Sessional Exams

Day & Date	25/12	04/01/2020	15/01	9/03	25/3
Occasion	Christmas	Bhogi	Sankranti	Holi	Ugadi

Day & Date					
Occasion					

Unit No.	Topic	No. of Periods	Cumulative Periods
I.	T/m Interconnection,	1	1
	Power flow in Ac System	02	3
	Dynamic stability in T/m interconnection	02	5
	Principle of series Compensation	01	6
	Principle of shunt compensation	01	7
	Basic types of FACTS controllers	01	8
	Benefits of FACTS	01	9
	Applications of FACTS.	01	10
II	Basic Concepts of volt-sourced conv.	01	11
	1-φ fullwave bridge conv.	01	12
	1 φ leg operation	01	13
	Square wave voltage harmonics for 1φ bridge	01	14
	3φ fullwave bridge conv.	01	15
	Sequence of valve conduction	01	16
	3 level VSC	01	17
	PWM converter	01	18
	Harmonic elimination & volt. Control.	01	19
III	objectives of shunt compensation	01	20
	Mid point voltage regulation	01	21
	End of line voltage support.	01	22

LESSON PLAN

Unit No.	Topic	No. of Periods	Cumulative Periods
	Improvement of Transient stability	01	23
	power oscillation damping	01	24
	SVC: Regulation Slope	01	25
	transfer function, dynamic performance	01	26
	T.S. Enhancement & P.O. damping.	01	27
	STATCOM: Transfer function & dyn. perform.	01	28
	Ts Enhancement & p.o. damping	01	29
IV	objectives of Series Compensation.	01	30
	Concept of Series Capacitive compensation	01	31
	voltage stability	01	32
	Improvement Of Transient stability	01	33
	P.O. damping.	01	34
	TSC	01	35
	SSC	01	36
V.	Introduction to Combined compensators.	01	37
	UPFC: basic operation	01	38
	Independent control of P & Q	01	39
	Control Structure	01	40
	basic control of P & Q	01	41
	slip tut -1	01	42
	Slip tut-2	01	43
	slip tut-3	01	44
	Revision	01	45

Signature of Faculty: Signature of HOD:

Chaitanya Bharathi Institute of Technology
Department of Information Technology
Lesson Plan –Big Data Analytics

ISO 9001:2015
REC-403

Department: **Information Technology**
Academic year: **2019-20**
Subject: **Big Data Analytics**
Faculty: **Kratika Sharma**
Commencement of Instruction: **01.07.2019**
I Mid Exam: **30.08.2019**

Semester: **B.E. VII-Semester IT1**
Subject Code: **16IT C34**
No. of classes: **40**
Completion of Instruction: **26.10.2019**
II Mid Exam: **30.10.2019**

Time Table of the subject:

Day	Monday	Wednesday	Friday
Periods	6 3.20 pm to 4.20 pm	4 1.15 pm to 2.15 pm	5 2.15 am to 3.15 pm

No. of public holidays during the semester: 07

Day & Date	Monday 29.07.19	Monday 12.08.19	Monday 02.09.19	Wednesday 02.10.19	Monday 07.10.19	Wednesday 09.10.19	Friday 11.10.19
Occasion	Bonalu	Bakrid	Vinayaka Chavithi	Gandhi Jayanti	Dasara	Dasara	Dasara

Mode of Teaching: Whiteboard and Power Point Presentation.

1.Course Objective:

This course is introduced

1. To explain the importance of big data, role of Hadoop framework in analyzing large datasets.
2. To gain knowledge of writing mapper and reducer for a given problem.
3. To provide the concepts of NoSQL databases and the working mechanisms of MongoDB.
4. To familiarize writing queries in Pig and Hive to process big data.
5. To discuss the concept and writing applications using Spark
6. To acquaint with Scala Programming constructs

2. Course Pre-requisites:

Java Programming (16ITC10), Python Programming (16ITE01)

3. Course Outcomes:

Upon successful completion of the course, student will be able to:

1. Understand processing large datasets in Hadoop framework.
2. Develop applications using MapReduce framework to solve real world problems.
3. Develop data models using MongoDB.
4. Develop scripts using Pig to process large datasets and understand querying using hive from a data warehouse.
5. Understand the fundamentals of the Spark and expertise in using Resilient Distributed Datasets (RDD) for creating applications in Spark.
6. Develop functional programs using Scala.

4. Course Plan:

S.No	Topics/Subtopics/Experiments	No.of classes Estimated	Remarks
	UNIT – I		
1.	**What is Big Data?** Why is Big Data Important: When to consider a Big data solution	1	
2.	Big Data use cases: IT for IT Log Analytics, The Fraud Detection Pattern, Social Media Pattern.	1	
3.	**The Hadoop Distributed Files system:** The Design of HDFS, HDFS Concepts, Blocks, Name nodes and Data nodes, Block Caching, HDFS Federation, HDFS High Availability	1	
4.	The Command-Line Interface, Basic File system Operations, Hadoop File systems, Interfaces, The Java Interface	1	
5.	Reading Data from a Hadoop URL, Reading Data Using the File System API, Writing Data, Directories, Querying the File system, Deleting Data, Data Flow	1	
6.	Anatomy of a File Read, Anatomy of a File Write	1	
7.	Coherency Model, Parallel Copying with distcp, Keeping an HDFS Cluster Balanced	1	
	UNIT – II		
8.	**MapReduce:** What is map reduce, Architecture	1	
9.	Java MapReduce, Scaling Out, Data Flow, Combiner Functions, Running a Distributed MapReduce Job	1	
10.	**How MapReduce Works:** Anatomy of a MapReduce Job Run, Job Submission, Job Initialization	1	
11.	Task Assignment, Task Execution, Progress and Status Updates, Job Completion, Failures, Task Failure	1	
12.	Application Master Failure, Node Manager Failure, Resource Manager Failure, Shuffle and Sort, The Map Side, The Reduce Side	1	
13.	**MapReduce Types and Formats:** MapReduce Types, The Default MapReduce Job	1	
14.	Input Formats, Input Splits and Records, Text Input, Output Formats, Text Output	1	
15.	Developing MapReduce Applications on contemporary problems.	1	
16.	Revision Class	1	
	UNIT-III		
17.	**No SQL Databases:** Review of traditional Databases, Need for NoSQL Databases, Columnar Databases	1	
18.	Failover and reliability principles, CAP Theorem, Differences between SQL and NoSQL databases	1	
19.	**Working mechanisms of Mongo DB:** Overview, Advantages, Environment, Data Modelling, Create Database, Drop Database	1	
20.	Create collection, Drop collection, Data types, Insert, Query, Update and Delete operations	1	
21.	Update and Delete operations, Limiting and Sorting records	1	
22.	Indexing, Aggregation	1	
23.	Revision Class	1	
	UNIT-IV		
24.	**Pig:** Installing and Running Pig, an Example	1	
25.	Generating Examples, Comparison with Databases, Pig Latin, User-Defined Functions, Data Processing Operators, Pig in Practice.	1	
26.	**Hive:** Installing Hive, The Hive Shell, An Example	1	

27	Running Hive, Comparison with Traditional Databases	1	
28	HiveQL, Tables, Querying Data, User-Defined Functions	1	
29	User-Defined Functions, Writing a User Defined Functions	1	
30	Writing a User Defined Aggregate Function.	1	
31	Revision class	1	
	UNIT-V		
32	**Spark:** Importance of Spark Framework	1	
33	Components of the Spark unified stack	1	
34	Batch and Real time Analytics with apache spark	1	
35	Resilient Distributed Dataset (RDD)	1	
36	Scala: Introduction	1	
37	Scala: Scala Environment Set up	1	
38	Downloading and installing Spark standalone	1	
39	Functional Programming, Collections.	1	
40	Revision Class	1	

5. Evaluation scheme:

S. No	Evaluation Components	Nature of Component	Weightage	Date
1	I Mid	Closed Book	20%	30.08.2019
2	II Mid	Closed Book	20%	30.10.2019
3	3 Slip Tests	Open Book	10%	Will be announced
4	Final Exam	Closed Book	70 %	Will be announced

6. General timings for consultation:
- Tuesday between 09.40 am to 12.40pm
- Wednesday between 09.40 am to 12.40pm

7. Attendance Policy:
- 75% attendance is must
- It is the responsibility of the student to be regular and punctual to the classes.

8. Prescribed Text Books:
Students can take assistance from any the following books:
1. Tom White, "Hadoop: The Definitive Guide", 4th Edition, O'Reilly Media Inc, 2015.
2. Tanmay Deshpande, "Hadoop Real-World Solutions Cookbook", 2nd Edition, Packt Publishing, 2016.

9. Activity student has to do to achieve the objective of the course

- Students have to focus on all the topics covered in the class as well as try to find out real world example for each and every topic.
- Students should be present in all the slip tests.

10. Notices   All notices will be displayed on the Notice Board of B.E. VII semester IT

Instructor's Contact details:
Mrs Kratika Sharma, Assistant Professor, Dept of IT Mobile : 9000113043 Email: sharma.kratika128@gmail.com

Instructor Signature

Signature of HOD

Chaitanya Bharathi Institute of Technology
(AUTONOMOUS)
Gandipet, Hyderabad,
LESSON PLAN, AICTE-MODEL CURRICULUM
Department of Mathematics and Humanities
Academic year (2019-2020)

Subject Code: 18MT C03
Section: A1
Subject: **MATHEMATICS-II**
Name of the Faculty: **Dr.G.Deepa**
Commencement of Instruction: 20/01/2020
Fist Mid exams: 12/03/2020 to 14/03/2020

Branch: Civil

No of hours per week: 4L+1T
Completion of Instruction: 21/05/2020
II-Mid Exams: 11/05/2020 to 13/05/2020

Sl.No	Topic/sub-topic /Theory	No.of periods estimated	Remarks
	UNIT-I Multivariable calculus (integration)		**(10)**
1	Applications of definite integrals to evaluate surface areas and volumes of revolutions	(3)	
2	Double integrals, Change of order of integration,	(2)	
3	Triple integrals, Change of variables in integrals	(2)	
4	Applications: areas and volumes Centre of mass and Gravity	(3)	
	UNIT-II (: Vector Integral Calculus		**(13)**
5	Line, Surface and Volume integrals	(3)	
6	Green's theorem in a plane, Gauss's divergence theorem and Stroke's theorem (without proof).	(4)	
7	Exact first order differential equations , Integrating factors, Linear first order equations	(3)	
8	Bernoulli's, Riccati's and Clairaut's differential equations	(2)	
9	Orthogonal trajectories of a given family of curves.	(1)	
	UNIT-III Ordinary differential equations of higher orders:		**(14)**
10	Solutions of higher order linear equations with constants coefficients	(3)	
11	Method of variation of parameters, solution of Euler-Cauchy equation.	(2)	
12	Ordinary point, singular point and regular singular point, Power Series solution	(3)	
13	Legendre Polynomial of first kind (without proof), Rodrigues formula, Generating function	(2)	
14	recurrence relations, orthogonality of Legendre polynomials, recurrence relations and problems.	(2)	
15	Bessel's function of first kind (without proof), recurrence relations and problems.	(2)	
	UNIT-IV Complex Variables –I :		**(10)**
16	Differentiation, analytic functions, Cauchy-Riemann equations	(2)	
17	harmonic functions, finding harmonic conjugate, elementary analytic functions (exponential, trigonometric, logarithm) and their properties;	(2)	
18	Conformal mappings, Mobius transformations and their properties	(3)	
19	. Contour integrals, Cauchy-Goursat theorem (without proof), Cauchy Integral formula (without proof)	(3)	
	UNIT-V : Complex Variables – II:		**(8)**
20	Liouville's theorem and Maximum-Modulus theorem	(1)	
21	Taylor's series, Laurent's series	(2)	
22	zeros of analytic functions, singularities, Residues, Cauchy Residue theorem (without proof)	(3)	
23	Evaluation of definite integral involving sine and cosine. Improper real integrals with singular points on the upper half plane.	(2)	
		Total:	**(55)**

Signature of the faculty

Signature of HOD

Chaitanya Bharathi Institute of Technology
(AUTONOMOUS)
Gandipet, Hyderabad.
LESSON PLAN, AICTE-MODEL CURRICULUM
Department of Mathematics and Humanities
Academic year (2019-2020)

Subject Code: 18MT CO1

Section: Mech - I (F₁) Branch: Mechanical

Subject: **MATHEMATICS-I**

Name of the Faculty: No of hours per week: 3L+1T

Commencement of Instruction:19/08/2019 Completion of Instruction:14/12/2019

Fist Mid exams: 17th -19th Oct, 2019 II-Mid Exams: 16th to 18th Dec, 2019

Sl.No	Topic/sub-topic /Theory	No.of periods estimated	Remarks
	UNIT-I (Matrices)		(8)
1	Rank of the matrix, Echelon form	(1)	
2	System of linear equations, Linearly dependence and independence of vectors	(2)	
3	Eigenvalues, Eigenvectors	(1)	
4	Properties of eigenvalues, Cayley-Hamilton theorem	(2)	
5	Quadratic forms, Diagonalization of Matrices, Reduction of quadratic form to canonical form by linear transformation, Nature of quadratic forms.	(2)	
	UNIT-II (Sequences and Series)		(8)
6	Definition of Convergence of sequence and series	(1)	
7	Tests for convergence of series: comparison test	(1)	
8	Limit comparison test, D'Alembert ratio test	(2)	
9	Raabees test, Caucheys n^{th} root test, logarithmic test	(2)	
10	Alternative series, absolute and conditional convergence.	(2)	
	UNIT-III (Calculus)		(9)
11	Rolle's Theorem, Lagranges Mean value theorem, Cauchy's mean value theorem (without proofs).	(2)	
12	Curvature, radius of curvature	(2)	
13	Evolutes and involutes	(2)	
14	Fourier series, half range sine and cosine series	(3)	
	UNIT-IV (Multivariable Calculus (Differentiation))		(11)
15	Functions of two variables, Partial derivatives	(1)	
16	Total differential and differentiability, Derivatives of composite and implicit functions (Chain rule)	(2)	
17	Change of variables, Jacobian	(2)	
18	Higher order partial derivatives, Taylor's series of functions of two variables	(2)	
19	Maximum and minimum values of functions two variables	(2)	
20	Lagrange's multipliers method	(2)	
	UNIT-V (Vector Calculus (Differentiation))		(9)
21	Scalar and vector fields, Gradient of a scalar field	(1)	
22	Directional derivative, Divergence and Curl of a vector field	(2)	
23	vector identities	(2)	
24	Improper integrals: Beta and Gamma functions and their properties	(4)	
		Total: (45)	

Signature of the faculty Signature of HOD

LESSON PLAN

Department	: MCA
Academic Year	: 2019-20
Subject	: OOP
Faculty	: CNVBR Sri Gowsinath
Commencement of Instruction	: 10/02/2020
Dates of I Mid Exam	: 01/04/2020

Class	: MCA
Semester	: II
Subject Code	: 16MC C106
No. of Periods	: 3T+1T/week
Last Date of Instruction	: 11/07/2020
Dates of II Mid Exam	: 13/07/2020

Classes lost due to Holidays and Mid-Sessional Exams

Day & Date						
Occasion						
Day & Date						
Occasion						
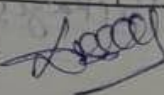
Unit No.	Topic	No. of Periods	Cumulative Periods
I	Object oriented programming - introduction	01	01
	History of java	01	02
	Evolution and Buzz words	01	03
	Object oriented programming	01	04
	Data types	01	05
	Variables	01	06
	Arrays	01	07
	Operators	01	08
	Control statements - Selection, Iteration	01	09
	Control statements - Jump statements	01	10
II	Introduction to classes	01	11
	Methods and Constructors	01	12
	This keyword, finalize method	01	13
	Garbage collection	01	14
	Overloading, overriding	01	15
	Recursion, nested classes	01	16
	Inheritance and its types	01	17
	Super keyword, Using final	01	18
	Abstract classes	01	19
	Packages and Access protection	01	20

LESSON PLAN

Unit No.	Topic	No. of Periods	Cumulative Periods
II	Importing Packages, implementing interfaces	01	21
III	Exception handling fundamentals, Exception types	01	22
	using try, Catch, throw, throws, finally	01	23
	Multithreaded programming Java Thread model	01	24
	Differences b/w Multiple processes and threads		
	Thread states, Creating threads	01	25
	Interrupting and synchronizing threads	01	26
	Thread priorities	01	27
	Inter Thread Communication	01	28
IV	String Handling: String Class	01	29
	String length, Special String operations	01	30
	String Comparisons, String Buffer class	01	31
	Primitive type wrappers	01	32
	Java I/o classes and interfaces	01	33
	Files	01	34
	Stream and byte classes	01	35
	Character streams	01	36
	Serialization	01	37
	Deserialization	01	38
V	GUI and Event Driven Programming	01	39
	Applet class	01	40
	Event Handling, Delegation event model	01	41
	Event classes and listener interfaces	01	42
	Using AWT controls: AWT classes	01	43
	Window fundamentals	01	44
	Labels, buttons, checkboxes, lists etc	01	45
	Layout Managers	01	46
	Handling Events by extending AWT Components	01	47
	Revision	01	48

Signature of Faculty: CNBSrinath

7/2/2020

Signature of HOD :

CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY(A)
Gandipet,Hyderabad-75

LESSON PLAN

Department: **Informational Technology**   Class : B.E IT (H1&H2)   Semester: VIII sem
Name of the subject: **Introduction to Operations Research**   Subject Code   : **16ME O07**
Academic Year   : 2019-2020   No of Periods   : 3 per week
Commencement of Instruction   : 16-12-2019   Completion of Instruction : 03-04-2020
Date of Mid-I   : 06-02-2020   Date of Mid-II   : 06-04-2020

Timetable of the Subject

Day	MONDAY	TUESDAY	WEDNESDAY
Duration	10.10 AM To 11.10 AM	10.10 AM To 11.10 AM	02.15 PM To 03.15 PM

Sl No	Topic/Sub Topic covered	No of periods estimated
	UNIT-I (08 Periods)	
1.	Introduction, Definition and Scope of Operations Research.	1
2.	Introduction to linear programming problem	1
3.	Formulation of linear programming problems	1
4.	Graphical method of solving LP problem	1
5.	Simplex method Introduction	1
6.	General Simplex method	1
7.	Simplex method - Big M method	1
8.	Simplex method - Two phase method	1
	UNIT-II (08 Periods)	
9.	Introduction to Transportation Models	1
10.	Finding an initial feasible solution by North West corner method	1
11.	Least cost method	1
12.	Vogel's Approximation method	1
13.	Finding the optimal solution	1
14.	Finding the optimal solution for transportation problem	1
15.	Unbalanced Transportation problem	1
16.	Degeneracy in Transportation	1
	UNIT-III (08 Periods)	
17.	Assignment Problems: Introduction, Hungarian technique of Assignment problems	1
18.	Hungarian technique of Assignment problems	1
19.	Unbalanced assignment problems	1
20.	Unbalanced assignment problems	1
21.	Assignment problems with restrictions	1
22.	Assignment problems with restrictions	1
23.	Maximization in Assignment problems	1
24.	Maximization in Assignment problems	1

	UNIT-IV	(08 Periods)	
25.	Project Management: Definition, Procedure and Objectives of Project Management		1
26.	Differences between PERT and CPM		1
27.	Rules for drawing Network diagram, ,		1
28.	Scheduling the activities		1
29.	Fulkerson's rule		1
30.	Earliest and Latest times		1
31.	Determination of critical path		1
32.	Duration of the project		1
	UNIT-V	(08 Periods)	
33.	Sequencing Models: Introduction		1
34.	General assumptions		1
35.	Processing 'n' jobs through two machines		1
36.	Processing 'n' jobs through two machines		1
37.	Processing 'n' jobs through two machines		1
38.	Processing 'n' jobs through three machines		1
39.	Processing 'n' jobs through three machines		1
40.	Processing 'n' jobs through three machines		1
		Total No of classes	**40**

Text Books:

1. Hamdy, A. Taha, "Operations Research - An Introduction", Sixth Edition, Prentice Hall of India Pvt. Ltd., 1997.

2 S.D. Sharma, "Operations Research", Kedar Nath, Ram Nath & Co., Meerat, 2009.

3. V.K. Kapoor," Operations Research", S. Chand Publishers,New Delhi, 2004

Suggested Reading:

4. Harvey M. Wagner, "Principles of Operations Research", Second Edition, Prentice Hall of India Ltd., 1980.

5. R Paneer Selvam, "Operations Research", Second Edition, PHI Learning Pvt. Ltd., New Delhi , 2008.

6. Nita H.Shah, Ravi M. Gor, Hardik Soni, "Operations Research", PHI Learning Pvt. Ltd, 2013

Signature of the faculty 16/12/2019

Signature of the HOD

CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY, Gandipet, Hyderabad-75
Department of Mechanical Engineering
LESSON PLAN

Department: **Mechanical Engineering**

Subject: **Metal Cutting & Machine Tool Engineering**

Academic Year : **2019-2020**

Commencement of Instruction: **16-12-2019**

Date of Mid-I: **06-02-2020**

Name of Faculty: **V.Sandhya**

Class: **B.E VIth Semester, Mechanical-2**

Subject Code: **16ME C27**

Instructions: **3 Hours per week**

Completion of Instruction: **03-04-2020**

Date of Mid-II: **06-04-2020**

Timetable of the Subject:

Day	MONDAY	TUESDAY	WEDNESDAY
Duration	10.10AM To 11.10AM	10.10AM To 11.10AM	02.15PM to 03.15 PM

S No	Topic/Sub Topic covered	No of periods
	UNIT-I (8 Hours)	1
1.	Introduction	1
2.	Cutting Tool Materials: High carbon steel, HSS, Stellite, Carbides, Diamonds, Tool material properties	
3.	Nomenclature of single point cutting tool by ASA and ORS systems	1
4.	Geometry of drills, milling cutters	1
5.	Chip formation: Types of chips, BUE, Chip breakers	1
6.	Machining, Orthogonal and oblique cutting	1
7.	Merchants analysis, shear angle	1
8.	Solutions of merchant and Lee & Shafer	1
	UNIT– II (8 Hours)	
9.	Sources of heat and heat distribution	1
10	Various methods of Measurement of Temperature	1
11	Cutting Fluids and applications	1
12	Criteria for tool wear, flank and crater wear theories	1
13	Criteria for tool life in roughing and finishing, Measurement of tool wear	1
14	Taylor's Tool Life equation	1
15	Factors effecting tool life, Machinability	1
16	Economics of Machining- Tool life for maximum production, minimum cost.	1
	UNIT – III (8 Hours)	
17	Types, constructional features, size of lathe, various operations that can be performed on lathe	1
18	Capstan and turret lathes, bar work and chuck work, tool holding devices	1
19	Taper turning methods, thread cutting and accessories of lathe	1
20	Drilling Machine-types and constructional features, applications	1
21	Radial drilling machine, drilling operations	1
22	Classification and types of Milling Machines. Various operations on milling machines	1
23	Up and Down milling, types of Milling Cutters and bars	1
24	Dividing head, plain, compound and differential indexing	1
	UNIT – IV (8 Hours)	
25	Horizontal, Vertical and jig boring machines – Constructional features	1

26	Difference between Shaper, planner and slotter, Quick return mechanisms	1
27	Types, Classification of Abrasives and bonds used for grinding wheel	1
28	Selection of grinding wheels, Cylindrical grinding and centerless grinding	1
29	Thread rolling, thread chasing	1
30	Thread milling, thread grinding	1
31	Gear shaping, gear hobbing	1
32	Gear shaving, gear grinding	1
	UNIT – V　　　　**(8 Hours)**	
33	Design principles for location and clamping, Quick clamping devices	1
34	Types of jigs and fixtures	1
35	Working Principle and applications of USM	1
36	Working Principle and applications of AJM	1
37	Working Principle and applications of EDM	1
38	Working Principle and applications of ECM	1
39	Working Principle and applications of LBM	1
40	Working Principle and applications of EBM	1
	Total number of classes	**40**

Signature of the faculty　　　　　　　　　　　　　　Signature of the HOD

Text Books:

1. B.L. JuneJa and Shekon, Fundamentals of Metal Cutting & Machines Tools, Wiley Eastern Ltd. 1987.
2. P.N. Rao, Manufacturing Technology – Metal Culling & Machine Tools, Vol. 2, Tata McGraw Hill Education Pvt. Ltd, 2010.
3. M.C. Shaw, Metal Cutting Principles, Clarendon Press, Oxford 1984 *Theory of Machines*, Tata-Mc Graw Hill, 1995.

Suggested Reading:

1. Hajra Choudary S.K, Elements of Workshop Technology, Vol. II, MediaPub., New Delhi, 2010.
2. P.C.Pandey& Shan HS Modern Machining process Tata McGraw-HillEducation 1980.
3. A. Bhattacharya Metal Cutting Theory and Practice New Central BookAgency (p) Ltd Calcutta, 1996.

Course Objectives:

1. Basic understanding of cutting tools, geometry in machining processes.
2. Make students familiar with cutting forces in turning drilling, milling operations.
3. Understand various machine tools, like lathe, drilling, milling shaper, planner,
4. Knowledge of Thread manufacturing and gear manufacturing.
5. Understand un-conventional machining processes like, EDM, ECM.
6. Understand LBM, EBM, ECG and do problems on MRR, Surface finish

Course Outcomes:

1. Graduates are expected to Select proper tool material and tool geometry for machining various materials
2. Graduates are expected to analyze cutting force and power consumption under different cutting conditions
3. Students are expected to determine tool wear, tool failure, tool life and Taylor's tool life equation
4. Students are expected to understand basic parts and operations of machine tools including lathe, milling, Grinding, Shaper, planer, Boring and Drilling machine.
5. Students are expected to understand the Production of threads and Gears
6. Graduates will able to select appropriate unconventional machining processes for machining different materials

CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY, Gandipet, Hyderabad-75
Department of Mechanical Engineering
LESSON PLAN

Department: **Mechanical Engineering**   Class: **B.E VIth Semester, Mechanical-2**

Subject: **Metal Cutting & Machine Tool Engineering Lab** Subject Code: **16ME C31**

Academic Year   : 2019-2020   Instructions: **3 Hours per week**

Commencement of Instruction: 16-12-2019   Completion of Instruction: 03-04-2020

Date of Mid-I: 06-02-2020   Date of Mid-II: **06-04-2020**

Name of Faculty: **V.Sandhya**

Timetable of the Subject:

Day	MONDAY	WEDNESDAY	FRIDAY
Duration	01.15PM to 04.20 PM	09.10AM to 12.15PM	01.15PM to 04.20 PM

S No	Topic/Sub Topic covered	No of periods
1.	Introduction to machine tools like Lathe, Milling, Drilling, and shaper	3
2.	Plain turning and step turning operations on lathe	3
3.	Step turning and Knurling on lathe	3
4.	Taper turning on lathe	3
5.	Drilling and Boring on lathe	3
6.	Thread cutting on lathe	3
7.	Grinding of single point cutting tool	3
8.	Gear cutting using plain indexing and compound indexing using universal dividing head	3
9.	Measurement of cutting forces during machining on lathe, milling	3
10	Finding shear angle experimentally in turning operation	3
11	Grinding flat surfaces using surface grinding machine and measurement of surface finish	3
12	Process parameters of electro discharge machining	3
13	Repetition	3
	Total no. of classes	39

Signature of the faculty

Signature of the HOD

Department : Mechanical Engg.   Class : BE (Prod)
Academic Year : 2019-2020   Semester : V Semester
Subject : PCCM (Elective 2)   Subject Code : 16PE E04
Faculty : N. JYOTHIRMAYI   No. of Periods : 03/week
Commencement of Instruction : 01/07/2019   Last Date of Instruction : 26/10/2019
Dates of I Mid Exam : 26/08/19   II Mid Exam : 28/10/19   III Mid Exam :

Classes lost due to Holidays and Mid-Sessional Exams

Day & Date					
Occasion					

Day & Date					
Occasion					

Unit No.	Topic	No. of Periods	Cumulative Periods
I	Introduction to polymers, Plastics-Elastomers	01	01
	Polymerization, Degree of polymerization	01	02
	Thermo plastics, Properties	01	03
	Applications of various thermo plastics	01	04
	Thermosetting plastics	01	05
	Mechanical Properties of plastics	01	06
	Their influencing Parameters	01	07
II	Manufacturing Methods of plastics	01	08
	Injection Molding	01	09
	Extrusion	01	10
	Calendaring	01	11
	Thermoforming	01	12
	Blow Molding	01	13
	Compaction Molding	01	14
	Transfer Molding	01	15
III	Introduction to ceramics	01	16
	Classification of ceramic Materials	01	17
	Conventional ceramics	01	18
	Advanced ceramics	01	19
	Refractories : classification	01	20

Expt. No.	Description	No. of Periods	Cumulative Periods
	Modern trends & developments, raw material	01	21
	Elementary idea of mfg. Process & technology	01	22
	flow diagram of steps for manufacturing	01	23
	Basic Properties & area of applications	01	24
IV	whitewares: classification & types	01	25
	Elementary idea of mfg process & Technology	01	26
	Ceramic coatings	01	27
	Types of glazes & enamels	01	28
	Elementary ideas on Compositions	01	29
	Process enameling & glazing, their Properties	01	30
	Glass: Definition, Concepts of glass structure	01	31
	glass mfg. Processes, types of glasses	01	32
	Applications of glasses	01	33
V	fundamentals of composites -need for composites	01	34
	enhancement, classification of composites	01	35
	Matrix -polymer matrix composite (PMC)	01	36
	Metal Matrix composites (MMC)	01	37
	Ceramic Matrix composites (CMC)	01	38
	Reinforcement -Particle reinforced, fibre reinforced	01	39
	Applications of various types of composites	01	40
	Fibre production techniques for glass, carbon	01	41
	& ceramic fibers, Mfg. methods of composites	01	42

Signature of Faculty:

01/6/19

Signature of HOD:

LESSON PLAN

Classes lost due to Holidays and Mid-Sessional Exams

Date	29/07/2019 (Mon)				
on	Bonalu				
Date					
on					

Topic	No. of Periods	Cumulative Periods
Prod. f operations Management : Introduction,	01	01
types of production systems-Job shop, batch,	01	02
flow type		
Plant location f layout : Factors affecting plant	01	03
location, plant layout, objectives	01	04
Types of layouts, merits f demerits	01	05
Work study : Introduction to Method study f	01	06
Work Measurement	01	07
Standard time calculations, work sampling	01	08
Wages f Incentives -types of Incentive plans	01	09
Forecasting : Introduction, Objectives, Demand Patterns	01	10
Qualitative Models-Market survey, Delphi Method	01	11
Quantitative Models - Moving Average	01	12
weighted Moving Average, Simple Exponential Smoothing	01	13
Trend adjusted exponential Smoothing	01	14
Simple regression	01	15
Forecast errors : MAD, MSE, MAPE	01	16
Aggregate Planning f Master scheduling :		
Introduction, objectives, costs in aggregate	01	17
planning		

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Expt. No.	Description	No. of Periods	Cumulative Periods
	Strategies in aggregate planning	01	18
	Master Production Scheduling	01	19
	Materials Requirement Planning (MRP): Importance	01	20
	MRP system Inputs	01	21
	outputs of MRP, bill of Materials	01	22
IV	Inventory control: Importance of inventory control	01	23
	Types of inventory models, Inventory costs	01	24
	Deterministic Models — Basic EOQ Model	01	25
	Production Model without Shortages	01	26
	Purchase model with instantaneous replenishment	01	27
	Production model with shortages	01	28
	Inventory Model with Price Breaks	01	29
	Fixed order Quality System	01	30
	Periodic Review system	01	31
V	Quality control: Introduction	01	32
	Quality Gurus & their contribution	01	33
	Quality Tools	01	34
	Process Capability	01	35
	Quality control by control charts	01	36
	Control charts for variables	01	37
	Control charts for attributes	01	38
	Sampling Plans	01	39
	operating characterstic curve	01	40
	Total Quality Management	01	41
	Introduction to Total Quality Management	01	42

Signature of Faculty: 01/07/19   Signature of HOD:

LESSON PLAN

CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY
Gandipet, Hyderabad -500075
Lesson Plan

Department: **Mechanical Engineering**
Academic Year: **2019-2020**   Subject Code: **18ME C09**
Subject: **Principles of Management**

Class: **IV semester B.E (Mech-1)**
No. of Periods: **3 per week**
Faculty: **P. Surendar Reddy**

Objectives: To make the students to:
1. Understand basic fundamentals and insights of management
2. Understand the nature and purpose of planning
3. Gain the knowledge about the frame work of organizing
4. Understand the essence and significance of directing
5. Recognize the importance of controlling and its outcomes

Outcomes: At the end of the course, student will be able to understand:
1. Identify and evaluate the principles of management
2. Demonstrate the ability to have an effective and realistic planning
3. Identify the nature and the type of organization
4. Apply the tools and techniques of directing
5. Explain and evaluate the necessity for controlling and further refinement of an organization.

S.NO	Topics/Sub-Topics	No.of periods estimated
	Unit- I	**08 Periods**
1	Management: Definition of management, science or art	01
2	Manager vs entrepreneur	01
3	Managerial roles and skills	01
4	Evolution of management, Basic management theory by FW Taylor	01
5	Basic management theory by Henry Fayol	01
6	Types of Business Organizations, sole proprietorship, partnership, company	01
7	public and private enterprises	01
8	Organization culture and environment, Current trends and issues in management.	01
	Unit- II	**08 Periods**
9	Planning: Nature and purpose of Planning, types of Planning	01
10	Planning objectives, setting objectives	01
11	Policies, Strategic Management	01
12	Planning Tools and Techniques	01
13	Planning plant location	01
14	Planning plant layout	01
15	Decision making steps	01
16	Decision making processes.	01

	Unit- III	08 Periods
17	Organizing: Nature and purpose of Organizing,	01
18	Formal and informal organization, organization structure-types	01
19	Line and staff, authority	01
20	Departmentalization, delegation of authority	01
21	Centralization and decentralization, job design	01
22	Human resource management, HR planning	01
23	Recruitment selection, Training & Development	01
24	Performance Management, Career planning and Management.	01
	Unit- IV	08 Periods
25	Directing: Individual and group behavior	01
26	Motivation, motivation theories	01
27	Motivational techniques	01
28	Job satisfaction	01
29	Job enrichment	01
30	Leadership- types	01
31	Theories of leadership,	01
32	Effective communication & Controlling	01
	Unit-V	08 Periods
33	System and process of controlling	01
34	budgetary control techniques	01
35	non-budgetary control techniques	01
36	use of computers and IT in management control,	01
37	productivity problems and management,	01
38	control and performance,.	01
39	direct and preventive control,	01
40	reporting	01
	Total No. of Periods Estimated	40

Text Books:
1. S.P. Robins and M.Couiter,"Management", 10/e., Prentice Hall India, 2009.
2. JAF Stoner, RE Freeman and DR Gilbert, "Management", 6/e., Pearson Education, 2004.

Suggested Reading:
1. P.C Tripathy & P.N. Reddy, "Principles of Management", Tata McGraw Hill, 1999.
2. Harold Koontz and Cyril O'Donnell, "Principles of Management", Tata McGraw Hill, 2017.

PSP 16/12/2019

Signature of the Faculty

Head, MED. 12/18

Chaitanya Bharathi Institute of Technology (A)
Gandipet, Hyderabad - 500 075

LESSON PLAN

Department: **Mechanical Engineering**
Academic Year: **2019-2020**
Subject: **Kinematics of Machines**   Class: **BE IV-Sem, (Mech2)**
Faculty: **V.Jaipal Reddy**   Subject Code: 18 ME C07
Instruction: 16/12/2019   Number of Periods: 3+1Commencement of
Date of I Mid Exam: 06/02/2020   Last day of Instruction: 03/04/2020
                                              Date of II Mid Exam   : 06/04/2020
Time Table of the Subject:

Day	Tuesday	Wednesday	Friday
Time	2:25 to 4:20 p.m	1:16to 2:19p.m	09.10 to 10:10 am

S.No	Brief Description of Topics to be Covered	No. of Classes Estimated
Unit – I		
1.	Mechanism, machine and structure, Kinematic link (element), kinematic pair and classification of pair.	2
2	Degrees of freedom, Gruber's Criterion, Kinematic chain, Inversion of a mechanism, Inversions of Quadric cycle chain.	2
3	Inversions of single and double slider –crank mechanisms.	2+1
4	Mechanism with lower pairs- Pantograph and straight line motion mechanisms: Peaucelleir, Hart, Scott-Russel, Watt and Tchebicheff mechanism.	2
5	Steering gear mechanism- Davis & Ackerman's, Geneva mechanism and Hook's joint.	2
UNIT – II		
6	Analysis of Mechanism: graphical methods to find velocities of mechanisms.- Relative velocity method –vector representation, velocity of rubbing, velocity analysis of various links,	2+2+1
7	Instantaneous centre, Body centrode and space centrode, Kennedy's theorem.	2
8	Analytical and graphical determination of acceleration of different mechanisms including coriolis components acceleration.	2+2
9	Synthesis of Mechanisms: Freudenstein's method for four bar linkage.	1
UNIT – III		
10	Laws of friction: friction in screw threads, pivots, collars and clutches. Friction axis of a link and friction circle.	2+2+1+1
12	Brakes & Dynamometers: Block or shoe, Band and Block, Internal Expanding Shoe Brake, Prony, Rope brake Dynamometers. Belt	2+2+1

Signature of HOD :

	transmission, Epicyclic Torsion Dynamometers.	
UNIT – IV		
13	Cams: Types of cams and followers. Displacement diagrams for followers – uniform motion, parabolic motion, simple harmonic motion, cycloidal motion.	2+2
14	Drawing cam profile: with knife – edge follower, translating roller follower and translating flat follower.	2+2
15	Cams of specified contour: tangent cam with roller follower. circular arc (convex) cam with roller follower.	2
UNIT – V		
16	Gears: Classification of gears. Spur Gears: Nomenclature..	2
17	Law of gear tooth action, involute and cycloid gear tooth profile, interference of involute gears, Comparison of involute and cycloid tooth profile	2
18	Minimum number of teeth to avoid interference. contact ratio. cycloid tooth profiles	2
19	Helical Gears: Helical gear tooth relations, contact of helical gear teeth.	01
20	Gear Trains: Simple, compound, reverted and Epicyclical Gear Trains.	2+1
	Total Lectures	54

Suggested Readings:
1. S.S.Ratan, "Theory of Machines", Tata McGraw Hill Publications, 2012
2. J.E.Shigley, "Theory of Machines", McGrawhill Publications. 2010
3. Thomas Bevan, "Theory of Machines", CBS Publishers 1995.

Faculty:

Head, MED

LESSON PLAN

Department	: Mechanical Engg		Class	:	B.E -
Academic Year	: 2019-2020		Semester	:	VII
Subject	: Production drawing		Subject Code	:	16PEC10
Faculty	: V. Jaipal Reddy		No. of Periods		45
Commencement of Instruction	: 01/07/2019		Last Date of Instruction	:	26/10/2019
Dates of I Mid Exam	: 29/08/2019	II Mid Exam :		III Mid Exam :	

Classes lost due to Holidays and Mid-Sessional Exams

Day & Date					
Occasion					

Day & Date					
Occasion					

Unit No.	Topic	No. of Periods	Cumulative Periods
I	Format of dwg sheet, conventional representation of Screwed joints, welded joints & springs & gears	03	03
	Practice class on above topics	03	06
II	elements of electrical, hydraulic & pneumatic circuits, Machine tool elements, methods of Indicating notes on dwg	03	09
III	Basic definition of terms, alphanumeric designation of limits/Fits, types of fits	02	11
	Interchangeability, Selective assembly & calculation of limits and dimensional chains	03	14
IV	Production drawing of Stuffing Box & practice class	03	17
	production dwg of Screw Jack & Revolving centre	03	20
	production dwg of I-C engine Connecting rod	03	23
	production dwg of Square tool post & Single tool post	03	26
	production dwg of universal coupling & practice class	03	29
	production dwg of Flange coupling & practice class	03	32
	production dwg of Steam engine Cross head & practice class	03	35
	production dwg of eccentric & Hydraulic cylinder	03	38
V	process sheets for above components	03+03	44
	& discussion on previous Question Papers	01	45

CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY
(AUTONOMOUS)
Gandipet, Hyderabad – 500 075

LESSON PLAN

Department: PHYSICS

Academic Year: 2019-20

Subject: Physics (Theory)

Faculty : Dr. Neelema Agarwal

Commencement of Instruction: 19-8-2019

Dates of I Mid exam: 25th Oct, 19

Class: B.Tech. ¼ (Bio-Tech./Chem)

Semester : I

Subject Code: 18PY C05

No. of Periods : 54

Completion of Instruction:14-12-2019

II Mid exam: 16·12·2019.

Unit No.	Topics	No. of Periods	Cumulative Periods
	UNIT – I		
I	**Diffraction:** Introcution to interference and examples, concept of diffraction, Fresnel and Fraunhofer's diffraction	2	2
I	Fraunhofer diffraction at single slit	2	4
I	Fraunhofer diffraction at double slit	1	5
I	Fraunhofer diffraction at multiple slits, grating; characteristics of grating and its applications	2	7
I	**Polarisation:** Introduction, polarization by reflection, double refraction, scattering of light	2	9
I	Circular and elliptical polarisation	1	10
I	Optical activity	1	11
	UNIT – II		
II	**Fibre Optics:** Introduction, optical fibre as a dielectric wave guide: Total internal reflection, numerical aperture and various fibre parameters	4	15
II	Losses associated with optical fibres, step index and graded index fibres.	3	18

II	Pulse dispersion, applications of optical fibres.	3	21
	UNIT – III		
III	**Lasers:** Introduction to radiation with matter	2	23
III	Principle and working of laser: population inversion, pumping, various modes, threshold population inversion.	2	25
III	Types of lasers: Solid state laser	2	27
III	Gas laser	2	29
III	Semiconductor laser, applications of lasers	3	32
	UNIT – IV		
IV	**Electromagnetism and Magnetic Properties of Materials:** Laws of electrostatics, electric current and continuity equation.	1	33
IV	Laws of magnetism, Ampere's Faraday's laws	1	34
IV	Maxwell's equations	2	36
IV	Polarisation, permeability and dielectric constant, polar and non-polar dieelectrics.	1	37
IV	Internal fields in solid, Clausius-Mositti equation, application of dielectrics.	2	39
IV	Magnetisation, permeability and susceptibility	1	40
IV	Classification of magnetic materials	1	41
IV	Ferromagnetism, magnetic domains and hysteresis, applications	2	43
	UNIT – V		
V	**Quantum Mechanics:** Introduction to quantum physics, black body radiation. Explation using the phonon concept.	1	44
V	Photoelectric effect	1	45
V	Comption effect	2	47
V	deBroglie's hypothesis, wave-particle duality	1	48
V	Born's interpretation of the wave function.	2	50
V	Verification of matter waves, uncertainty principle.	1	51
V	Schrodinger's equation	1	52
V	Particle in box	2	54

Neelima Agarwal
Signature of the Faculty

Signature of the HoD

CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY
(AUTONOMOUS)
Gandipet, Hyderabad – 500 075
LESSON PLAN

Department: PHYSICS   Class   : B.E. (ECE -3)

Academic Year: 2019-2020   Semester : II

Subject   : Optics and Semiconductor Physics (Theory)   Subject Code: 18PY C01

Faculty   : **Dr. Neelima Agarwal**   No. of Periods   : 60

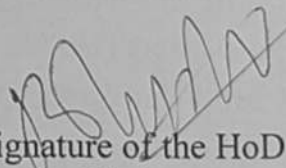Commencement of Instruction: 20-01-2020 Completion of Instruction: 13-05-2020

Dates of I Mid exam: II Mid exam:

Unit No.	Topics	No. of Periods	Cumulative Periods
	UNIT - I		
I	**Wave Optics:** Huygens' principle, superposition of waves and interference of light by wave front splitting and amplitude splitting	2	2
I	Young's double slit experiment	2	4
I	Newton's rings and Michelson interferometer	2	6
I	Farunhofer diffraction from a single slit and a circular aperture	2	8
I	Rayleigh criterion for limit of resolution and its application to vision	1	9
I	Diffraction gratings and their resolving power	2	11
I	Exercises	1	12
	UNIT - II		
II	**Lasers:** Einstein's theory of matter radiation interaction	1	13
II	A and B coefficients;	2	15
II	amplification of light by population inversion and different types of lasers:	2	17
II	gas lasers (He-Ne, CO_2)	2	19
II	solid-state lasers (ruby, Neodymium),	2	21
II	dye lasers	1	22
II	Properties of laser beams: mono-chromaticity, coherence, directionality and brightness, laser speckles, applications of lasers in science, engineering and medicine	1	23
II	Exercises	1	24

UNIT - III			
III	**Wave nature of particles and the Schrodinger equation**: Introduction to Quantum mechanics, Wave nature of Particles,	2	26
III	Time-dependent and time-independent Schrodinger equation for wave function,	2	28
III	Born interpretation, probability current	2	30
III	Expectation values	1	31
III	Free-particle wave function and wave-packets	2	33
III	Uncertainty principle	1	34
III	Exercises	2	36
UNIT - IV			
IV	Free electron theory of metals, Fermi level	2	38
IV	density of states, Application to white dwarfs and neutron stars	2	40
IV	Bloch's theorem for particles in a periodic potential, Kronig-Penney model	2	42
IV	Scattering from a potential barrier and tunneling; related examples like alpha-decay	2	44
IV	Field-ionization and scanning tunneling microscope.	2	46
IV	Exercises	2	48
UNIT - V			
V	Intrinsic and extrinsic semiconductors	2	50
V	Dependence of Fermi level on carrier-concentration and temperature (equilibrium carrier statistics),	2	52
V	Carrier generation and recombination, Carrier transport: diffusion and drift,	2	54
V	p-n junction, Metal-semiconductor junction (Ohmic and Schottky), Thermistor	2	56
V	Hall effect, LED, Solar cell	2	58
V	Exercises	2	60

Neelima Agarwal.

Signature of the Faculty 7/3/20.
with date

Signature of the HoD
with date

LOG-SHEET
Particulars of Syllabus covered

S.No.	Date	No. of Periods	Brief note of topic(s) Covered
1.	21.8	1.	Introduction.
2	22.8	1	Cohat is' Interference.
3	23.8	1	Young's double slit Exp.
4	26.8	2	Intensity dist & Fringewidth.
5	28.8	1	Difference b/w Interference & Diffraction
6	29.8	1	Concept of Diffract.
7	30.8	1	Fraunhofa & Fresnel deff.
8	4.9	1	Fraunhoffer due to single slit.
9	5.9	1	Diff due to double slit.
10	6.9	1	Diffraction Grating. Resolving Power.
11	9.9	2	Polarization by Reflection & Transmission.
12	11.9	1	Double Refraction.
13	13.9	1	Nicol Prism.
14	14.9	2	Circular & elleptical Polarisation
15	16.9	2	Optical Activity / Polarimeter.
16	18.9	1	Introduction to fiber optics.
17	19.9	1	NA. and types of fiber.
18	20.9	1	step index, Graded index, single mode/multimode
19	23.9	2	Pulse dispersion
20	25.9	1	Loses in fiber.
21	26.9	1	Unit3 Laser. Introduction to Lasers.
22	27.9	1	Einstein Coefficients.
23	30.9	2	Fresher's Party.
24	3.10	1	Ruby Laser.
25	4.10	1	He Ne Laser
26	21.10	2	Semiconductor Laser
27	23.10	1	Problems
28	24.10	1	Revision.
29	28.10	2	Mathematical Background (Gradient & Diverg)
30	30.10	1	Curl and Basics of Integral Calculus

Assignment-1 → 21, 34, 39

LOG-SHEET

Particulars of Syllabus covered

S.No.	Date	No. of Periods	Brief note of topic(s) Covered
	31.10.19	1	Laws of electrostatics.
	1.11.19	1	Laws of magnetostatics
	2.11.19	2	Continuity requation
	4.11.19	2	Maxwell equations.
	6.11.19	1	Tutorial
	7.11.19	1	Polar, non polar dielectrics
	8.11.19	1	Internal fields in solids
	11.11.19	2	lorentz fields
	13.11.19	1	Clausius Mosoli Relation
	14.11.19	1	Tutorial
	15.11.19	1	ferro magnetic materials
	16.11.19	1	Introduction to Quantum
	18.11.19	2	de-broglie hypothesis
	20.11.19	1	Heisenberg uncertainity relation.
	21.11.19	1	Schrodinger eqn
	22.11.19	1	time dependent eqn.
	23.11.19	1	Particle in a box.
	25.11.19	2	eigen values and eigen functions
	27.11.19	1	Problems on Quantum mechanics
	28.11.19	1	Photo electric effect —
	29.11.19	1	Compton effect
	30.11.19	1	Black body radiations
	2.12.19	2	Revision on unit 1
	4.12.19	1	Revision on unit 2
	6.12.19	1	Revision on unit 3
	9.12.19	2	Slip Test —
	11.12.19	1	Revision on unit 4
	12.12.19	1	Revision on unit 5
	13.12.19	1	Revision and concluding remarks —

LOG-SHEET
Particulars of Syllabus covered

S.No.	Date	No. of Periods	Brief note of topic(s) Covered
1.	20/1		Introduction to Wave optics.
2.	23/1		Youngs double Slit Exp.
3	24/1	2	fringe width + Problems
4	27/1		Interference due to thin films
5	31/1		Newton rings.
6	3/2		Applications due to Newton Ring
7	4/2		Introduction to Diffraction
8	6/2		Fresnel and Fraunhofer diff
9	7/2	2	Diffraction due to single Slit + Problem.
10	10/2		Double Slit
11	11/2		Grating.
12	13/2		Resolving Power.
13	14/2	2	Problems.
14	15/2		Practice test
15	18/2		Resolving Power Derivation.
16	20/2		Introduction to Lasers
17	24/2		Einstein coefficients.
18	25/2		Construction and characters of laser.
19	27/2	1	⎱ Shruti 2020
20	28/2	2	⎰ Ruby - Laser, Hee Ne Laser.
21	2/3		Slip - Test 1 Conducted.
22	3/3		Nd-Yag. Laser
23	6/3	2.	Introduction to QM. debroglie hypoth
24	7/3	1.	Schrodinger time dependent Eqn.

Lesson Plan

Sem2-2019-20
Optics and Semiconductor Physics

Name of the Faculty: Dr M.Subhadra   **Branch:CSE-1**

Unit No	Topics	No of Periods	Cummulative Periods
I			
Wave Optics	Introduction, Huygen's Principle, Superposition of waves and interference of light by wave front splitting and amplitude splitting	**1**	**1**
	Fresnel's Biprism , description about the biprisim –working, formation of bands, calculation of wavelength of a given source using biprism Additional information: Applications of biprism	**2**	**3**
	Interference in thin films in reflected light- Newton's rings Determination of diameter of the bright and dark rings,	**2**	**5**
	Applications of Newton's rings: wavelength determination and refractive index of the liquid	**1**	**6**
	Types of diffraction, Fraunhoffer diffraction from a single slit Additional information: calculation of resultant amplitude due to n vibrations	**2**	**8**
	Double slit diffraction-intensity distribution	**1**	**9**
	Rayleigh criterion for limit of resolution, concept of N slits	**1**	**10**
	Diffraction grating and its resolving power	**2**	**12**
II			
Laser & Holography	Introduction , Einstein's coefficients, Population inversion, Amplification of light - LASER	**1**	**13**
	Characteristics of laser, Types of Lasers, Solid state Laser: Ruby &Nd:YAG construction and working	**2**	**15**

	Gas Lasers: He-Ne & CO2 laser Construction and working	2	17
	Semiconductor laser, Applications of lasers	1	18
	Principle of Holography, Recording and reconstruction -Applications	1	19
Fiber Optics	Introduction, Principle , Propagation of light through an optical fiber	1	20
	Numerical aperture and acceptance angle, types of fibers –step and graded index fibers	2	22
	Pulse dispersion and fiber losses Fiber optic communication system -Applications	2	24
III			
Principles of Quantum Mechanics	Introduction, wave nature of particles, de-Broglie hypothesis, Wave packet, wave function and its physical significance	1	25
	Time independent and Time dependent Schordinger equations	2	27
	Born interpretation, Expression for Probability current	2	29
	Uncertainty Principle, Particle in infinite square well potential	2	31
	Scattering from potential step	2	33
	Potential barrier and tunneling	2	35
	Tunneling and applications(additional)	1	36
IV			
Band Theory of Solids	Salient features of free electron theory of metals(Classical and quantum)	2	38
	Fermi level, density of states	3	41
	Bloch's theorem for particles in a periodic potential	2	43

	Kronig-Penny model (qualitative)-- conclusions	3	46
	Classification of solids: metals, semiconductors and insulators	2	48
V			
Semiconductors	Intrinsic and extrinsic semiconductors	2	50
	Carrier concentration in intrinsic semiconductors, law of mass action	2	52
	Dependence of Fermi level on carrier concentration and temperature in extrinsic semiconductors(qualitative)	2	54
	Carrier generation and recombination , carrier transport-diffusion and drift	2	56
	PN-junction formation and its characteristics, Thermistor	2	58
	Hall effect , LED	1	59
	Solar cell working and characteristics	1	60

M. Subhadra

Signature of the faculty   Signature of the HoD

LESSON PLAN

CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY
Gandipet, Hyderabad-5000075
LESSON PLAN (PRM: 507)

Department: SMS
Academic Year: 2019-20
Subject: **Performance and Compensation Management**
Faculty: Smt. B. Lavanya
Commencement of Instruction: 8 July 2019
Dates of I Mid Exam: 28 – 31 Aug'19

Class: MBA II year
Semester: I Sem
Subject Code: **16MB E103** (HR)
No. of periods: 38 ± 3
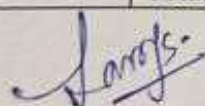Completion of Instruction: 1 NOV
II Mid Exam: 4 – 7 NOV'19

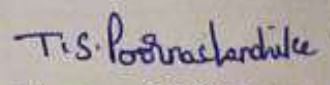**Classes lost due to Holidays and Mid-Sessional Exams**

Day & Date	15th Aug – Thu	12 Sep – Thu	2 Oct – Wed		
Occasion	Independence Day	Ganesh Nimajan	Gandhi Jayanthi		

Time Table:

Day	Wednesday	Thursday	Friday
Periods	6th Hr	5 Hr	2nd Hr

UNIT. N0	Topics/Sub-Topics	No. of. Periods	Cumulative periods
	Introduction to the subject and its contents in short	1	1
I	**INTRODUCTION**: Performance management: def'n, concern & scope	1	
	Determinants of job performance+ Mapping, process & Pf M sequence cycle of PM +Pf planning & Role clarity.	1	
		1	
	KPA'S & Pf Targets +Traits, behavior & results approaches to measuring Pf	1	
	The impact of HRM practices on Pf + Case study	2	06
II	**PERFORMANCE APPRAISAL**: Meaning, importance, introduction to methods: Assessment centre, Psychometric test, Role play	1+1	
	self appraisal-360 Appraisal- Critical incidents worksheet	1	
	Rating less appraisal for future of PMS-combining behavior outcome	1	
	Attribution theory-causal matrix	1	
	Learning exercises on assessment centre techniques	1+1	07
III	**PERFORMANCE BENCHMARKING:** Diagnosis and Performance improvement-Performance measures pyramid	1	
	Direction of trouble shooting with Behavior model- Mager & Pipes model	1	
	Learning exercise + mid revision	1	
	EFQM-Excellence model- Diagnostic & process bench marking	1	
	PM Audit, PM pathway analysis	1	
	The impact of PFM on line managers & employees	1	06
IV	**INTRODUCTION TO STRATEGIC COMPENSATION MANAGEMENT**: Compensation as an offshoot of performance- Concept of compensation-Exploring and defining the compensation context	1+1	
	System of compensating–compensation dimensions	1	
	Role of compensation in Organization-stake holders of compensation	1	
	Factors influencing compensation- Aligning Compensation Strategy with HR Strategy and Business Strategy	1	
	New trends in compensation management–The 3-P compensation concept.	1+1	07
V	**DESIGNING COMPENSATION SYSTEM - EMPLOYEE BENEFITS MANAGEMENT:** Bases for Traditional Pay System and Modern Pay System	1	
	Establishing Pay Plans—Seniority and Longevity pay	1	
	Linking Merit Pay with Competitive Strategy-Incentive Pay-Types	1	
	Person focus to Pay—Team Based Pay.	1	
	Fringe Compensation- Legally required Benefits- Discretionary Benefits.	1+1	
	International Compensation- Executive Compensation Packages	1+1	
	Learning exercise:	1	09
	Final revision + Review of external question papers	2	02
	Total No. of Estimated classes		38

Signature of Faculty

Signature of HOD I/C Acad

LESSON PLAN

Department	: Biotechnology	Class	: B.Tech VI semester
Academic Year	: 2018-19	Semester	:
Subject	: Medical Biotech (E-III)	Subject Code	: 16BTE032
Faculty	: C. Obula Reddy	No. of Periods	: 3
Commencement of Instruction	:	Last Date of Instruction	: 30-3-19
Dates of I Mid Exam	: 28-1-19 to 30-1-19	II Mid Exam : 1-4-19 to 3-4-19	

Classes lost due to Holidays and Mid-Sessional Exams

Day & Date					
Occasion					

Day & Date					
Occasion					

Unit No.	Topic	No. of Periods	Cumulative Periods
1)	Introduction to Medical Biotechnology		
	a) Introduction, scope and importance of Medical Biotechnology	1	1
2)	b) The genetic basis of disease;	1	1
	c) chromosomal Disorders	1	1
	d) Single gene disorders; modes	1	1
	e) Cystic fibrosis, sickle cell anemia	1	1
	f) Thalassemia, Taysachs disease	1	1
	g) Fragile X syndrome	1	1
	h) Polygenetic disorders a) IDDM1	1	1
	i) Alzheimers disease & Parkinson	1	1
2)	UNIT II Medical oncology		
	a) Cancer types (Breast cancer)	1	1
	b) Stomach Cancer	1	1
	c) Cancer Genetics oncogenes	1	1
	d) Tumor Supressor genes	1	1
	e) Diagnosis of cancer	1	1
	f) Treatment of cancer	1	1
	g) Normal cells vs Cancer cells	1	1

LESSON PLAN

| Expt. No.		Description	No. of Periods	Cumulative Periods
		UNIT-III Stem cell treatment		
	a)	Stem cell definition, properties and uses of stem cells	1	1
	b)	Types of stem cells		
	a)	Isolation and culture of embryonic stem cells	1	1
	b)	Isolation and culture of Adult stem cells	1	√
	c)	clinical applications of stem cells	1	1
	d)	Stem cell Banking & ethics	1+1	2
	e)	concept of Tissue engineering	1	1
	f)	Types of scaffolds	1	1
		UNIT-IV Medical instrumentation & Diagnostics		
	a)	Principle, properties & applications of Biomedical devices	1	1
	b)	cardiac stent	1+1	1+1
	c)	Pacemaker structure, principle & Applications	1	1
	d)	Dental implants & knee replacemt	1+1	1+1
	e)	Molecular approaches ELISA	1	1
	f)	Taq, MAN, RT-PCR	1	1
	g)	Application of Biosensors in Medicine	1	1
		UNIT-V → Molecular Therapy & Bioethical issues		
	a)	Protein Therapy by MAB	1	1
	b)	DNAase 1, α-Antitrypsin, Leptin	1	1
	c)	Immunotherapy by immunotoxins	1	1
	d)	Recombinant Vaccines	1	1
	e)	Bioethical issues in IVF, cloning & surrogacy	1+1	2

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Signature of HOD : Cy.   39

LESSON PLAN

Department	: Chemical Engineering	Class	: BTech 2nd Year
Academic Year	: 2018-19	Semester	: IV sem
Subject	: Fertilizer Technology	Subject Code	: 16CHEO1
Faculty	: Dr P. Swapna Reddy	No. of Periods	: 3L/week
Commencement of Instruction	: 10-12-2018	Last Date of Instruction	: 30/9/2019
Dates of I Mid Exam	:	II Mid Exam :	

Classes lost due to Holidays and Mid-Sessional Exams

Day & Date	25/12/2018	14/1/2019	15/1/2019	4/3/2019		
Occasion	Christmas	Pongal	Sankranti	Shivorathri		
Day & Date						
Occasion						

Unit No.	Topic	No. of Periods	Cumulative Periods
1	→ Introduction to Fertilizer Technology.	2	2
	→ Plant Nautrients, Role of essential elements for plant growth.	2	4
	→ Nitrogenous Fertilizers – availability of feed stock	2	6
	→ Production of Ammonia– Haber and kellogg Process	2	8
	→ By product ammonia Recovery by direct and indirect Methods	2	10
2	→ Manufacture of urea	2	12
	→ Manufacture of ammonium Sulphate and ammonium Nitrate	2	14
	→ Calcium Ammonium Nitrate and ammonium chloride manufacture	2	16
	→ Manufacture of Nitric acid	2	18
3	→ Introduction to Phosphorous Fertilizers	2	20
	→ Manufacture of single and triple super phosphate	2	22
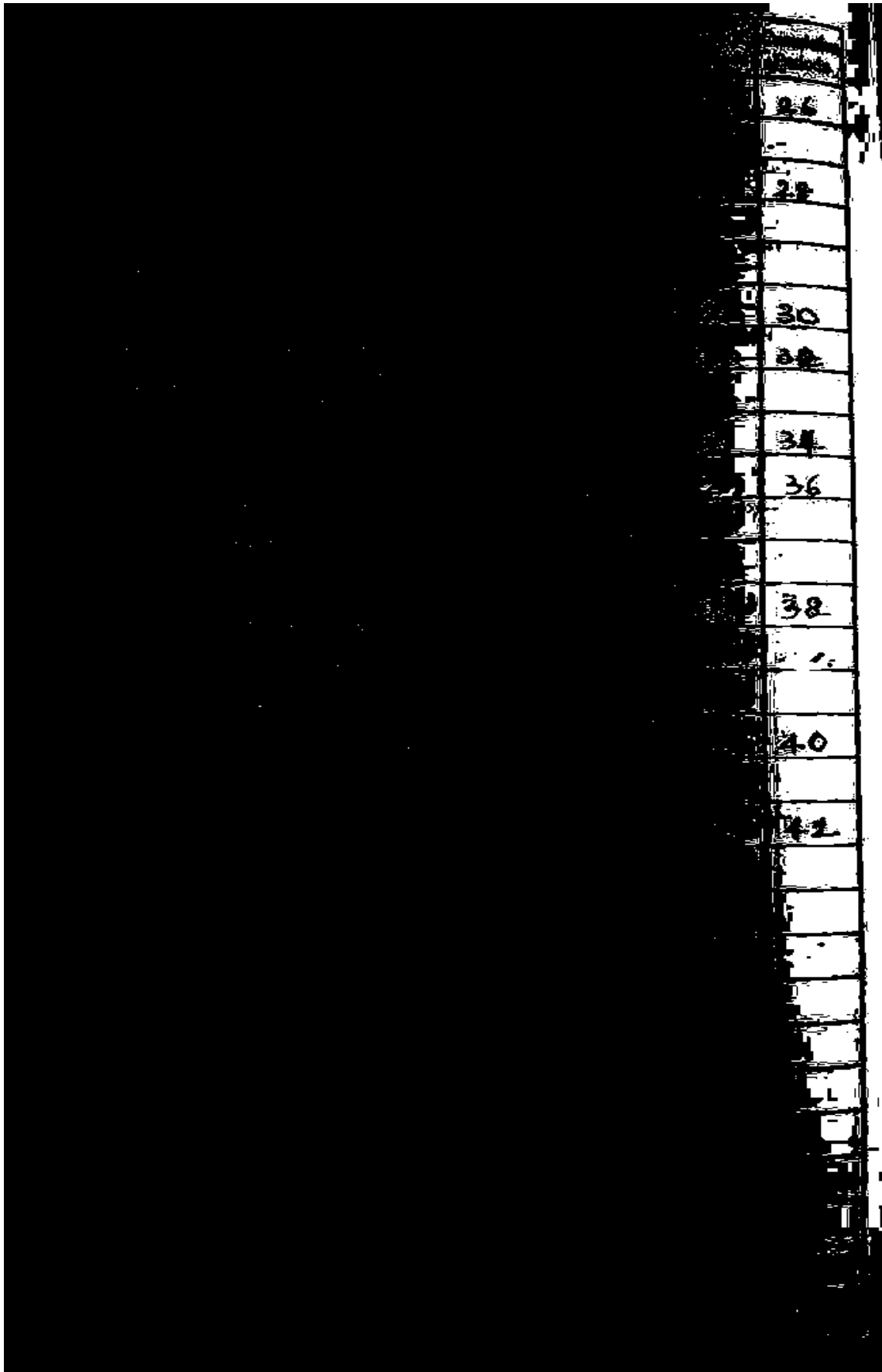
26

28

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ISO 9001: 2015

LESSON PLAN

Department: **Civil Engineering**

Academic Year: **2018-2019**   Class: **B. E- VI Semester (Civil-A1)**

Subject: **Theory of Structures – II**   Subject Code: **16 CE C26**

Faculty**: Dr. M. Koti Reddy**   No. of periods: **50**
Commencement of Instruction**: 10- 12-2018**   Last Date of instruction: **30-03-2019**

Date of I mid exam: 28-**01-2019**   Date of II mid exam**: 01-04-2019**

Time Table of the Subject:

Day	Monday	Tuesday	Tuesday	Thursday
Periods	1.20 to 2.20	1.20 to 2.20	3.20 to 4.20	1.20 to 2.20
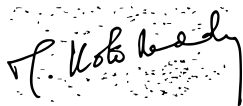
No. of public holidays during the semester which axe the instruction _____

Day & Date				
Occasion				

S.NO	Topics / Sub-Topics	No. of classes estimated	Remarks
UNIT-I : Slope deflection method:			
1.	Introduction and derivation of slope deflection equation	2	
2.	Continuous beams with and without sinking of supports.	2	
3.	Single storeyed portal frames without side sway	2	10
4.	With side sway degree of freedom not exceeding 3, for point loads, udl. Shear force and bending moment diagrams	2+2	
UNIT-II : Moment distribution method:			
5.	Introduction, static indeterminacy, stiffness, carry over, distribution theorem, distribution factors.	2	
6.	Continuous beams with and without sinking of supports for point loads, udl. Shear force and bending moment diagrams.	2+2	20
7.	Single storeyed portal frames with and without side sway for point loads, udl. Shear force and bending moment diagrams	2+2	

	UNIT – III : Kani's method:		
8.	Introduction, stiffness and rotation contribution factors	2	
9.	Continuous beams with and without sinking of supports for point loads, udl. Shear force and bending moment diagrams.	2+2	30
10.	Single storeyed portal frames with and without side sway for point loads, udl. Shear force and bending moment diagrams	2+2	

	UNIT-IV: Flexibility method:		
11.	Introduction to matrix methods of structural analysis. Static indeterminacy. Flexibility method, formulation of flexibility matrix..	2	
12.	Analysis of continuous beams with static indeterminacy not exceeding three.	2	40
13.	Analysis of pin jointed plane frames, Static indeterminacy not exceeding two.	2+2	
14.	Analysis of rigid jointed plane frames, Static indeterminacy not exceeding three.	2	

	UNIT-V: Stiffness method:		
15.	Kinematic indeterminacy – stiffness matrix formulation-Displacement method of analysis. not exceeding three.	2	
16.	Analysis of rigid jointed plane frames, Kinematic indeterminacy not exceeding three.	2	10
17.	Analysis of pin jointed plane frames, Kinematic indeterminacy not exceeding two.	2	
18.	Analysis of rigid jointed plane frames, Kinematic indeterminacy not exceeding three.	2+2	
	Total		**50**

Note: Loading on each span may be point load(s) and udl on whole span in case of beams and portal frames.

Signature of the Faculty
with date

Signature of the HOD
with date

LESSON PLAN

Department	: CSE	Class	: BE
Academic Year	: 2018-19	Semester	: VI
Subject	: Computer Vision	Subject Code	: 16CSE07
Faculty	: J Shiva Sai	No. of Periods	
Commencement of Instruction	: 10-12-18	Last Date of Instruction	: 30-03-19
Dates of I Mid Exam	:	II Mid Exam :	III Mid Exam :

Classes lost due to Holidays and Mid-Sessional Exams

Day & Date	.25-12-18 (TUE)	26-12-18 (WED)	01-01-18 (TUE)	15-1-19 (TUE)	
Occasion	Christmas	Boxing day	New Year	Pongal	
Day & Date					
Occasion					

Unit No.	Topic	No. of Periods	Cumulative Periods

Chaitanya Bharathi Institute of Technology
Gandipet, Hyderabad: 500 075
Lecture schedule for BE VI semester
Subject: COMPUTER VISION(16CSE07)

S. No	Topic	No. of classes
	UNIT I	
1.	**Introduction to Computer Vision and Image Formation:** Introduction, Geometric primitives and transformations, Photometric image formation, Digital Camera image formation.	2
2.	**Image Processing:** Point operators , Linear filtering More neighborhood operators,	4
3.	Fourier transforms, Pyramids and wavelets,	2
4.	Geometric transformations, Global optimization.	2
	UNIT II	
5.	**Feature detection and matching:** Points and patches, Edges ,Lines.	2
6.	**Segmentation:** Active contours ,Split and merge ,Mean shift and mode finding, Normalized cuts , Graph cuts and energy-based methods.	3
7.	**Feature-based alignment:** 2D and 3D feature-based alignment ,Pose estimation Geometric intrinsic calibration.	3
	UNIT III	
8.	**Structure from motion:** Triangulation, Two-frame structure from motion/	3
9.	Factorization, Bundle adjustment, Constrained structure and motion.	2
10.	**Dense motion estimation:** Translational alignment, Parametric motion, Spline-based motion, Optical flow, Layered motion.	3

	UNIT IV	
11.	**Recognition:** Object detection, Face recognition, Instance recognition,	3
12.	Category recognition, Context and scene understanding, Recognition databases and test sets	4
	UNIT V	
13.	**3D reconstruction :** Shape from X, Active range finding, Surface representations.	3
14.	Point-based representations, Volumetric representations, Model-based reconstruction, Recovering texture maps.	2
15.	**Image-based rendering :** View interpolation, Layered depth images, Light fields and Lumigraphs,	2
16.	Environment mattes, Video-based rendering.	2

Text Books:

1. "Computer Vision: Algorithms and Applications" by Richard Szeliski; Springer-Verlag London Limited 2011 .

2. Digital Image Processing"; R. C. Gonzalez and R. E. Woods; Addison Wesley;2008.

Suggested Reading & Online Resources:

1. "Pattern Recognition: Statistical, Structural and Neural Approaches"; Robert J. Schallkoff; John Wiley and Sons; 1992.

2. "Computer Vision: A Modern Approach"; D. A. Forsyth and J. Ponce; Pearson Education; 2003.

3. Multiple View geometry. R. Hartley and A. Zisserman. 2002 Cambridge university Press
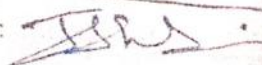
4. Richard Hartley and Andrew Zisserman, Multiple View Geometry in Computer Vision, Second Edition, Cambridge University Press, March 2004.

5. K. Fukunaga; Introduction to Statistical Pattern Recognition, Second Edition, Academic Press, Morgan Kaufmann, 1990.
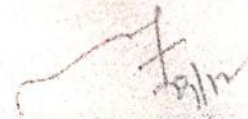
6. CV online: http://homepages.inf.ed.ac.uk/rbf/CVonline

7. Computer Vision Homepage: http://www2.cs.cmu.edu/afs/cs/project/cil/ ftp/ html/vision.html.

Signature of Faculty :

Signature of HOD

Chaitanya Bharathi Institute of Technology(A)
Gandipet, Hyderabad-75
LESSON PLAN
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENINGEERING .

Academic year: 2018-19

Subject : Embedded Systems (Elective-II)

Faculty : A.Satyavati

Commencement of Instruction: 02-07-2018

Dates of I Mid Exam : 23-25/8/2018

Year & Semester : B.E 4/4 (ECE I,III), I Sem

Subject Code: EC 462

Total No. of classes : 44+10%

Completion of Instruction: 20-10-2018

Dates of II Mid Exam : 22-24/10/2018

Time Table of the subject:

Day	Tuesday	Wednesday	Friday
Periods	12.10--1.00PM	1.35--3.15PM	12.10--1.00 PM

Sl. No.	Topics / Sub. Topics	No. of Classes Estimated
	UNIT-1	
1.	Embedded systems Vs General Computing Systems, History of embedded systems	02
2.	Classifications, applications areas	02
3.	Characteristics and quality attributes of embedded systems	02
4.	Design metrics and challenges in embedded system design	02
5.	**UNIT-2** Processor embedded into a system, Processor selection for embedded system,	02
6.	Embedded hardware units and devices in a system	02
7.	Embedded software in system and an overview of programming languages	02
8.	Challenges and issues related to embedded software development	02
9.	Class Test on Units 1,2	02
10.	**UNIT-3** Serial Bus Communication protocols: I2C, CAN	02
11.	USB, Firewire-IEEE 1394 Bus standard, Advanced serial high speed buses.	02
12.	Parallel Bus device protocols: ISA, PCI, PCI-X , ARM Bus, Advanced parallel high speed buses.	02
13.	Internet Enabled Systems-Network protocols: HTTP, TCP/IP, Ethernet..	02
14.	**UNIT- 4** Embedded System design and co-design issues in system development process	02
15.	Design cycle in the development phase for an Embedded Systems	02
16.	Embedded software development tools: Host and Target Machines, Linker/Locators for embedded software.	02
17.	Embedded Software into the Target system, Issues in hardware and software design and co-design	02
18.	**UNIT -5** Integration and testing of embedded hardware, testing methods, debugging techniques	02
19.	Laboratory tools and target hardware debugging: Logic Analyzer, simulator,	02
20.	Emulator and In circuit emulator, IDE, RTOS Characteristics	02
21.	Case Study: Embedded Systems design for automatic vending machines and digital camera.	02
22.	Class Test on units 3,4 &5	02

Signature of the faculty   6/7/2018

Signature of the HOD   10/07/18

Chaitanya Bharathi Institute of Technology (A)
Department of Information Technology

ISO 9001:2015

REC 403

Course Hand out - Data Warehousing and Data Mining

Academic Year: **2018-19**
Subject: **Data Warehousing and Data Mining**
Faculty: **Ms. T. Prathima**
Commencement of Instruction: **10.12.2018**

Semester: **VI-Sem., IT-2**
Subject Code: **16ITC25**
No. of classes: **39**
Completion of Instruction: **30.03.2019**

Time Table of the Course:

Day	Tuesday	Thursday	Friday
Time	9.40a.m. to 10.40a.m.	1.20p.m. to 2.20p.m.	10.40a.m. to 11.40a.m.

No. of public holidays during VI Semester, A.Y. 2018-19:

Day	Tuesday		Thursday
Date & Occasion	25.12.2018 (Christmas)	15.01.19 (Pongal)	21.03.2019 (Holi)

Mode of Teaching: Whiteboard, Power Point Presentation, Videos, Seminars

Objectives of the Course:
1. Familiarise the concepts of Data Warehouse and Data Mining techniques.
2. Examine the types of the data to be mined and apply preprocessing methods on raw data.
3. Present different frequent pattern discovery methods.
4. Describe various classification and clustering techniques.
5. Mine complex data types.

Course Outcomes:
Students who complete this course should be able to
1. Understand requirements of data warehousing and data mining to the decision support level of organizations.
2. Apply Pre-Processing techniques on various data formats to make it suitable for data mining algorithms.
3. Generate Association rules for the data.
4. Build models for Classification, prediction, and clustering.
5. Evaluate the performance of various data mining algorithms.
6. Understand mining of complex data.

Course Prerequisites:
Database Systems (16ITC17), Database Lab (16ITC22).

Course Plan/Schedule:

S.No.	Topics / Sub. Topics /Experiments	No. of Classes Estimated	Remarks
	UNIT – I		
1.	Introduction: What is Data mining? What kinds of data can be mined? What kinds of pattern can be mined? Major issues in data mining.	02	
2.	Getting to know your data: Data Objects and Attribute Types, Basic Statistical Descriptions of Data, Measuring Data Similarity and Dissimilarity.	02	

3.	**Data Preprocessing:** An Overview, Data Cleaning, Data Integration, Data Reduction	02	
4.	Data Transformation and Data Discretization.	02	

UNIT – II

5.	**Data Warehousing and Online Analytical Processing** Data Warehouse: Basic Concepts, Data Warehouse Modeling: Data Cube and OLAP	02	
6.	Data Warehouse Design and Usage: A Business Analysis Framework for Data Warehouse Design, Data Warehouse Design Process	02	
7.	Data Warehouse Usage for Information Processing, Data Warehouse Implementation.	01	
8.	**Mining Frequent Patterns, Associations and correlations:** Basic Concepts, Frequent Item Set Mining Methods	02	
9.	Interesting patterns, Pattern Evaluation Methods. **Advanced Pattern Mining:** Pattern Mining in Multilevel and multidimensional space.	01	

UNIT – III

10.	**Classification:** Basic Concepts, Decision Tree Induction	02	
11.	Bayes Classification Methods, Rule-Based Classification	01	
12.	Model Evaluation and Selection, Techniques to Improve, Classification Accuracy: Introducing Ensemble Methods, Bagging, Boosting, Random Forests	02	
13.	Improving Classification Accuracy of Class-Imbalanced Data.	02	
14.	**Classification: Advanced Methods** Bayesian Belief Networks, Classification by Back propagation	02	
15.	Support Vector Machines, Lazy Learners (or Learning from Your Neighbors), Other Classification Methods	01	

UNIT – IV

16.	**Cluster Analysis:** Basic Concepts and Methods	01	
17.	Cluster Analysis, Partitioning Methods	02	
18.	Hierarchical Methods: Agglomerative versus Divisive Hierarchical Clustering, Distance Measures in Algorithmic Methods	02	
19.	DBSCAN, Evaluation of Clustering.	02	

UNIT – V

20.	**Outlier Detection:** Outliers and Outlier Analysis, Outlier Detection Methods	01	
21.	Statistical Approaches, Proximity-Based Approaches	02	
22.	**Data Mining Trends and Research Frontiers:** Mining Complex Data Types, Mining Sequence Data: Mining Other Kinds of Data	02	
23.	Data Mining Applications, Data Mining and Society, Data Mining Trends.	01	

Evaluation Scheme

EC N0	Evaluation Components	Nature of Component	Duration	Weightage	Date	Venue
1	I-Class Test	Closed Book	1 hour	20 %	28.01.2019	will be announced
2	II-Class Test	Closed Book	1 hour	20 %	01.04.2019	
3	Slip Test-1	Closed Book	15 minutes	10 %	07.01.2019	
4	Slip Test-2	Closed Book	15 minutes	10 %	25.02.2019	
5	Slip Test-3	Closed Book	15 minutes	10 %	18.03.2019	

| 6 | Semester End Examination | Closed Book | 3 hours | 70 % | 11.04.2019 | |

Text Book:
1. Han J, Kamber M, Jian P "Data Mining: Concepts and Techniques", Third Edition, Elsevier, 2012.

Suggested Reading:
1. Pang-Ning Tan, Michael Steinback, Vipin Kumar, "Introduction to Data Mining", Pearson Education, 2008.
2. M. Humphires, M.Hawkins, M.Dy,"Data Warehousing: Architecture and Implementation", Pearson Education, 2009.
3. Anahory, Murray, "Data Warehousing in the Real World", Pearson Education, 2008.
4. Kargupta, Joshi, etc., "Data Mining: Next Generation Challenges and Future Directions", Prentice Hall of India Pvt. Ltd, 2007.

Web Resources:
1. https://www.kdnuggets.com/
2. http://archive.ics.uci.edu/ml/index.php

General timings for consultation:
- Saturday between 10.00a.m. and 1.15p.m.

Attendance Policy:
- 75% attendance is must
- It is the responsibility of the student to be regular and punctual to the classes.

Activity student has to do to achieve the objectives of the course:
- Students should actively participate in the learning process
- Students should discuss the issues/errors faced while solving the problems.
- Assignments should be submitted in time.

Notices:
- All notices will be sent to the class group it_h2@googlegroups.com and displayed on B.E. VI Sem Notice Board.

Instructor's Contact details:
Ms T. Prathima, Assistant Professor, Dept of IT
Mobile : 94410 44722 Email: tprathima_it@cbit.ac.in

Signature of Faculty

Signature of HOD

Chaitanya Bharathi Institute of Technology
(AUTONOMOUS)
Gandipet, Hyderabad.
LESSON PLAN, CBCS
Department of Mathematics and Humanities
Academic year (2017-2018)

Subject Code: 16MT CO3

Section:

Branch: Mech-2.

Subject: **ENGINEERING MATHEMATICS-II**

Name of the Faculty:

No of hours per week: 4

Commencement of Instruction: 16/01/2018   Completion of Instruction: 04/5/2018

Fist Mid exams: 07/03/2018

II-Mid Exams: 30/04/2018

Sl.No	Topic/sub-topic /Theory	No.of periods estimated	Remarks
	UNIT-I (Ordinary differential Equations)		**(12)**
1	Linear Differential equations of higher order with constant coefficients, complementary functions and particular integrals when RHS is of the forms e^{ax}	(4)	
2	$\sin ax \ or \ \cos ax$, x^m & $e^{ax}.v$ where v-is a function	(4)	
3	$x^m.v$ where v-is a function of x, Cauchy's equation & electrical circuits of second order	(4)	
	UNIT-II (Laplace Transforms)		**(10)**
4	Laplace transforms of standard functions, Laplace transforms of piecewise continuous functions	(3)	
5	First shifting theorem, multiplication by 't', division by 't'. Laplace transforms of derivatives and integrals of functions-Unit step function- Periodic functions (without proofs)	(2)	
6	Inverse Laplace transforms-by partial fractions (Heaviside method), Convolution Theorem	(3)	
7	Solving Ordinary differential equations by Laplace Transforms	(2)	
	UNIT-III (Beta and Gamma Functions)		**(08)**
8	Definitions of Beta and Gamma functions-elementary Properties of both Beta and Gamma functions	(3)	
9	Relation between Beta and gamma functions and problems	(3)	
10	Differentiation under the integral sign	(2)	
	UNIT-IV (Vector Differentiation)		**(08)**
11	Scalar and vector fields- directional derivative- Gradient of a scalar- Divergence and Curl of a vector point function and problems	(03) 2+1	
12	Properties of divergence & curl, vector identities	(4) 2+2	
13	Solenoidal and Irrotational vectors and problems	(1)	
	UNIT-V (Vector Integration)		**(12)**
14	Evaluation of Vector Line integrals	(1)	
15	surface integrals and volume integrals	(2)	
16	Greens, Gauss divergence and Stokes theorems (without proofs) and its applications	(9) 3+3+3	
		Total:	(50)

Signature of the faculty

Signature of HOD

(AUTONOMOUS)
Gandipet, Hyderabad.
LESSON PLAN, AICTE-MODEL CURRICULUM
Department of Mathematics and Humanities
Academic year (2018-2019)

Subject Code: 18MT CO1
Section: Branch: Mech - 2
Subject: **MATHEMATICS-I**
Name of the Faculty: No of hours per week: 3L+1T
Commencement of Instruction: 13/08/2018 Completion of Instruction:30/11/2018
Fist Mid exams: 11th -13th Oct, 2018   II-Mid Exams: 03rd to 05th Dec, 2018

Sl.No	Topic/sub-topic /Theory	No.of periods estimated	Remarks
	UNIT-I (Matrices)		(8)
1	Rank of the matrix, Echelon form	(1)	
2	System of linear equations, Linearly dependence and independence of vectors	(2)	
3	Eigenvalues, Eigenvectors	(1)	
4	Properties of eigenvalues, Cayley-Hamilton theorem	(2)	
5	Quadratic forms, Diagonalization of Matrices, Reduction of quadratic form to canonical form by linear transformation, Nature of quadratic forms.	(2)	
	UNIT-II (Sequences and Series)		(8)
6	Definition of Convergence of sequence and series	(1)	
7	Tests for convergence of series: comparison test	(1)	-
8	Limit comparison test, D'Alembert ratio test	(2)	
9	Raabees test, Caucheys n^{th} root test, logarithmic test	(2)	
10	Alternative series, absolute and conditional convergence.	(2)	
	UNIT-III (Calculus)		(9)
11	Rolle's Theorem, Lagranges Mean value theorem, Cauchy's mean value theorem (without proofs).	(2)	
12	Curvature, radius of curvature	(2)	
13	Evolutes and involutes	(2)	
14	Fourier series, half range sine and cosine series	(3)	
	UNIT-IV (Multivariable Calculus (Differentiation))		(8)
15	Functions of two variables, Partial derivatives	(1)	
16	Total differential and differentiability, Derivatives of composite and implicit functions (Chain rule)	(1)	
17	Change of variables, Jacobian	(2)	
18	Higher order partial derivatives, Taylor's series of functions of two variables	(1)	
19	Maximum and minimum values of functions two variables	(2)	
20	Lagrange's multipliers method	(1)	
	UNIT-V (Vector Calculus (Differentiation))		(8)
21	Scalar and vector fields, Gradient of a scalar field	(1)	
22	Directional derivative, Divergence and Curl of a vector field	(2)	
23	vector identities	(1)	
24	Improper integrals: Beta and Gamma functions and their properties	(4)	
		Total:	(41)

Signature of the faculty

Signature of HOD

Subject Code: 18MT CO3
Section: A-2

Branch: Clvil

Subject: MATHEMATICS-II

Name of the Faculty: D) G.Deepa
Commencement of Instruction: 07/01/2019
First Mid exams: 27/2/2019 TO 01/03/2019

No of hours per week: 3L+1T
Completion of Instruction: 27/04/2019
Second Mid Exams: 29/4/2019 TO 1/05/2019

Sl. No	Topic/sub-topic /Theory	No. of periods	Remarks
	UNIT-I Multivariable calculus(Integration)		**(9)**
1	Applications of definite integrals to evaluate surface areas and volumes of revolutions	(2)	
2	Double integrals ,change of order of integration	(2)	
3	Triple integrals, change of variables in integrals	(2)	
4	Applications: Areas and volume, Centre of mass and Gravity	(3)	
	UNIT-II Vector integral calculus		**(9)**
5	Line ,surface, and volume integrals,	(2)	
6	Green's theorem in a plane, Gauss's Divergence theorem Stoke's theorem	(2)	
7	D.E. :Exact first order D.E., Integrating factors, Linear first order equations	(2)	
8	Bernoulli's , Ricatti's and Clairaut;s D.E.	(2)	
9	Orthogonal trajectories of a given family of curves.	(1)	
	UNIT-III: Ordinary differential equations of higher orders		**(11)**
10	Solutions of higher order linear equations with constants coefficients,	(2)	
11	Method of variation of parameters, solution of Euler-Cauchy equation.	(2)	
12	Ordinary point, singular point and regular singular point, Power Series solution.	(2)	
13	Legendre Polynomial of first kind Rodrigues formula, Generating function.	(1)	
14	Recurrence relations, orthogonally of Legendre polynomials, relations and problems.	(2)	
15	Bessel's function of first kind, recurrence relations and problems.	(2)	
	UNIT-IV: Complex Variables –I		**(8)**
16	Differentiation, analytic functions, Cauchy-Riemann equations,	(2)	
17	harmonic functions, finding harmonic conjugate, elementary analytic functions (exponential, trigonometric, logarithm) and their properties	(2)	
18	Conformal mappings, Mobius transformations and their properties	(2)	
19	Contour integrals, Cauchy-Goursat theorem (without proof), Cauchy Integral formula (without proof),	(2)	
	UNIT- V: Complex Variables – II		**(8)**
20	Lowville's theorem and Maximum-Modulus theorem	(1)	
21	Taylor's series, Laurent's series	(2)	
22	zeros of analytic functions, singularities, Residues, Cauchy Residue theorem (without proof),	(2)	
23	Evaluation of definite integral involving sine and cosine. Improper real integrals with singular points on the upper half plane.	(3)	
			(45)

Signature of the faculty

Signature of HOD

CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY
Gandipet, Hyderabad-75

LESSON PLAN

Department: Mechanical Engineering   Class : B.E 4/4 Mechanical-2   Semester: I Sem
Name of the subject: Operations Research   Subject Code   : ME414
Academic Year   : 2018-2019   No of Periods   : 4/week
Commencement of Instruction   : 02-07-2018   Completion of Instruction : 20-10-2018
Date of Mid-I   : 23-08-2018   Date of Mid-II   : 22-10-2018
Name of Faculty   :V.Sandhya

Timetable of the Subject

Day	MONDAY	FRIDAY
Duration	09.40 AM To 11.20 AM	01.35 PM To 03.15 PM

Sl No	Topic/Sub Topic covered	No of periods estimated	Remarks
	UNIT-I **(8 Periods)**		
1.	Introduction: Definition and Scope of Operations Research. Linear Programming: Introduction ,Formulation of linear programming problems	2	
2.	Graphical method of solving LP problem	2	
3.	Simplex method	2	
4.	Degeneracy in Simplex, Duality in Simplex	2	
	UNIT-II **(8 Periods)**		
5.	Transportation Models : Finding an initial feasible solution - North West corner method, Least cost method	2	
6.	Vogel's Approximation method, Finding the optimal solution	2	
7.	Special cases in Transportation problems Unbalanced Transportation problem	2	
8.	Degeneracy in Transportation, Profit Maximization in Transportation	2	
	UNIT-III **(8 Periods)**		
9.	Assignment Problems: Introduction, Hungarian technique of Assignment problems	2	
10.	Unbalanced problems, problems with restrictions	2	
11.	Maximization in Assignment problems	2	
12.	Travelling salesman problems	2	
	UNIT-IV **(8 Periods)**		
13.	Project Management: Definition, Procedure and Objectives of Project Management, Differences between PERT and CPM	2	
14.	Rules for drawing Network diagram, Scheduling the activities, Fulkerson's rule, Earliest and Latest times .Determination of ES and EF times in forward path, LS & LF times in backward path	2	
15.	Determination of critical path, Duration of the project, Free float, Independent float, Total float	2	

16.	Crashing of network	2	
	UNIT-V (8 Periods)		
17.	Sequencing Models: Introduction, General assumptions, processing 'n' jobs through 2 machines	2	
18.	Processing 'n' jobs through 3 machines	2	
19.	Queuing Theory : Introduction, Kendal's Notation	2	
20.	Single channel - Poisson arrivals - Exponential Service times	2	
	Total No of classes	40	

Suggested Reading

1. Hamdy, A. Taha, "Operations Research - An Introduction", Sixth Edition, Prentice Hall of India Pvt. Ltd., 1997.

2 S.D. Sharma, "Operations Research", Kedar Nath Ram Nath & Co.,2009.

3. Harvey M. Wagner, "Principles *of* Operations Research", Second Edition, Prentice Hall of India Ltd., 1980.

4. V K Kapoor ., " Operations Research", S.Chand Publishers, New Delhi , 2004.

5. R Paneer Selvam, "Operations Research", Second Edition, PHI Learning Pvt. Ltd., New Delhi , 2008.

Signature of the faculty

Signature of the HOD

LESSON PLAN

Department	: Mechanical Engg	Class	: B.E (Mech & Prod)
Academic Year	: 2018-2019	Semester	: I Semester
Subject	: PCCM (Elective 2)	Subject Code	:
Faculty	: N. JYOTHIRMAYI	No. of Periods	: 03/week
Commencement of Instruction	: 02/07/2018		
Dates of I Mid Exam	: 23/08/2018 II Mid Exam : 22/10/2018 : III Mid Exam :		

Classes lost due to Holidays and Mid-Sessional Exams

Day & Date	15/08/2018	22/08/18	23/08/18	13/09/18		
Occasion	Independence Day	Bakrid	I Mid	Vinayaka Chavithi		

Day & Date						
Occasion						

Unit No.	Topic	No. of Periods	Cumulative Periods
I	Introduction to Polymers, Plastics & Elastomers	01	01
	Polymerization, Degree of Polymerization	01	02
	Thermoplastics and Thermosetting Plastics		
	Properties & applications of thermo & thermosetting Plastics	02	04
	Mechanical Properties of plastics and influencing parameters.	02	06
II	Manufacturing Methods of Plastics:	01	07
	Injection Moulding	02	09
	Extrusion, Calendaring	02	11
	Thermoforming, Blow moulding	01	12
	Compaction Moulding, Transfer Moulding	02	14
III	Introduction to ceramics, classification of	.	
	Ceramic materials, Conventional & Advanced	02	16
	Refractories - classification, Modern trends & developments	02	18
	Basic Raw materials, Elementary idea of manufacturing process technology	01	19
	Flow diagram of steps necessary for manufect. basic properties & areas of application	02	21

Expt. No.	Description	No. of Periods	Cumulative Periods
IV	Whitewares: classification f types of whitewares	01	22
	Elementary idea of mfg process-technology including body Preparation	01	23
	Basic properties and application area	01	24
	Ceramic coatings: Types of glazes-f-enamels,	01	25
	Elementary ideas on compositions, process of enameling f glazing f their properties	02	27
	Glass: Definition, Basic concepts of glass	01	28
	Structure, glass manufacturing processes, Different types of glasses, application of glasses	02	30
V	Fundamentals of composites: Need for Composites – enhancement of Properties	01	31
	classification of Composites – m Polymer matrix composites, metal matrix composites, Ceramic matrix composites	02	33
	Reinforcement – Particle reinforced composites, fibre reinforced composites,	02	35
	Applications of various types of composites	01	36
	Fiber Production techniques for glass, Carbon f ceramic fibers.	02	38
	Manufacturing methods of composites	02	40

Signature of Faculty: 02/07/2018   Signature of HOD:

LESSON PLAN

Chaitanya Bharathi Institute of Technology, Hyderabad
Department of Mechanical Engineering

Class : BE 4/4 Mech-1
Subject code : ME 421
Subject : **Production & Operations Management**

Academic year : **2018-2019**
Faculty: **Mr. P. Surendar Reddy**
No. of periods : 4 per week

SNo	Topics / Sub topics to be covered	No. of expected classes(cumulative)	
	UNIT – I		
1	Production & Operations Management: Introduction, Types of Production Systems-Job shop, Batch, Flow shop	2	2
2	Plant location & Layout: Factors affecting plant location Plant layout-objectives, Types of layouts, Merits and demerits	2	4
3	Work Study: Introduction to method study & work measurement	2	6
4	Standard time calculations, methods of rating, work sampling,	2	8
5	Wages & incentives-Types of incentive plans	2	10
	Unit – II		
6	Forecasting: Introduction, Forecasting objectives and uses, demand patterns.	2	12
7	Qualitative models-Market survey, Delphi, Quantitative models-moving average	2	14
8	Weighted moving average, simple exponential smoothing,	2	16
9	Trend adjusted exponential smoothing, Least Square Method simple regression, multiple regression	2	18
10	Forecast errors: Mean Absolute Deviation, Mean square error, mean forecast error, mean absolute percentage error.	2	20
	Unit-III		
11	Aggregate Planning & Master scheduling: Introduction, objectives,	2	22
12	cost in Aggregate planning, strategies, MPS	2	24
13	MRP : Importance of MRP, MRP System I/Ps & Ps,	2	26
14	MRP calculations, bill of materials	2	28
	Unit – IV		
15	Inventory control: importance, types, Inventory costs, deterministic inventory models-	2	30
16	Basic EOQ model, Production model without shortages,	2	32
17	Purchase model with instantaneous replenishment & with shortages,	2	34
18	Production model with shortages, Inventory model with price breaks	2	36
19	Fixed order quality system, periodic review systems, inventory model with probabilistic demand.	2	38
	Unit – V		
20	Quality control :Introduction, history and early contributions by quality gurus, quality tools	2	40
21	Process capability, Quality control by control charts,	2	42
22	control charts by variables and attributes	2	44
23	Sampling plans, OC curves, introduction to TQM	2	46
	Total Classes	**46**	

2

Faculty 10/12/18

Head, MED 10/12/18

Chaitanya Bharathi Institute of Technology (A)
Gandipet, Hyderabad - 500 075

LESSON PLAN

Department: **Mechanical Engineering**
Academic Year: **2018-2019**
Subject: **Kinematics of Machines**
Faculty: **V.Jaipal Reddy**
Commencement of Instruction: **10/12/2018**
Date of I Mid Exam 28/c/2019

Class: **BE IV-Sem, Mech-2**
Subject Code: **16ME C14**
Number of Periods: **3+1**
Last day of Instruction: /l /2019
Date of II Mid Exam : / /2019

S.No	Brief Description of Topics to be Covered	No. of Classes Estimated
Unit – I		
1.	Mechanism, machine and structure, Kinematic link (element), kinematic pair and classification of pair.	2
2	Degrees of freedom, Gruber's Criterion, Kinematic chain, Inversion of a mechanism, Inversions of Quadric cycle chain.	2
3	Inversions of single and double slider –crank mechanisms.	2
4	Mechanism with lower pairs- Pantograph and straight line motion mechanisms: Peaucelleir, Hart, Scott-Russel, Watt and Tchebicheff mechanism.	2
5	Steering gear mechanism- Davis & Ackerman's, Geneva mechanism and Hook's joint.	2
UNIT – II		
6	Analysis of Mechanism: graphical methods to find velocities of mechanisms.- Relative velocity method –vector representation, velocity of rubbing, velocity analysis of various links,	2+2+1
7	Instantaneous centre, Body centrode and space centrode, Kennedy's theorem.	2
8	Analytical and graphical determination of acceleration of different mechanisms including coriolis components acceleration.	2+2+2
9	Synthesis of Mechanisms: Freudenstein's method for four bar linkage.	1
UNIT – III		
10	Laws of friction: friction in screw threads, pivots, collars and clutches. Friction axis of a link and friction circle.	2+2+1
12	Brakes & Dynamometers: Block or shoe, Band,Band and Block, Internal Expanding Shoe Brake, Prony, Rope brake Dynamometers. Belt transmission, Epicyclic Torsion Dynamometers.	2+2+1

	UNIT – IV	
13	Cams: Types of cams and followers. Displacement diagrams for followers – uniform motion, parabolic motion, simple harmonic motion, cycloidal motion.	2+2
14	Drawing cam profile: with knife – edge follower, translating roller follower and translating flat follower.	2+2
15	Cams of specified contour: tangent cam with roller follower, circular arc (convex) cam with roller follower.	2
	UNIT – V	
16	Gears: Classification of gears. Spur Gears: Nomenclature,.	2
17	Law of gear tooth action, involute and cycloid gear tooth profile, interference of involute gears,. Comparison of involute and cycloid tooth profile	2
18	Minimum number of teeth to avoid interference, contact ratio, cycloid tooth profiles	2
19	Helical Gears: Helical gear tooth relations, contact of helical gear teeth.	01
20	Gear Trains: Simple, compound, reverted and Epicyclical Gear Trains. Differential gear train	2+2
	Total Lectures	55

Suggested Readings:
1. S.S.Ratan, "Theory of Machines", Tata McGraw Hill Publications, 2012
2. J.E.Shigley, "Theory of Machines", McGrawhill Publications, 2010
3. Thomas Bevan, "Theory of Machines", CBS Publishers 1995.

Faculty:

10/6/2018

(V.Jaipal Reddy)

Head, MED

CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY, HYDERBAD-500 075.
LESSON PLAN

Department: **Mechanical Engg**   Class: **B.E (Mech-02)**

Academic year: **2018-2019**   Semester: **III**

Subject: **MACHINE DRAWING**   Subject Code: **16MEC07**

Commencement of Instruction: 02.08.2018   Last date of Instruction: 24/10/2018

Date of I mid Exam: :23/08/3018   Date of II mid Exam: 22/10/2018

Sheet No.	TOPIC	Fig No.s
1.	**INTRODUCTION** Draw the convention representation of various materials &Machine components	2.26, 2.27 a, b & c
2.	Draw the conventional representation for sectioning and dimensioning on Machine drawing practice	2.11 to 2.19 2.21 to 2.24, 2.28, 31, 32. **HW 34** to 38. 2.47 (a & b), 2.51 to 2.55
3.	**ORTHOGRAPHIC PROJECTIONS** Draw Front view, Top view and side view(Left side View /Right Side View) of the objects show in figures	3.25, 26, 28, 29,33
4.	Draw sectional views for the Machine parts (Note: Choose suitable scale)	4.13, 4.14, 4.15,4.16 4.19, 4.20
5.	Copy the given views and draw the missing view of the objects shown in figs.	4.23, 24, 25, 26
6.	a) Draw the sectional front view and side view of the various Brasses b) Assemble all parts of the "STUFFING BOX" and draw sectional front view ,top view and left side view	12.5 Pg.No.186 **(Only orthographic views)** 18.1 Pg.No.266
7	Assemble all parts of the "SCREW JACK" and draw half sectional front view (with right half in section) and top view	18.51 Pg.No.336
8	Assemble all parts of the "PIPE VICE" and draw sectional front view and top view	18.52 Pg.No.337
9	Draw sectional front view, top view and sectional side view of the "PLUMMER BLOCK".	12.4 P.No.185&18.45 pg.no.328
10	**SCREWED FASTENINGS** Sketch the various thread profiles	5.1 to 5.8 5.12, 5.13, 5.17
11	Sketch the various locking devices for nuts and eye bolt with proportions	5.21, 5.27, 5.29, 5.30, 5.31, 5.32, & 5.36

Sheet No.	TOPIC	Fig No.s
12	**KEYS COTTER & PIN JOINTS** Sketch the various keys in two ways as fitted in position between a shaft and mounting. Choose the shaft diameter as 30 mm and hub dia of the mounting as 60mm	6.1 to 6.9. (only orthographic views)
13	Draw the sectional view from the front and the view from the side of a cotter joint with sleeve, cotter joint with socket and special got and knuckle joints used to connect two rods of 50mm dia each.	6.12, 6.13, 6.14, 6.15 **HW**

14	**SHAFT COUPLINGS** Sketch the sectional front view and side view of various couplings indicating proportions to connect two shafts each of dia 30mm	7.1, 7.3, 7.5, 7.6 7.7, 7.11, 7.12
15.a	**RIVETED JOINTS** Draw the different types of rivet heads, riveting, caulking, fullering as shown in figs.	10.1 to 10.3, 10.8 **HW**
15.b	Draw sectional view from the front view from the above of the various riveted joint to join two plates of thickness 10mm (only orthographic views)	10.9 to 10.15
16	Assemble all parts of the **"CROSS HEAD"** and draw sectional front view, top view and left side view	18.3 Pg.No.282
17	Assemble all parts of the **"ECCENTRIC"** and draw half sectional front view with upper half in section and top view	18.5 (b) Pg.No.285
18	Assemble all parts of the **"PETROL ENGINE CONNECTING ROD"** and draw its front view and sectional top view	20.7 Pg.No.396
19	Assemble all parts of the **"LATHE TAIL STOCK"** and draw sectional front view and left side view	18.18 Pg.No.290
20	Assemble all parts of the **"Revolving centre"** and draw sectional front view and top view	18.20 Pg.No.292
21	Assemble all parts of the **"Single Tool Post"** and draw sectional front view and Right side view	18.14 Pg.No.285

Text Books
1. **Machine Drawing by K.L.Naryana; P. Kannaiah & K.Venkata Reddy- New Age international Publications, second edition,2004.**

Signature of the Faculty

Head, MED

1. **V.Jaipal Reddy**
2. I.Kartikeya sarma   02/03/18
3.

2

LESSON PLAN

Department	: production dept	Class	: B.E
Academic Year	: 2018-2019	Semester	: IV/IV - II sem
Subject	: total quality management	Subject Code	: PE4B5.
Faculty	: V. Jaipal Reddy	No. of Periods	: 80
Commencement of Instruction	: 10/12/18	Last Date of Instruction	:
Dates of I Mid Exam 28/01/2019	II Mid Exam :		III Mid Exam :

Classes lost due to Holidays and Mid-Sessional Exams

Day & Date					
Occasion					

Day & Date					
Occasion					

Unit No.,	Topic	No. of Periods	Cumulative Periods
I	Strategic quality management :		
	Quality policies, quality goals, obstacle to	01	01
	achieving successful strategic quality management	01	02
	oreganization for quality, role of top middle, work	02	04
	force team (Quality circles)		
	Developing Quality work culture	01	05
	motivation theorys : maslow need theory, Herzberg	02	07
	two facter theory, theory X, Y & Z methode to		
	to create & maintain awareness of quality		
	management leadership, types of self development & empowerment program	01	08
	methode of inspiring action, etc		
II	Basic functional requirements of quality, design	02	10
	(reliability, safety, cost & product performance		
	concurrent engineering & value engg	01	11
	support for quality improvement process brainstorming	01	12
	Cause effect analysis, pareto analysis	02	14
	Quality function deployment	02	16
	reliability analysis, failure rate, bathtubcurve	02	18
	weibull distribution relationship b/w part and	01	19
	the system, exponential reliability		

LESSON PLAN

Expt. No.	Description	No. of Periods	Cumulative Periods
	FMEA, Design for expt, factorial expt, construction fishbone diagram	02	21
III	Technical Tools for Quality:		
	Analysis of variance, 4 factor ANOVA expt, 2 levels, analysis of mean	02	23
	Techniques for online quality, data collection plan, variable, attribute charts, interpretting the control charts, Technique for offline quality control, background to Taguchi method, controllable & non-controllable factors in paramtr	02	25
		02	27
	Taguchi analysis techniques	04	31
IV	Quality Information system:		
	Scope, differences b/w QIS & MIS, creating new software	01	32
	features of QIS software, software for inspection	2	34
	Inspection system: operational sorting & correlation Sorting, AOL, LTPD, AOQL, Non destructive test	02	36
	Audit systems and concept of pokayoke	02+02	40
V	Measure of Customer needs:		
	The need to measure customer satisfaction, importance of poope packaging, customer processing & installation of product	02	42
	dealing with customer complaints, using weibull analysis	01	41
	field feed back, Parameter to measure customer	02	43
	dissatisfaction, problems with customer satisfaction system	02	45
	Beyond TQM: Difficulties in implementing TQM	01	46
	sorting your quality system, JIT system, the People side of TQM, System integration,	02	48
	Kansei engineering & flexibility in manufacturing.	02	50

Signature of Faculty: Signature of HOD:

CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY
(AUTONOMOUS)
Gandipet, Hyderabad – 500 075

LESSON PLAN

Department: PHYSICS

Class : B.E. ~~(PROD)~~/CIVIL/MECH

Academic Year: 2018-2019

Semester : I

Subject : Introduction to Mechanics and Electromagnetic Theory (Theory)

Subject Code: 18PY C03

Faculty : Dr. M. SUBHADRA   No. of Periods : 60
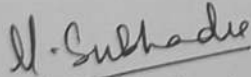
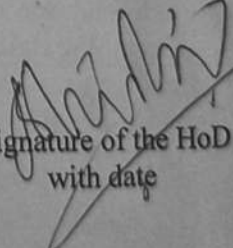Commencement of Instruction: 13-08-2018   Completion of Instruction: 30-11-2018

Dates of I Mid exam: 12/10/18   II Mid exam:

Unit No.	Topics	No. of Periods	Cumulative Periods
	UNIT - I		
I	**Oscillations:** Simple harmonic motion - Harmonic oscillator	2	2
I	Damped harmonic motion - over-damped, critically damped and lightly damped oscillators	2	4
I	Forced oscillations and resonance	2	6
I	**Ultrasonics:** Production of ultrasonics by piezoelectric and magnetostriction methods	2	8
I	Detection of ultrasonics - Determination of ultrasonic velocity in liquids – Applications	2	9
I	Exercises	2	12
	UNIT - II		
II	**Rigid body Dynamics:** Definition and motion of a rigid body in the plane - Rotation in the plane	2	14
II	Kinematics in a coordinate system rotating and translating in the plane	2	16
II	Angular momentum about a point of a rigid body in planar motion - Euler's laws of motion, their independence from Newton's laws, and their necessity in describing rigid body motion	2	18
II	Examples: Two-dimensional motion in terms of (a) Angular velocity vector, and its rate of change and	2	20
		2	22
	(b) Moment of inertia tensor	2	24
II	Exercises		

		UNIT - III		
III		**Electrostatics in Vaccum:** Calculation of electric field and electrostatic potential for a charge distribution	2	26
III		Divergence of electrostatic field	2	30
III		Curl of electrostatic field	2	30
III		Laplace's and Poisson's equations for electrostatic potential and uniqueness of their solution and connection with steady state diffusion and thermal conduction	2	32
III		Boundary conditions of electric field and electrostatic potential	2	34
III		Exercises	2	36
		UNIT - IV		
IV		**Magnetostatics:** Bio-Savart law	1	37
IV		Divergence and curl of static magnetic field	2	39
IV		Vector potential and calculating it for a given magnetic field using Stokes' theorem	2	41
IV		The equation for the vector potential and its solution for given current densities	2	43
IV		Ferromagnetic, paramagnetic and diamagnetic materials,	2	45
IV		B-H curve	1	46
IV		Exercises	2	48
		UNIT - V		
V		**Electromagnetic Waves:** The wave equation	2	50
V		Plane electromagnetic waves in vacuum, their transverse nature and polarization	2	52
V		Relation between electric and magnetic fields of an electromagnetic wave; energy carried by electromagnetic waves	2	54
V		Maxwell's equation in vacuum and non-conducting medium	2	56
V		Energy in an electromagnetic field; Flow of energy and Poynting vector with examples	2	58
V		Exercises	2	60

Signature of the Faculty
with date

Signature of the HoD
with date

LESSON PLAN

Department: Physics
Academic year: 2018-19
Subject: O&SP
Faculty: Dr M.Subhadra
Commencement of Instruction : 07-01-2019
Dates of Mid Exam I: 28|02|19

Class: B.E 1/4, CSC 2
Semester: 2
Subject Code: 18PYC01
No. of periods: 60
Last date of Instruction :
Mid Exam II:

UNIT No	TOPIC	No.of Classes
1	**Wave Optics**	
	Introduction, Huygen's principle, superposition of waves	1
	intereference of light by wavefront splitting and amplitude splitting , discuss examples related to it	1
	Young's double slit experiment , Calculation of intensity at point, and formation of interference fringes	1
	Condition for Maxima and Minimum intensity and discussion	1
	Interference at thin films, Optical cosine law, Newton's Rings, formation	1
	Determination of condition for bright and dark rings, expression for diameter of bright and dark rings	1
	Michelson Interferometer	1
	Diffraction , calculation of resultant amplitude and phase	1
	Fraunhofer diffraction from a single slit and discussion of intensity distribution	1
	Fraunhofer diffraction from a circular aperture and discussion of intensity distribution	1
	Rayleigh criterion for limit of resolution and its application to vision	1
	Diffraction gratings, and their resolving power	1
2	**LASERS**	
	Einstein's theory of matter radiation interaction and evaluation of Einsteins coefficient's A & B	2
	Amplification of light by population inversion, conditions for lasing	2
	properties of laser beams	1
	types of lasers, Gaseous lasers :He-Ne laser construction and working	1
	Co2 laser construction and its working	1
	Solid state lasers: ruby and Neodymium and dye laser	2
	laser speckles and applications of lasers in science , engineering and medicine	2
	problem solving and recap	1
3	**Wave nature of particles and the schrodinger equation**	
	Introduction to quantum mechanics, wave nature of particles	1
	Time dependent and time independent schrodinger wave equation	2
	Born interpretation	1
	Probability current	1
	Expectation values	1
	Free particle wave function and wave packets	1
	Uncertainty principle	1
4	**Introduction to solids**	
	Free electron theory of metals	1
	Fermi level	1
	Density of states	1
	Application to white dwarfs and neutron stars	2
	Bloch's theorem for particles in a periodic potential	1
	Kronig-penny model	1
	Alpha decay *Scattering from a pot. barrier & tunneling*	2
	Field ionization and scanning tunneling microscope	1
5	**Semiconductors**	
	Introduction ,Intrinsic and Extrinsic Semiconductors	1
	Fermi level and its dependence on carrier concentration and temperature	2
	Carrier generation and recombination	1
	Carrier transport, diffusion and drift	1
	p-n junction , formation and its characteristics	1
	Metal-semiconductor junction (ohmic and schottky)	1
	Thermistor and its characteristics	1
	Hall effect, evaluation of hall coefficient and its applications	1
	LED and its characteristics	1
	Solar cell , working and its characteristics	2

Signature of the faculty

M.Subhadra
07|01|19

Signature of the HoD

LOG-SHEET
Particulars of Syllabus covered

S.No	Date	No. of Periods	Brief note of topic(s) Covered
1.	14/8/18	1+1	Indn.
2.	16/8/18	1	S.H.M, Harmonic oscillator, Energy of oscillator
3.	21/8/18	1+1	D.H.M, DHO. Diffl eqn, soln, overdamping, critical & underdamping, energy of oscillator
4.	23/8/18	1	Logarithmic decrement, Relaxation time, Power dissipation, Q
5.	28/8	1+1	forced oscillation diffl eqn soln.
6	29/8	1	Analysis of soln interms of driving freq & natural freq
7	30/8	1	Amp Resonance & Sharpness of Resonance
8.	4/9/18	1+1	Review of Oscillation -
9	5/9	1	Indn. audible limit. U. Sounds, Properties, App.
10	6/9	1	Production techn methods magnetostriction & piezoelectric..
11	6/9 (PS)	1	Detection techniques, velocity determination by acoustic grating.
12	11/9	1	Test AT(1), Recap of velocity determination of US
13	11/9	1	Rigid body-dy - Kinematics ohs in plane motion & rotational motn
14	12/9	1	Angular velocity, acc, Torque, K.E of rotating body scalar for
15	(18/9-cl) 18/9	+	————
15	19/9	1	Angular mom $\bar{L}$, Conservation of $\bar{L}$, eg. I - moment of Inertia tensor.
16	20/9	1	Eqn of motion of rigid body, Euler eqns
18	25/9	1	Problems on K.E, I
18	28/9	1	K.E. of rigid body rotating & translating
29	26/9	1	Indn to Electrostatics -
20	27/9	1	coulombs inverse sq-law, field intensity. E-cal due infinitely long charged wire.
21	29/9	1	E due to a dipole at pt on axial & 1 ar bisector.) Saturday
22	29/9 (Eng)	1	Revision ⎰Thurs T.T⎱
23	03/10	1	electrostatic p.E & potential, point charge, discrete line of charges
24	05/10	1	AT-2 Revision.
25	10/10/18	1	Problem solving
26	11/10/18	1	Revision (mid Exam)
27	16/10/18	1	paper desn (due to less strength)
16	16/10/18	1	pooja celebration

LOG-SHEET
Particulars of Syllabus covered

S.No.	Date	No. of Periods	Brief note of topic(s) Covered
29	23/10	1	Gauss law, Div·E
30	23/10	1	Curl E, poisons & Laplace equ
31	24/10	1	Paper distribution & solving
32	25/10	1	Boundary condition of E, V·
33	30/10	1	uniqueness theorem.
34	30/10	1	Laplaces & poisson equ. in connection with steady state, diff & thermal conductivity
35	31/10	1	magnetostatics, Indu. forces acting, Lorentzforce, law, outer expt. mag. materials
36	01/11/18	1	Bio- savarts law. div & curl of B
37	06/11/18	1	Vector & scalar potential, Cal. of vec. pot. for diff. current densities, vector pot. equ. cal. from stokes thm
38	06/11	1	Revised (mat)
39	08/11	1	Mag. materials & B-H. curve. tutorial-I
40	08/11	1	intro to EMT, EMT, faradays law, Maxwells correction. eqn continuity
41	13/11	1	Max.equ in free space, non cond.medium,
41	13/11	1	Transverse & pol. nature √h blw E, B&c
42	14/11	1	Test AT-2
43	15/11	1	Energy carried by em waves
44	20/11	1	Poynting theorem- Jvector
45	20/11	1	R-math
46	27/11	1	Revision magnetostatics
47	27/11	1	Revision EMT
48	28/11	1	Revision Electrostatics, EMT
49	29/11	1	Revision practical discussion. kinematics of Rigid body & oscillators
50	2		─── X ───

LOG-SHEET
Particulars of Syllabus covered

S.No.	Date	No. of Periods	Brief note of topic(s) Covered
1.	07/01/19	1	Introduction
2.	08/01/19	1	wave motion, types, optics, light, superposition, Interference types of it, Huygens principle.
3.	10/01/19	1	Intensity at a pt due to interference, fringe width Calculation.
4)	10/01/19 Tu	1	Problem solving.
5)	11/01/19	1	Division of wavefront, Amplitude Interference of thin films, Newtons Rings formation
6)	17/01/19	1	Det. of Diameters of N.Ri Condition for max & min.
7	12/01/19 Tu	1	Det of wavelength of source & refractive index of given liq by forming N.Ris, Problem Solving.
8)	18/01/19	1	michelson interferometer. Types of fringes.
9)	21/1/19	1	Diff Types Resultant Amp, Phase ,GN 21, 22 (L)
10)	24/1/19	1	Shift Cal, formation of circular fringes & types, Det. of λ & t
11)	24/1/19 Tu	1	Problem Solving.
12	25/1/19	1	Diff. in λ', Diff. intn, Types, Resultant of vibrns Amp
13)	28/1/19	1	Resultant & Diff. at Single Slit Intensity distribution
14)	29/1/19	1	Diff due Grating
15	31/1/19	1	Diff due to circular aperture, limit of resolution
16	31/1/19 Tu	1	Rayleigh criterion, Resolving power of Grating Egs, Problem
17	01/2/19	1	max. no- of orders, Absent spectra, Det. of λ using Grating
18)	02/2/19	1	About LASER fundamentals (L) BSR
19)	04/2/19	1	Indu. & Spon. Stimul. transitions Einstein's rlns. conditions to obtain Stimulated emission to dominate
20)	05/2/19	1	Requirements of lasing action, Components of Laser. Active medium, pump Pumping mechanism.
21)	7/2/19	1	Optical Resonator, lasing action < pumping, pop inv, Amp. oscillations He-Ne, Ruby, Nd:YAG lases
22)	7/2/19 Tu	1	Problem solving in Diff. Grating, michelson. intr
23)	8/2/19	1	Brief abt CO₂ laser & Dye laser, Problem solving
24)	11/2/19	1	Laser characteristics, Indn to Q.m. (12/2 CLL) ngtn
25	14/2/19	1	Debroglie hyp. modifien by schrodinger, time indepen
26	14/2/19 Tu	1	problems (Diff.)

LOG-SHEET
Particulars of Syllabus covered

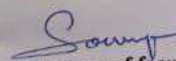| S.No.	Date	No. of Periods	Brief note of topic(s) Covered
27	15/2	1	Recap of Sc.T.Ire. Time dep eqn, particle free in evidence to particle nature
28	18/2	1	Phy. Sig. of ψ. Prop of ψ, U. principle PEE, CE light
29	19/2	1	Slip test - I
30	25/2	1	Revision for mid test -1
31	5/3	1	mid marks. dis. of paper. Indu to Infinite pot box. (maths)
32	7/3	1	Recap of particle in box, expectation values
33	7/3	1	Uncertainty Principle - Illustrations
34	8/3	1	Probability current density. (by Shravan) splcc
35	11/3	1	" " derivation. Recap of U-3
36	12/3	1	Classical free ele theory - failures
37	14/3	1	free electron model - Qm - f.D.
38	15/3	1	Density of states, distribution fn. Fermi level, Fermi energy
39	18/3	1	Blochs theorem: proof
40	19/3	1	Kronig penny model
41	22/3	1	Free particle eigenvalues fns, Seminar neutron star, whitedwarf.
42	25/3	1	Barrier - tunneling
43	26/3	1	App. of tunneling. - α-decay, STM, field Ionization.
44	28/3	1	Indu to semi cond. fermi level. Carrier conc ele
45	29/3 ₹	1	hole conc , Carrier generation - Recombination.
46	01/4	1	Fermi level in intrinsic, Carrier conc in ntype Drift current
47	02/4	1	Carrier conc in ptype, Fermi level dep. on temp&conc
48	04/4	1	Diffusion current & drift curnt.
49	08/4	1	Pn jn, solarcell - charac, Hall effect
50	9/4	1	Thermistor, charac , Seminar
51	12/4	1	pre-test (lab) seminar
52	15/4	1	Pre test (lab)
53	16/4	1	pn jn charac & metal - SC contact (ohmic & schottky)
54	18/4	2	Seminar & Revision
55	18/4	1	Slip test - 2
56	22/4	1	Revision 57/25/4/H Revision Unitwise Recap testpapers
58	26/4	1	Dis. on lab practicals sign

LESSON PLAN

Department   : SMS
Academic Year   : 2018-2019
Subject   : Financial Risk Management
Faculty   : Dr.K.SOWMYA
Commencement of Instruction : 10.12.2018
Date of I Mid Exam   :

Class: MBA-A&B
Semester: IV-Sem
Subject Code: MB 253
No. of periods: 40

II mid exam:

Classes lost due to Holidays and Mid-Sessional Exams

Day& Date				
Occasion				

Units	Topic	No. of periods	cumulative
Unit–1: Introducti on to Risk Manageme nt	The concept of Risk, Nature, Need and scope of risk.	1	1
	Source, measurement, identification and evaluation of Risk. Types of risk.	1	2
	Risk Management Process–pre-requisites and fundamentals. Risk management approaches and methods.	1	3
	Possible Risk events, Risk Indicators. An integrated approach to Corporate Risk Management. Misconceptions of Risk.	1	4
	Non-Insurance methods of Risk Management-Risk Avoidance, Loss Control, Risk Retention and Risk Transfer.	1	5
Unit –II: Forward contracts	The concept of Derivatives and types of Derivatives. The role of Derivative securities to manage risk and to exploit opportunities to enhance returns.	1+1+1	8
	Forward contracts: Definition, features and pay-off profile of Forward contract. Limitations of Forward contract.	1+1+1	11
	Valuation of forward contracts. Forward Contracts to manage Commodity price risk, Interest rate risk and exchange rate risk.	1+1+1	14
Unit –III: Futures contracts	Futures contracts: Definition. Clearing house, margin requirements, marking to the market. Basis and convergence of future price to spot price.	1+1+1	17
	Valuation of Futures contract. Differences between forward contracts and futures contracts.	1+1+1	20
	Risk management with Futures contracts–the hedge ratio and the portfolio approach to a risk–minimizing hedge.	1+1	22
Unit-IV: SWAPS Contracts	Definition, types of swaps, Interest rate Swaps: Mechanics of Interest rate swaps. Using Interest rate Swaps to lower borrowing costs, hedge against risk of rising and falling interest rates.	1+1	24
	Valuation of interest rate Swaps. Pricing of Interest rate swaps at origination and valuing of Interest rate swaps after origination.	1+1	26
	Currency Swaps: Types of Currency Swaps. Valuation of currency swaps.	1+1	28
	Using Currency Swaps to lower borrowing costs in foreign country, to hedge against risk of a decline in Revenue, to hedge against risk of an increase in Cost, to hedge against risk of a decline in the value of an asset, to hedge against risk of a rise in the value of a liability.	1+1	30
	Pricing of currency swap at origination and valuing of currency swap after origination.	1+1	32
Unit-V: Options Contracts	Definition of an option. Types of options: call option, put option, American option and European option.	1	33
	Options in the money, at the money and out of the money. Option premium, intrinsic value and time value of options.	1	34
	Pricing of call and put options at expiration and before expiration.	1	35
	Options on stock indices and currencies.	1	36
	The Binominal option pricing model (BOPM): assumptions - single and two period models.	1+1	38
	The Black & Scholes option pricing model (BSOPM): assumptions.	1+1	40

Signature of faculty

Signature of HOD

LESSON PLAN

Department	: Biotechnology	Class	: B.Tech II/IV
Academic Year	: 2017-18	Semester	: I sem
Subject	: Cell biology	Subject Code	: 16BTC07
Faculty	: C. Obula Reddy	No. of Periods	: 3 hours
Commencement of Instruction	: 28-6-17		
Dates of I Mid Exam	: 21-8-17	II Mid Exam : 19-10-17	III Mid Exam :

Classes lost due to Holidays and Mid-Sessional Exams

Day & Date	Aug 15th	Sep 5th			
Occasion	Independence day	Ganesh nimajjanam			

Day & Date					
Occasion					

Unit No.	Topic	No. of Periods	Cumulative Periods	
1	Cell structure, organelles & their functions			
	a) Cell structure & organization in Bacteria	1	1	
	b) Cell structure & functions of cellWall Endoplasmic reticulum & Golgi	1+1	1+1	(2)
	c) Cell structure & functions of Mitochondria chloroplast	1	1	
	d) Ribosome, Microbodies structure	1+1	1+1	(2)
	e) structure & composition cytoskeleton	1	1	
	f) Nucleus & its ultrastructure	1	1	
	g) Lysosomes and their functions	1	1	
2	Membrane Transport			
	a) structural organisation of Biomembrane	1+1	1+1	(2)
	b) Chemical components & their function	1	1	
	c) Types of Transport a) Active b) Passive	1+1	1+1	(2)
	e) Cotransport, uniport & symport	1	1	

LESSON PLAN

Expt. No.	Description	No. of Periods	Cumulative Periods
3	Cell division & cellcycle		
	a) Cell division 1) Mitosis	1+1	2
	2) Meiosis	1+1	2
	b) Cellcycle, Different phases of cell cycle	1	1
	c) checkpoints of cellcycle, Regulation of cellcycle	1 1	1 1
	d) cyclins and cyclin dependent kinases	1 1	1 1
4	Cell communication		
	a) Basic concepts of cell communi -cation	1	1
	b) Bacterial cell communication Quorum sensing	1	1
	c) Inter cellular communications	1	1
	1) Gap junctions 2) Tight junction	1+1	1+1 (2)
	3) channels 4) plasmodesmata	1+1	1+1 (2)
	d) Chemical signals Autocrine, Para crine & Endocrine signals	1	1
	e) Signal transduction 1) GCPR 2) Jaks/STAT 3) TK Receptors	1	1
	f) cell signaling in cancer 1) hedghog 2) wnt signaling	1	1
5	Protein targeting /cell death		
	a) Targeting signals	1	1
	b) Targeting cytosolic proteins to mitochondria & chloroplast	1 1	1 1
	d) co translational transport	1	1
	e) chaperones, Necrosis & Apoptosis	1+1	2

Signature of Faculty : C. Obula Reddy

Signature of HOD : 8/6/17

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LESSON PLAN

Department : Chemical Engg.   Class : B.Tech
Academic Year : 2017-2018   Semester : IV
Subject : Chemical Eng Thermodynamics   Subject Code : 16CHC05
Faculty : K. Prasad Babu   No. of Periods : 03 periods/week
Commencement of Instruction : 05/12/17
Dates of I Mid Exam : 05/2/18   II Mid Exam : 03/4/18   III Mid Exam :

Classes lost due to Holidays and Mid-Sessional Exams

Day & Date	26/12/17				
Occasion	Christmas Boxingday				
Day & Date					
Occasion					

Unit No.	Topic	No. of Periods	Cumulative Periods
I	The first law & other Basic Concepts		
	Joule's Experiments - Internal Energy - formulation	02	
	of the first law of the thermodynamics		
	State & state functions - Enthalpy - Equilibrium	02	
	The phase rule - The Reversible process - Const V		
	Const P Processes & heat Capacity.	02	
	The steady state flow processes		11
	Volumetric properties of pure fluids;	02	
	PVT behavior of pure substances, the Ideal gas		
	Virial equations & their use in the Calculation	02	
	of P-V-T properties, Cubic equations of state		
	generalized Correlations for gases	01	
II	Second law of thermodynamics:		
	Statement of II-law, Heat Engines, thermodynmi	01	
	Temp. scales, thermodynamic temperature	01	
	& Ideal-gas scale, entropy, entropy charges	01	06
	of an Ideal gas, mathematical statement	01	
	of II-law, III law of thermodynamics	01	
	Entropy from the microscopic view point	01	

17

LESSON PLAN

Expt. No.	Description	No. of Periods	Cumulative Periods
III	Thermodynamics properties of fluids;	01	
	Relationships among thermodynamic properties	01	
	for a homogenous phase of Constant Composition	01	
	Residual properties; Two-phase systems	01	06
	Thermodynamic Diagram, generalized property	01	
	Correlations for gases.	01	
IV	Conversion of Heat into Work by power	01	
	cycles; Steam power plants.	01	
	Carnot cycles, Rankine cycle, refrigeration	01	
	Liquefaction, Vapor Compression cycle,	01	08
	Comparison of refrigeration cycles.	0.1	
	the Choice of refrigerant, absorption	0.1	
	refrigeration, the heat pump; various	01	
	processes for liquefaction.	01	
V	thermodynamics of flow processes; Energy	01	
	balances for steady state flow process;	0.1	
	Adiabatic & Isothermal flow of Compressible	01	
	fluids though pipes of Constant Cross	01	09
	Section with & without friction;	01	
	Expansion process involving flow though	01	
	Nozzles & turbines, throttling process.	01	
	Compression processes - Compressor & pumps.	0.1	
	Calculation of Ideal work & lost work for flow process	01	
			46

Signature of Faculty:

20/1

Signature of HOD: 4/12/10

CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY (Autonomous)
Gandipet, Hyderabad-5090075

ISO 9001: 2008

LESSON PLAN

Department: Civil Engineering

Academic Year: 2017-2018 Class: B.E 2/4- A2 Semester: I I

Subject: Transportation Engineering Subject Code: CE 315 CE C 10

Faculty: Prof. S.S.V. Chalam No. of periods: 49

Commencement of Instruction: 04- 12-2017 Last Date of instruction: 6.04.2018

Date of I mid exam: 05.02-2018 Date of II mid exam: 03.04..2018

Time Table of the Subject:

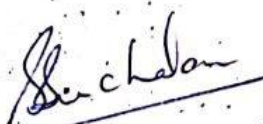| Day	Monday	Tuesday	wednesday	Friday
Periods	9:40 to 10:40	2:20 to 3:20	11:40 to 12:40	2:20 to 3:20

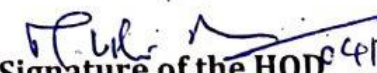No. of public holidays during the semester which axe the instruction

Day & Date	25.12. 2017	26.12.20 17	15.01.20 18	26.01.201 8	13.02.2018	26.03.20 18	30.03.2018
Occasion	christi mas	Boxing day	Pongal	Republic day	Mahasivara tri	srirama navami	Good Friday

No	Topics / Sub-Topics	No. of periods estimated	Rem.
UIT-I : Highway Location- Geometric Design			
1.	Introduction to Transportation and Traffic Engineering	1	14
2.	Different types of constructions adopeted in the world and development of roads in india	1	
3.	Classification of highways and road patterns	1	
4.	Discussion about Nagpur Plan, Bomaby and Third twenty year plan	1	
5.	Factors to be conducted for aligning a new highway	1	
6.	Surveys to be conducted for aligning a new highway	1	
7.	Camber, Sight distance SSD, Problem	1	
8.	OSD, Problems	1	
9.	Super Elevation, Derivation of equation	1	
10.	Problems on superelevation, attainment of superelevation	1	
11.	Mechanical Widening of roads along curves,	1	
12.	Design of Horizontal curves	1	

	Design of Vertical Curves, Gradients, Problems on summit curve	1	
14.	Design of valley curvee	1	

II. UNIT-II : *Traffic Engineering*

15.	Traffic engineering definition, characterstics of vehicle and road users	1	
16.	Traffic Volume, studies	1	
17.	Speed, studies	1	
18.	Origin & Destination (O&D) Studies	1	
19.	Head ways ,Highway capacity, PCU	1	10
20.	Traffic Management-Intersections, Improvement, Channelization, , Clover leaf.etc.	1	
21.	Design of Rotary	1	
22.	Accident studies-causes, analysis and preventive measures	1	
23.	Markings, Signs	1	
24.	Signals,	1	

III . UNIT-III : *Pavement Design*

25.	Introduction to pavement types , concepts of layers, difference between flexible and rigid pavements	1	
26.	Factors governing the pavement design, Types of flexible pavement design,concepts of ESWL and EALF	1	
27.	Design of flexible pavements by revised CBR method, use of empirical method	1	
28.	Problem on CBR method	1	
29.	Wesergard theory and concepts for finding the stresses in rigid pavments stresses due to wheel loads	1	9
30.	Stresses due to temperature variation and critical combination of stresses	1	
31.	*Highway Construction & Materials*		
32.	Different types of joints- longitudinal and transverse, and design of expansion joint	1	
33.	Design of contraction and construction joints	1	

NIT-IV : *Railways*

34.	Introduction of railway engineering	

	Permanent way components-rails, sleepers, ballast. Ideal requirements of gauges and types of gauges	1	
36.	Rails –types and their functions, joints is rails	1	
37.	Creeep in rails – various theories explaining creep, determimation of crees and preventive measures of creep	1	
38.	Sleepers- function, types of sleepers, sleeper density and advantages and disadvantages of different types of sleepers	1	9
39.	Ballast- functions and discussion about various types of sleepers	1	
40.	Superelevation, cant deficiency, cant access, safe speed and problems	1	
41.	General layout of simple left hand and right hand turn out and concepts	1	
42.	Construction and maintainance of permeanent way	1	
	UNIT-V : Airport Engineering		
43.	Introduction of airport engineering , air craft types and its characterstics	1	
44.	Selection of airport site-factors to be considered.	1	
45.	General layout of airport and its components	1	
46.	Concepts of windrose diagrams for finalizing runway orientation	1	7
47.	Runway geometric length, width of runways,	1	
48.	ICAO Standards, confection to the length of runway. Problems	1	
49.	Review of question papers	1	
	Total	49	

Signature of the Faculty
Signature of the Faculty
with date

Signature of the HOD 4|4|12
with date

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LESSON PLAN

Department : CSE

Academic Year : 2017-18

Subject : Image Processing

Faculty : J Shiva Sai

Commencement of Instruction : 4-12-17

Dates of I Mid Exam : 5-2-18 — 7-2-18

Class : B·E (3/4)

Semester : 2nd Sem

Subject Code : CS352

No. of Periods :

II Mid Exam : 3-4-18

III Mid Exam : 6-4-18

Classes lost due to Holidays and Mid-Sessional Exams

Day & Date	8-12-17 FRI	12-12-17 15-12-17	26-01-18 FRIDAY	13-2-18 TUE	23-3-18 FRI
Occasion	CBIT Holiday	CBIT Holiday	Republic day	Maha Shivaratri	Sexthi Celebration

Day & Date	2-3-18 FRI	30-3-18 FRI			
Occasion	HOLI	Good FRIDAY			

Chaitanya Bharathi Institute of Technology
GandipetHyderabad: 500 075
Lecture schedule for BE III year II semester
Subject: IMAGE PROCESSING(16CS352)

S. No	Topic	No. of classes
	UNIT I	
1.	**Introduction to Digital Image Processing:** Origins and Applications of Digital Image Processing. Components of Digital Image Processing System.	3
2.	Fundamental Steps in Digital Image Processing, Elements of Visual Perception, Light and the Electromagnetic Spectrum,	3
3.	Image Sensing and Acquisition, Image Sampling and Quantization.	2
	UNIT II	
4.	**Filtering in the Frequency Domain:** Preliminary Concepts, Sampling and the Fourier Transform of Sampled Functions.	3
5.	The Discrete Fourier Transform (DFT) of One Variable, Extension to Function of Two Variables,	3
6.	The Discrete Fourier Transform (DFT) of two Variables, Extension to Function of Two Variables.	3
7.	Image Smoothing and Sharpening using Frequency Domain Filters.	3
	UNIT III	
8.	**Filtering Intensity Transformations and Spatial:** Histogram Processing, Fundamental of Spatial Filtering.	4
9.	Smoothing and Sharpening Spatial Filters.	2
10.	**Image Segmentation:** Point, Line and Edge Detection.	2
11.	Thresholding-(Foundation, Basic global thresholding, Otsus method).	2
12.	Region-Based Segmentation.	2

LESSON PLAN

Expt. No.	Description	No. of Periods	Cumulative Periods
	UNIT IV		
13.	**Image Compression:** Fidelity Criteria, Image Compression Models.	4	
14.	Image Formats, Containers and Compression Standards.	2	
15.	**Compression Methods:** Huffman Coding,	2	
16.	Golomb Coding, Arithmetic Coding, LZW Coding ,Run-Length Coding	4	
	UNIT V		
17.	**Restoration:** Noise Models, Inverse filtering.	3	
18.	Least squares Filtering.	3	
19.	**Color Image Processing:** Color fundamentals, Color models.	3	
20.	Pseudo color Image Processing, Basics of full color image processing.	3	

Text Books:

1. Gonzalez R.C., Woods R.E: Digital Image Processing, Pearson Education, third edition 2012.

2. William K. Pratt," Digital Image Processing".John Wiley & Sons Inc.Edition,2001.

Suggested Reading:

1. McAndrew, Introduction to Digital Image Processing. Cengage Learning 2004.

2. Sonka, Hlavac, Boyle, Digital Image Processingand Computer vision. Cengage learning, 2008.

3. Rosenfeld A. Kak AC: Digital Picture Processing Vol.I & II Acad.Press.2nd Edition , 1982.

Signature of Faculty   Signature of HOD

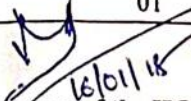Scanned with CamScanner

LESSON PLAN

Department	: ECE	Class	: ECE-1
Academic Year	: 2017-2018	Semester	: II-semester
Subject	: EECE	Subject Code	: 16ECC06
Faculty	: Dr A.VANI.	No. of Periods	35±10%
Commencement of Instruction	: 16-01-18		
Dates of I Mid Exam	:	II Mid Exam :	: III Mid Exam :

Classes lost due to Holidays and Mid-Sessional Exams

Sl. No.	Topics	No. of Classes estimated
	UNIT-I	
1.	Classification of passive and active devices, current flow in a semiconductor	01
2.	Operating principle of a diode	01
3.	Diode application as a rectifier	01
4.	Operating principle of BJT	01
5.	Operating principle of JFET	01
6.	Operating principle of Zener diode	01
7.	Photo diode, LED	01
	UNIT-II	
8.	Number systems, Binary addition and subtraction	01
9.	ASCII code	01
10.	Boolean algebra (Theorems and properties)	01
11.	Logic gates, Combinational circuites such as Half adder	01
12.	Full adder and Half subtractor	01
13.	Introduction to sequential logic, Basic Flip flop	01
14.	Evolution of ICs, block diagram description of MP and MC.	01
	UNIT-III	
15.	Basic Communication system components	01
16.	Concept of Modulation.	01
17.	Introduction to AM, FM and comparisons	01
18.	Introduction to wired and wireless communication;	01
19.	Concepts of filtering, LPF, HPF, BPF and BSF	01
20.	concept of multiplexing, TDM	01
21.	FDM.	01
	UNIT-IV	
22.	Radio spectrum and applications, Modes of propagation	01
23.	Basic cellular network	01
24.	Concepts of a cell, frequency reuse, hand-off and cross-talk	01
25.	Basic Radar block diagram and applications	01
26.	communication satellite, Geostationary satellites, Satellite subsystems	01
27.	Applications of satellites, GPS.	01
28.	DTH, Remote Sensing	01
	UNIT-V	
29.	Block diagram of CRO and application	01
30.	Software Defined Radio (SDR)-Definition and it's block diagram	01
31.	Smart phone-features	01
32.	Introduction to Wireless sensor networks (Bluetooth and ZigBee)	01
33.	RFID-and its types	01
34.	Basic functions (RFID)	01
35.	Introduction to Modem	01

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CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY (AUTNOMOUS)
Gandipet, Hyderabad-75.
LESSON PLAN

Department   : ELECTRONICS & COMMUNICATION ENGINEERING
Academic year: 2017 – 2018   Year & Semester: 1/4 B.E. (EEE – I) & I Sem
Subject   : EECE   Subject Code   : 16EC C01
Faculty   : A.Satyavati   Total No. of classes   : 35 ± 10%
Commencement of Instruction: 07/08/2017   Completion of Instruction:
First Mid Exam: Second Mid Exam:

Time Table of the subject:

Day	Monday	Wednesday	Thursday
Periods	10.40-11.40AM	10.40-11.40 AM	9.40-10.40AM

S.No.	Topics/ Sub. Topics	No. of periods
	UNIT-I	
1.	Classification of passive and active devices and their symbols; current flow in a semiconductor	01
2.	Operating principle of a diode	01
3.	Diode application as a rectifier	01
4.	Operating principle of BJT	01
5.	Operating principle of JFET	01
6.	Operating principle of Zener diode	01
7.	Photo diode, LED	01
	UNIT-II	
8.	Number systems, Binary addition and subtraction	01
9.	ASCII code	01
10.	Boolean algebra (Theorems and properties)	01
11.	Logic gates, Combinational circuits: Half adder	01
12.	Full adder and Half subtractor	01
13.	Introduction to sequential logic, Basic Flip flop	01
14.	Evolution of ICs, block diagram description of Microprocessor and Microcontroller.	01
	UNIT-III	
15.	Basic Communication system components	01
16.	Concept of Modulation.	01
17.	Introduction to AM, FM and comparisons	01
18.	Introduction to wired and wireless communication;	01
19.	Concepts of filtering, LPF, HPF, BPF and BSF	01
20.	Concept of multiplexing, TDM	01
21.	FDM.	01
	UNIT-IV	
22.	Radio spectrum and applications, Modes of propagation	01
23.	Basic cellular network	01
24.	Concepts of a cell, frequency reuse, hand-off and cross-talk	01
25.	Basic Radar block diagram and applications	01
26.	Introduction to communication satellite, Geostationary satellites, Satellite subsystems	01
27.	Applications of satellites, GPS.	01
28.	DTH, Remote Sensing	01
	UNIT-V	
29.	Block diagram of CRO and application	01
30.	Software Defined Radio (SDR)-Definition and it's block diagram	01
31.	Smart phone-features	01
32.	Introduction to Wireless sensor networks (Bluetooth and ZigBee)	01
33.	RFID-and its types	01
34.	Basic functions (RFID)	01
35.	Introduction to Modem	01

Signature of the faculty   Signature of the HOD

CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY (Autonomous)
GANDIPET, HYDERABAD-75
Lesson Plan

ISO 9001-2008   REC-403

Department: **Information Technology**

Academic year: **2017-18**   emester: **B.E.2/4 (H1) III - Semester**

Subject: **DISCRETE STRUCTURES & APPLICATIONS**   Subject Code: **16ITC01**

Faculty: **Ms. K.Swathi**   No. of classes: **45**

Commencement of Instruction: **28.06.2017**   Completion of Instruction: **21.10.2017**

I- Mid Exam: **21.08.2017**   II- Mid Exam: **19.10.2017**

Time Table of the subject:

Day	Wednesday	Thursday	Friday
Periods	2 (10.40 to 11.40)	6 (3.20 to 4.20)	2 (10.40 to 11.40)

No. of public Holidays during the I semester in 2015-16

Day &Date	Friday 25.08.2017	Wednesday 20-09-2017	Thursday 28-09-2017	Wednesday 18-10-2017
Occasion	Vinayaka Chavithi	Bathukamma Starting day	Durga Ashtami	Deepavali

1. Course Objectives:

1. Learn mathematical concepts like sets, functions, logic and be able to apply them in solving logic oriented problems and introduce useful abstractions in problem solutions and representations that have application in many areas of computer science

2. Students will be able to use graphs to model relationships, analyze data, apply probability concepts and use recursive functions and solve problems.

3. Further develop the mathematical concepts and technique which should serve as a preparation for more advanced quantitative courses.

2. CoursePre / Co-requisites:

1. Elementary Algebra, 2.Introductory computer science course with C and C++

3. Course Plan / Schedule:

S.No.	Topics / Sub. Topics /Experiments	No. of Classes Estimated	Remark
	UNIT – I		
1.	Logic, Propositional equivalences	1	
2.	Predicates and Quantifiers – Nested Quantifiers	1	
3.	Rules of Inference	1	
4.	Sets-Set Operations, Functions. The Integers and Division	1	
5.	Integers and Algorithms	1	
6.	Applications of Number Theory-I	1	
7.	Applications of Number Theory-II	1	
8.	Exercise Problems	1	
	UNIT – II		
9.	**Mathematical Reasoning, Induction, and Recursion:** Proof Strategy, Sequence and Summation	1	
10.	Mathematical Induction, Recursive Definitions and Structural Induction	1	
11.	Recursive Algorithms-I	1	
12.	Recursive Algorithms-II	1	
13.	**Counting:** Basics of Counting,	1	
14.	Problems using Pigeonhole Principle	1	
15.	Permutations and Combinations	1	
16.	Binomial Coefficients	1	
17.	Generalized Permutations and Combinations, Generating Permutations and Combinations.	1	

18.	Review of all topics	1	
19.	Slip Test	1	

UNIT – III

20.	**Advanced Counting Techniques:** Recurrence Relations	1	
21.	Solving Linear Recurrence Relations	1	
22.	Solving Homogeneous Recurrence Relations	1	
23.	Solving Non-Homogeneous Recurrence Relations	1	
24.	Divide and Conquer Algorithms and Recurrence Relations	1	
25.	Generating Functions,	1	
26.	Inclusion–Exclusion,	1	
27.	Applications of Inclusion – Exclusion.	1	
28.	Review of All topics	1	

UNIT – IV

29.	Algebraic Structures: Algebraic System - General Properties	1	
30.	Semi groups	1	
31.	Problems on Semi groups.	1	
32.	Monoids	1	
33.	Homomorphism, Groups,	1	
34.	Residue arithmetic,	1	
35.	Group codes and their applications.	1	
36.	Discussion of Previous question papers	1	
37.	Slip Test	1	

UNIT – V

38.	Graphs: Graphs and Graph Models, Graph Terminology,	1	
39.	Representing Graphs and Graph Isomorphism, Connectivity, Euler and Hamilton Paths	1	
40.	Shortest Path Problems, Planar Graphs, Graph Coloring.	1	
41.	Trees: Introduction to Trees, Application of Trees,	1	
42.	Tree Traversal,	1	
43.	Spanning Trees,	1	
44.	Minimum Spanning Trees.	1	
45.	Review of all topics and discussion of previous question papers.	1	

4. Course Outcomes:

Upon successful completion of this course, student will be able to
  1. Symbolize the given sentence using predicate logic and verify the given predicate formula and validity of the argument using universal specification and generalization and equivalence rules.
  2. Understand basics of counting, apply permutations and combinations to handle different types of objects.
  3. Describe and use recursively-defined relationships to solve problems using generating functions.
  4. Analyze semi group, monoid group and abelian group with suitable examples and appreciate group theory applications in computer arithmetic.
  5. Model problems in Computer Science using graphs and trees.
  6. Demonstrate different traversal methods for trees and graphs.

5. Suggested Reading:

  1. Kenneth H Rosen, "Discrete Mathematics and its applications", Sixth Edition, McGraw Hill, 2006.
  2. Joel. Mott. Abraham Kandel, T.P.Baker, "Discrete Mathematics for Computer Scientist & Mathematicans", Prentice Hail N.J.,

6. Evaluation scheme:

EC N0	Evaluation Components	Nature of Component	Duration	Weightage	Date	Venue
1	Test – I	Closed Book	60 minutes	10 %	22.08.2016	**To be announced**
2	Test – 2	Closed Book	60 minutes	10 %	02.11.2016	
3	Slip Test	Closed Book	30 minutes each	10%	Surprise / announced	
4	Final Exam	Closed Book	3 hours.	70 %		

General timings for consultation: On Saturday 12.30 to 1.30pm

Notices: All notices will be displayed on the notice board of IT department.

Signature of Faculty

Signature of HOD

Instructor's Contact details

Ms. K.Swathi (Course coordinator), Asst.Professor, Dept. of IT, Room No: L-103, 1st Floor, **L-Block.**

Email:*kswathi@cbit.ac.in*

Chaitanya Bharathi Institute of Technology
(AUTONOMOUS)
Gandipet, Hyderabad.
LESSON PLAN, CBCS
Department of Mathematics and Humanities
Academic year (2017-2018)

Subject Code: 16MT CO3

Section:

Branch: Mech-2.

Subject: **ENGINEERING MATHEMATICS-II**

Name of the Faculty:

No of hours per week: 4

Commencement of Instruction: 16/01/2018   Completion of Instruction: 04/5/2018

Fist Mid exams: 07/03/2018   II-Mid Exams: 30/04/2018

Sl.No	Topic/sub-topic /Theory	No.of periods estimated	Remarks
	UNIT-I (Ordinary differential Equations)		(12)
1	Linear Differential equations of higher order with constant coefficients, complementary functions and particular integrals when RHS is of the forms e^{ax}	(4)	
2	$\sin ax$ or $\cos ax$, x^m & $e^{ax}.v$ where v-is a function	(4)	
3	$x^m.v$ where v-is a function of x, Cauchy's equation & electrical circuits of second order	(4)	
	UNIT-II (Laplace Transforms)		(10)
4	Laplace transforms of standard functions, Laplace transforms of piecewise continuous functions	(3)	
5	First shifting theorem, multiplication by 't', division by 't'. Laplace transforms of derivatives and integrals of functions-Unit step function- Periodic functions (without proofs)	(2)	
6	Inverse Laplace transforms-by partial fractions (Heaviside method), Convolution Theorem	(3)	
7	Solving Ordinary differential equations by Laplace Transforms	(2)	
	UNIT-III (Beta and Gamma Functions)		(08)
8	Definitions of Beta and Gamma functions-elementary Properties of both Beta and Gamma functions	(3)	
9	Relation between Beta and gamma functions and problems	(3)	
10	Differentiation under the integral sign	(2)	
	UNIT-IV (Vector Differentiation)		(08)
11	Scalar and vector fields- directional derivative- Gradient of a scalar- Divergence and Curl of a vector point function and problems	(03) 2+1	
12	Properties of divergence & curl, vector identities	(4) 2+2	
13	Solenoidal and Irrotational vectors and problems	(1)	
	UNIT-V (Vector Integration)		(12)
14	Evaluation of Vector Line integrals	(1)	
15	surface integrals and volume integrals	(2)	
16	Greens, Gauss divergence and Stokes theorems (without proofs) and its applications	(9) 3+3+3	
		Total:	(50)

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Signature of HOD

Branch: *EEE* Section: *EEE-2*

Subject: **ENGINEERING MATHEMATICS- I**

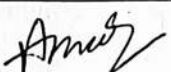Name of the Faculty: M. AMARNATH. No of periods per week: 4

Commencement of Instruction: 07/08/17 Completion of Instruction: 25/11/17

Fist Mid exams: 03/10/2017 II-Mid Exams: 20/11/2017

Sl.No	Topic/sub-topic/Theory	No.of periods estimated	Remarks
	UNIT-I Linear Algebra		(10)
1	Review of Rank and Consistency of system of linear equations	2	
2	Eigen values, Eigen vectors- properties (without proofs)	2	
3	Cayley- Hamilton Theorem (statement only) inverse and powers of a Matrix by Cayley-Hamilton Theorem	2	
4	Reduction of Quadratic form to Canonical form by linear transformation	2	
5	Rank, index, signature, positive definite, negative definite and semi-definite	1	
6	Question papers discussion and Doubts	1	
	UNIT-II Functions of several variables		(12)
7	Partial differentiations and Homogenous functions	2	
8	Euler's theorem and Problems	2	
9	Implicit functions & Jacobin	1	
10	Taylor's series in one and two variables	2	
11	Maxima and Minima for function of two variables with and without constraints	(4) 2+2	
12	Question papers discussion and Doubts	1	
	UNIT-III Differential Calculus		(12)
13	Curvature and Radius of curvature	2	
14	centre of curvature and circle of curvature	2	
15	Evolutes and involutes theory and problems	2	
16	Envelopes	1	
17	Curve tracing-Cartesian, polar and parametric curves	4	
18	Question papers discussion and Doubts	1	
	UNIT-IV Multiple Integrals		(13)
19	Double and Triple Integrals	2	
20	Change of order of Integration	2	
21	Rectification and Areas	2	
22	Volumes and Surfaces of solids of revolution (Cartesian coordinates)	4	
23	PAPPUS theorem and Centre of Gravity	2	
24	Question papers discussion and Doubts	1	
	UNIT-V First order differential equations and its application		(09)
25	Exact differential equations	1	
26	Non Exact differential equations	3	
27	Orthogonal trajectory's (Cartesian polar form)	2	
28	Electrical circuits and Newton's law of cooling	2	
29	Question papers discussion and Doubts	1	
	Total	56	56

Signature of the Faculty

HOD, M & H

Department	:	MCA			
Academic Year	:	2017-18	Class	:	MCA
Subject	:	Elements of Info Tech (EIT)	Semester	:	1st sem
Faculty	:	P. roushna Prasad	Subject Code	:	16MCC103
Commencement of Instruction	:	22/8/2017	No. of Periods	:	64
Dates of I Mid Exam	:	3/10/17 - 5/10/17	II Mid Exam	: 29/11/7	III Mid Exam : —

Classes lost due to Holidays and Mid-Sessional Exams

Day & Date					
Occasion					
Day & Date					
Occasion					

Unit No.	Topic	No. of Periods	Cumulative Periods
1	**UNIT - 1** EIT - overview of all units	2	2
	Data Information, Basic operation of computer	2	4
	Hardware: Input, output, memory, communication	2	6
	Software: System software OS	2	8
	Device drivers, utility programs	2	10
	GUI Application software ways to obtain Types	2	12
	Five types of computer common OS, Dos, etc.	2	14
2.	**UNIT -2** Hardware: generations of computers, measuring capa	2	16
	Binary coding schemes, Number system conversion	2	18
	Block Diagram of computer, Microcomputer system, computer size	2	20
	Power Supply, mother board, CPU	2	22
	chips, ports and cables	2	24
	Input devices: keyboards, pointing devices	2	26
	Source data entry devices, Audio and video devices	2	28
	Digital camera, speech recognition systems RFID systems	2	30
	Output devices:- soft copy output, hardcopy	2	32
	mixed output devices Secondary storage:- FD, HDD	2	34
	optical disk, flash memory, registers, secondary storage	2	36

LESSON PLAN

Unit Expt No.	Description	No. of Periods	Cumulative Periods
III	o/1 Knapsack	1	31
III	Reliability design & TSP	2	33
III	DFS & BFS	1	34
III	Connected components & spanning trees	1	35
III	Bi-connected components	2	37
IV	Back tracking, 8-queen's problem	1	38
IV	Sum of subsets	1	39
IV	Graph coloring, Hamiltonian cycles	2	41
IV	Knapsack problem	1	42
IV	Branch & Bound methods	1	43
IV	o/1 knapsack	1	44
IV	Travelling sales person problem	1	45
V	NP Hard – NP complete – Basic concepts	1	46
V	cook's Theorem	1	47
V	NP Hard problems	2	49
V	NP scheduling problems	1	50

Signature of Faculty :

Signature of HOD :

LESSON PLAN
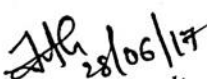
Department	: Mechanical Engg	Class	: BE 3/4 (Bio-technology)
Academic Year	: 2017-2018	Semester	: I Semester
Subject	: HV & PE	Subject Code	: CE 444
Faculty	: N. JYOTHIRMAYI	No. of Periods	: 02/week
Commencement of Instruction	: 28/06/17		
Dates of I Mid Exam	:	II Mid Exam :	: III Mid Exam :
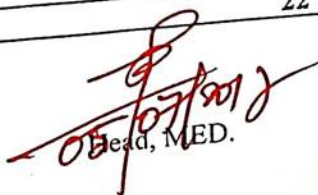
CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY
Gandipet, Hyderabad -500075
Lesson Plan

Department: Mechanical Engineering
Academic Year: 2017-18
Subject: Human Values and Professional Ethics

Class: ¾ B.Tech (Bio-Technology) I-Sem.
Subject Code: CE444   No. of Periods: 2 per week
Faculty: N.Jyothirmayi

S.NO	Topics/Sub-Topics	No.of periods estimated
	Unit- I	**06 Periods**
1	Definition of Values ,Concept of Values,Classification of Values ,Hierarchy of Values,Types of Values -Espoused and Applied Values,Value judgment based on Culture,based on Tradition,Interdependence of Values	02
2	Need for value education ,Findings of Commissions & Committees, Corruption & illegal practices,Science & Technology without values	02
3	Exploitation of nature ,Increasing use of violence & intoxicants, Lack of education in values,Implications of education in values, Vision for a better India ,Challenges for Value adoption -Cultural, Social, Religious, Intellectual and Personal challenges.	02
	Unit- II	**04 Periods**
4	Enlightened self-interest ,Accountability and responsibility, Desires and weaknesses – Character development ,Good relationships, self-restraint, Spirituality and Purity ,The quest for Character ,Tests of Character,The key to good character	02
5	Building ethical policy ,Integrating values in everyday life, Archaic Social Values, Parenting practices,Critical Thinking ,Analyzing Prioritizing values,Practicing Yoga & Meditation.	02
	Unit- III	**04 Periods**
6	Resentment Management & Self-analysis – Positive Thinking & Emotional Maturity – The importance of Women, Children & Taking care of them – Helping the poor & needy – Fighting against addictions & atrocities – Environmental awareness – Working for the Sustainable development of the society	02
7	Values in Education system: Present Scenario- Engineering education – Current trends-Need for QI- Adoption of VE – Principles of Integrity Institutional Development.	02
	Unit- IV	**04 Periods**
8	Ethics, Morals& Human life ,Types of Ethics, Personal& Professional ethics, Ethical dilemmas, Indian & Global thoughts on ethics, Profession, Professional &Professionalism, Ethical role of a professional Basic ethical principles	02
9	Some basic ethical theories, use of ethical theories - Science, Religion Ethics, Genders and ethics, Media and ethics, Computer Ethics, Case Studies on Professional Ethics, Exemplary life sketches of prominent Indian personalities	02
	Unit- V	**04 Periods**
10	Engineering profession-Technology and Society-Engineering as Social Experimentation Engineering ethics-Ethical obligations of Engineering Professionals-Role of Engineers-as Managers-Professional responsibilities- Responsibility for Safety	02
11	Case Studies on Risk management,Conflicts of Interest, Occupational Crimes,Plagiarism,Self plagiarismEthics Audit, Consideration for ethics audit,Ethics Standards &Bench Marking	02
	Total No. of Periods Estimated	22

28/06/17
Signature of the Faculty

2/8/17

Head, MED.

Chaitanya Bharathi Institute of Technology (A)
Gandipet, Hyderabad - 500 075

LESSON PLAN

Department: **Mechanical Engineering**
Academic Year: **2017-2018**
Subject: **Kinematics of Machines**
Faculty: **V.Jaipal Reddy**
Commencement of Instruction: **04/12/2017**
Date of I Mid Exam: **05/02/2018**

Class: **BE IV-Sem, Mech-2**
Subject Code: **16ME C14**
Number of Periods: **3+1**
Last day of Instruction: **06/04/2018**
Date of II Mid Exam   : **03/04/2018**

S.No	Brief Description of Topics to be Covered	No. of Classes Estimated
Unit – I		
1.	Mechanism, machine and structure, Kinematic link (element), kinematic pair and classification of pair.	2
2	Degrees of freedom, Gruber's Criterion, Kinematic chain, Inversion of a mechanism, Inversions of Quadric cycle chain.	2
3	Inversions of single and double slider –crank mechanisms.	2+2
4	Mechanism with lower pairs- Pantograph and straight line motion mechanisms: Peaucelleir, Hart, Scott-Russel, Watt and Tchebicheff mechanism.	2+2
5	Steering gear mechanism- Davis & Ackerman's, Geneva mechanism and Hook's joint.	2+2
UNIT – II		
6	Analysis of Mechanism: graphical methods to find velocities of mechanisms.- Relative velocity method –vector representation, velocity of rubbing, velocity analysis of various links,	2+2+1
7	Instantaneous centre, Body centrode and space centrode, Kennedy's theorem.	2
8	Analytical and graphical determination of acceleration of different mechanisms including coriolis components acceleration.	2+2+2
9	Synthesis of Mechanisms: Freudenstein's method for four bar linkage.	1
UNIT – III		
10	Laws of friction: friction in screw threads, pivots, collars and clutches. Friction axis of a link and friction circle.	2+2+2+
12	Brakes & Dynamometers: Block or shoe, Band,Band and Block, Internal Expanding Shoe Brake, Prony, Rope brake Dynamometers. Belt transmission, Epicyclic Torsion Dynamometers.	2+2+2+2

UNIT – IV

13	Cams: Types of cams and followers. Displacement diagrams for followers – uniform motion, parabolic motion, simple harmonic motion, cycloidal motion.	2+2+2
14	Drawing cam profile: with knife – edge follower, translating roller follower and translating flat follower.	2+2+2
15	Cams of specified contour: tangent cam with roller follower, circular arc (convex) cam with roller follower.	2

UNIT – V

16	Gears: Classification of gears. Spur Gears: Nomenclature,.	2+1
17	Law of gear tooth action, involute and cycloid gear tooth profile, interference of involute gears,. Comparison of involute and cycloid tooth profile	2+2
18	Minimum number of teeth to avoid interference, contact ratio, cycloid tooth profiles	2+1
19	Helical Gears: Helical gear tooth relations, contact of helical gear teeth.	01
20	Gear Trains: Simple, compound, reverted and Epicyclical Gear Trains. ~~differential in Automotive~~	2+2
	Total Lectures	73

Suggested Readings:

1. S.S.Ratan, "Theory of Machines", Tata McGraw Hill Publications, 2012
2. J.E.Shigley, "Theory of Machines", McGrawhill Publications, 2010
3. Thomas Bevan, "Theory of Machines", CBS Publishers 1995.

Faculty:

(V.Jaipal Reddy)

Head, MED

LESSON PLAN

Department	: Mechanical dept
Academic Year	: 2017-208
Subject	: Surface engineering
Faculty	: V. Jaipal Reddy
Commencement of Instruction	: 04/12/2017
Dates of I Mid Exam	: 05/02/2017

Class	: B.E. 3/4
Semester	: II
Subject Code	: PE352
No. of Periods	: 2+2

II Mid Exam : 03/04/2018 III Mid Exam :

Classes lost due to Holidays and Mid-Sessional Exams

Day & Date					
Occasion					

Day & Date					
Occasion					

Unit No.	Topic	No. of Periods	Cumulative Periods
I	Topography of surfaces, Surface features, properties	02	02
	Basics of friction, Laws of friction, Adhesion	02	04
	Theory of Sliding friction.		
	Rolling friction, Friction properties of metallic &	02	06
	Non-metallic materials friction in extreme		
	conditions Thermal consideration in sliding contact	02	08
II	wear, classification of wear Abrasive wear	02	10
	Erosive wear, types of Erosive wear		
	cavitation, Adhesion fatigue wear	02	12
	Fretting wear & Laws of wear, theoretical wear models	02	14
	Wear of metals & non-metals	02	16
	international standards in friction & wear Measurements	02	18
III	Introduction, principle of corrosion, Types of corrosion	04+02	22
	Factors influencing corrosion, testing of corrosion		
	Laboratory testing, In-service monitoring simulated	02	24
	Evaluation of corrosion, prevention of corrosion		
	Material selection, Alteration of environment,	02	26
	design, cathodic & Anodic protection,		
	Corrosion Inhibitors	01	27

LESSON PLAN

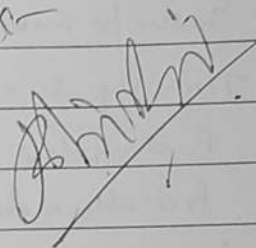| Expt. No.	Description	No. of Periods	Cumulative Periods
IV	Surface treatments:		
	Introduction, surface properties, superficial layer	01	28
	wear resistant coatings & surface treatments methods	01	29
	Physical vapor deposition methods & its types and advantages, disadvantages	02	31
	Chemical vapor deposition methods & its types, advantages & disadvantages	02	33
	Physical CVD & ion implantation	01	34
	Surface welding, thermal spraying & its types	02	36
	Laser surface hardening & alloying, applications of coatings and surface treatments in wear & friction control	02	38
	New trends in coating technology - DLC - CNC		
	Nano engineering coatings, corrosion resisting coatings	02	40
V	Introduction to Engg. materials		
	titanium alloys, Magnesium alloys & its applications	02	42
	Aluminium alloys, Nickel based alloys, ceramics	02	44
	Polymers, Bio materials - Applications, Biotribology	02	46
	Nano tribology & Characteristics of wear resistant coatings	02	48

Signature of Faculty:

Signature of HOD:

LOG-SHEET
Particulars of Syllabus covered

S.No.	Date	No. of Periods	Brief note of topic(s) Covered
1.	17/01	1	Indu. to Lasers, Characteristics of laser, Stimulated emission & Spont emission, Einsteins coeffs.
2	22/01	1	Req. for Lasing, components of Laser - description. Types of laser
3	24/01	1	He Ne laser & Recay
4	29/01	1	Semiconductor Laser
5	31/01	1	Holography, Construction & Re Construction, App.
6	03/02 SAT (mn TIT)	1	Fibre optics, Indu. Critical angle of prop., N.A. Fractional R.f I.chr Δ, expr of Acceptate, NA interms of Δ, classification of fiber on R.f.I profile, & modes it support
7.	05/02	1	S.C eqn for particle in abox. Cw.
8.	07/02	1	Time delay, Pulse distortion, Double crucible method
9.	12/2	1	Indu to wave mechs - schroedinger time indp. w. eqn.
10	14/2	1	Time dep. Sc. eqn, Particle in aBox. ShTest(1)
11	19/2	1	Rectangular pot-Barrier tunneling
12	21/2	1.	free elec model limitations, origin of energy band formation. periodic potential.
13	26/2	1	Statistical mech. - Indu, phase space, of space micro, macro statu, Dis b/w 3 Statistics.
14	28/2	1	MB Statistics, BE statistics, FD statistics distn fn.
15	5/3	1	Revision
16	12/3	1	Recap & photon gas App to BE Statistics
17	14/3	1	Fermi gas
18	19/3	1	Carrier conc. in intrinsic s.c (both hole & electron conc)
19	21/3	1	Fermi energy, Eg, Hall effect.
20	23/3	1	Solar cell - construction & working. Indu to superconductivity exptl fact. (maths extraclass)
21	28/3	1	Type 1 & 2 Superconductors, BCS theory.
22	02/4	1	Revision. breakdr (AT-2)
23.	04/4	1½	Unit V, Nano materials - properties, Prep techs top down bottom up, ball milling, Sol-gel.

LOG-SHEET
Particulars of Syllabus covered

S.No.	Date	No. of Periods	Brief note of topic(s) Covered
23	04/04	12	Applications. Carbonnanotubes Structure, properties & App.
1	ʺ		SEM, TEM, electron microscope, AFM, XRR Auger characterization technique
24	09/04	1	AT-2
25	11/4	1	Revision (lab)
26	16/4	1	Revision
27	18/4	1	lab Revision
28	23/4	1	AT-3
29	25/4	1	Dis. q qu. paper prev yrs.

LESSON PLAN

Department	Physics		Class	: B E ¼ IT -2
Academic year	2017-2018		Semester	: 1
Subject	Engg- Physics		Subject code	: 16 PY C01
Faculty	Dr. M. Subhadra		No. of Periods	: 40
Commencement of Instruction	07.08.2017	7/10/17		
Date of Mid Exam	I MID exam : 7/10/17		II MID exam :	

Classes lost due to Holidays and Mid-Sessional Exams

Day & Date	18/9	6/11				
Occasion	Freshers	Demise of BN Reddy srr				

Unit	Topic	No. of Periods	Cum-Periods
I			
(i)	Waves and oscillations – Review of free oscillations, Superposition of 2 mutually perpendicular linear SHMS of 1:1, 1:2 frequency ratio – Lissajous figs	1	1
	Damped Harmonic oscillator – differential equation and solution	1	2
	Logarithmic decrement – Relaxation time – Q factor	1	3
	Forced vibrations - differential equation and solution	1	4
	Amplitude resonance, Sharpness of resonance, Torsional pendulum – Review/Recap	1	5
(ii)	Ultrasonics : Introduction – Properties of ultrasonics detection techniques	1	6
	Production of ultrasonic by piezo electric and magnetostriction method	1	7
	Determination of ultrasonic velocity in liquids - Applications	1	8
	Problems	1	9
II			
(i)	Interference : Introduction, types of interference, Interference in thin films(reflected light)	1	10
	Newton's Rings (Determination of λ) diameter of dark and bright rings	1	11
	Applications of Newton's Rings – problems	1	12
	Division of Wave front- Fresnel's Bi Prism formation of fringes – explanation	1	13
	Experiment determination of wavelength of source of light, thickness 4 mica	1	14
(ii)	Diffraction – Types of Diffraction, Fresnel & Fraunhoffer Diffraction – Difference at single slit	1	15
	Diffraction due to N slits, missing orders, max. orders	1	16
	Determination of wave length of source of light, Resolving power of grating – problems	1	17
III			
(i)	Polarisation: Introduction – Optic axis, Principal section Malus law, Brewster's law	1	18
	Double refraction – calcite crystal description	1	19
	Nicol prism - construction and working	1	20
	Quarter wave plate & Half wave plate, Optical activity, action of half shade.	1	21
	Laurent's half shade Polarimeter – determination of S & C	1	22
(ii)	Electromagnetic theory – Review of steady & Varying fields, conduction, displacement currents - Maxwell's equation in differential and integral forms	1	23
	E M Wave propagation in free space, dielectric conducting media	1	24
	Poynting theorem - Recap	1	25
(IV)			
(i)	Crystallography – Introduction, Crystal system and Bravis lattices, planes and directions	1	26
	Miller indices, inter planar spacing,Bragg's law, powder diffraction method.	1 + 1	28
(ii)	Crystal imperfection : Classification of defects – point defects	1 + 1	30
	Concetration of Schottky & Frenkel defects	1	31
	Line defects – Edge dislocation and screw dislocation, burger's vector	1	32
(V)			
(i)	Magnetic materials – Classification of magnetic materials	1	33
	Langevin's theory of paramagnetism	1	34
	Curie-weiss law, Condition for spontaneous magnetisation(ferro magnetism), domain theory – hysteresis curve	1	35
	Hard and Soft Magnetic materials, Structure of ferrites	1	36
(ii)	Dielectric – Types of polarisation –(derivations)	1	37
	frequency and temperature dependence of polarisation,	1	38
	determination of K	1	39
	Ferro electricity - Structure of $BaTiO_3$ – Applications	1	40

M. Subhadra
Signature of Faculty
27/08/17

Signature of HOD
28.8.17

LOG-SHEET
Particulars of Syllabus covered

S.No.	Date	No. of Periods	Brief note of topic(s) Covered
1	7/8	1	Indu. to wave, SHM, characterice of wave mtn
2	9/8	1	combination of mutually $\perp$ or same of freq-1:1, 2:1 lessafound
3	10/8	1	Damped Harmonic oscillatr. Diff. eqn & th soln. overdampg
4	11/8	1	Critical damping, underdampg, log. decrement.
5	16/8	1	Relaxation time, Q. factr. Forced oscillations. - eqns & its soln
6	17/8	1	Amplitude Resonance, sharpness of resonance, Torsional pendul.
7	21/8	1	Problem solvig
8	23/8	1	ultrasonics, Indu. produ. tech's, Properties, dutection methods, App.
9	24/8	1	Production techs magnetostriction & piezoelectric method
10	28/8	1	Activity : App. of U.S
11	30/8	1	Interfena, Recap types of Interfena, Interfena in thin film
12	31/8	1	N. Ri, Det. of Diameter, App. of N. Ri λ & M. det.
13	4/9	1	Fresnel Biprism, Det. working. Det. of λ
14	6/9	1	Slipt Test ①
15	7/9	1	thickness of mica, Diff - indu, types of diff. Resultant of
			'n' Vibrations
16	11/9	1	Single Slit Diff. Intensity Distribution.
17	14/9	1	N-Slit Diff. Intensity distribution.
18	16/9(sat)	1	max. orders, missing orders R.P, Det. of λ → mon T.T
19	18/9	1	Det. of velocity of U.S Recap of prodn tech, detection method
20	21/9	1	Polarisation, Indu. plane of pol. & vibration.
			Brewster law, Malus law, Calcite cry. Structure Optic axis etc
21	23/9	1	Problems. dis.
22	25/9	1	Problems (kV. k) (CL) & 9/10
23	9 /10	1	Double Refraction, Nicol prism. -ue & +ue crystals
24	11 /10	1	Q.W.P, HWP, optical activity.
25	12/10	1	Action of Half Shade, Det. of S & C
26	16 /10	1	Basic laws of EM₭, ∇ operatn, Stokes, Div. thm
			Integral & diff forms, of max well, modification of Amperei law
27	18/10	1	cur. one eqn thgh Dielectric, conducting, free space

LOG-SHEET
Particulars of Syllabus covered

S.No.	Date	No. of Periods	Brief note of topic(s) Covered
28	23|10	1	Indu. to C.S, Lattice, Bravais lattice, miller indices, sketch 8
29	25|10	1	Interplanar Spacing, Debye scherrer / Powder diff mtr
30	26|10	1	Crystal defects, classification of defects, pt. defect conc. of schottky & Frenkel defects.
31	30|10	1	Sliptest-2, Line Defects - edge & screw dislocat
32	01|11	1	Recap of line defect, mag. materials classification Classical theory (Langevins theory) Indu.
33	02|11	1	Langevins theory, weiss theory of ferromag, condition for spontaneous
34	08|11	1	H.mm, smm, Ferrite Structure, Dielectrics Indu. polar & non polar. dielectrics.
35	13|11	1	Types of polarizability, Freq & temp. dep. of $\bar{P}$
36	15|11	1	Ferroelectricity, Spon. pol. Hysteresis, Det. of k - S.C. Bridge
37	16|11	1	BaTiO3 Structure - App. of ferroelectrics Test 3 — X —

CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY
(AUTONOMOUS)
Gandipet, Hyderabad – 500 075

LESSON PLAN

Department: PHYSICS   Class   : B.E. (CSE-3)

Academic Year: 2017-2018   Semester : II

Subject   : Applied Physics (Theory)   Subject Code: 16PY C02
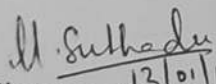
Faculty   : **Dr. M. Subhadra**   No. of Periods : 30

Commencement of Instruction: 16-01-2018   Completion of Instruction: 04-05-18
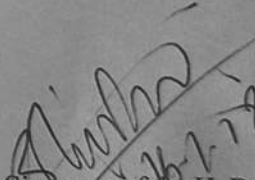
Dates of I Mid exam: 07/03/18   II Mid exam: 01/05/18

Unit No.	Topics	No. of Periods	Cumulative Periods
	UNIT - I		
I	**Lasers & Holography:** Characteristics of lasers – Spontaneous & stimulated emission of radiation – Einstein's coefficients	1	1
I	Population inversion – Lasing action – He-Ne laser – Semiconductor laser – Applications	2	3
I	– Basic principle of Holography – Recording & Reconstruction of hologram – Applications	1	4
I	**Optical Fibers:** Principle and Construction – Propagation of light through an optical fibre – Acceptance angle – Numerical aperture – Pulse dispersion	2	6
	Classification of optical fibers: Single mode & Multi mode and Step-index & Graded-index optical fibers – Double crucible method – Applications	1	7
	UNIT - II		
II	**Wave Mechanics:** Schrödinger time independent and time dependent wave equations – Physical significance of wave function	2	9
II	Infinite square well potential (particle in a box) – Potential barrier – Tunneling effect	2	11
II	**Band Theory of Solids:** Origin of energy band formation – Electron in periodic potential	1	12
II	Kronig-Penny model (qualitative) – Classification of solids	2	14

	UNIT - III		
III	**Elements of Statistical Mechanics:** Maxwell-Boltzmann statistics – Bose-Einstein statistics – Fermi-Dirac statistics	2	16
III	Photon gas – Planck's' law of black body radiation – Wien's law and Rayleigh-Jean's law from Planck's law	2	18
III	Concept of electron gas (qualitative) – Fermi energy level	1	19
	UNIT - IV		
IV	**Semiconductors:** Intrinsic and extrinsic semiconductors – Carrier concentration in intrinsic semiconductors – Energy gap	2	21
IV	Hall Effect – Construction & working of solar cell	1	22
IV	**Superconductors:** General properties of superconductors – Meissner's effect – Type I and Type II superconductors	1	23
IV	BCS theory (qualitative) – Applications	1	24
	UNIT - V		
V	**Nanomaterials:** Properties of materials at reduced size – Surface to volume ratio – Quantum confinement	1	25
V	Preparation of nanomaterials: Bottom-up approach (Sol-gel method) & Top-down approach (Ball milling method) – Elementary ideas of carbon nanotubes – Applications of nanomaterials	2	27
V	**Techniques for Characterization of Materials:** X-ray fluorescence – Auger (OJ) process	1	28
V	Scanning electron microscope (SEM) – Tunneling electron microscope (TEM) – Atomic force microscope (AFM)	2	30

M. Suthadu
13/01/18
Signature of the Faculty
with date

16/1/18
Signature of the HoD
with date