

B. Tech. COMPUTER SCIENCE & ENGINEERING 2nd YEAR (SEMESTER – III)
Choice Based Credit System Scheme of Studies & Examinations w.e.f. 2019-20: applicable to students admitted in 2018

Sl. No.	Course Code	Course Title	Teaching Schedule			Marks of Class work	Examination Marks		Total	Credits	Duration of Exam
			L	T	P		Theory	Practical			
1	CSE201C	Data Structures & Algorithms	3	0	0	25	75	0	100	3	3
2	CSE203C	Computer Organization & Architecture	3	0	0	25	75	0	100	3	3
3	ECE203C	Digital System Design	3	0	0	25	75	0	100	3	3
4	MATH207C	Mathematics-III (PDE&T)	3	0	0	25	75	0	100	3	3
5	MGT201C	Engineering Economics	3	0	0	25	75	0	100	3	3
6	CSE205C	IT Workshop	1	0	4	25	0	75	100	3	3
7	CSE281C	Data Structures & Algorithms Lab	0	0	4	25	0	75	100	2	3
8	ECE283C	D S D lab	0	0	2	25	0	75	100	1	3
9	MC 203C OR MC 201C	Constitution of India (Gr-A) / Environmental Science (Gr-B)	3	0	0	25	75	-	100	0	3
Total			19	0	10	225	450	225	900	21	27

L = Lecture, T = Tutorial, P = Practical, AUD = Audit Course, & C = Credits NOTE:

- Students will be allowed to use non-programmable scientific calculator. However, sharing of calculators will not be permitted in the examinations

Department: Computer Science & Engineering – 3rd Semester

Study Scheme				Evaluation Scheme			Total Marks
Lectures per week				Internal Assessment	External Assessment (Examination)		
L	T	P	Credits	Max. Marks	Max. Marks	Exam Duration	
3	-	-	3	25	75	3 hours	100

Subject: Data Structures & Algorithms (Theory)
Subject Code: CSE201C
UNIT NO.1 Introduction

- Topic No.1. Basic Terminologies: Elementary Data Organizations
- Topic No. 2 Data Structure operations:
- Topic No.3 Insertion, deletion, traversal etc. Analysis of an Algorithm,
- Topic No. 4 Asymptotic Notations
- Topic No.5 Time-Space trade off. Searching:
- Topic No.6 Linear Search and Binary Search Techniques and their complexity analysis.

UNIT-II Stacks and Queues:

- Topic No.7 ADT Stack and its operations
- Topic No.8 Algorithms and their complexity analysis
- Topic No.9 Applications of Stacks
- Topic No.10 Expression Conversion and evaluation
- Topic No.11– corresponding algorithms and complexity analysis.
- Topic No.12 ADT queue, Types of Queue: Simple Queue
- Topic No.13 Circular Queue, Priority Queue;
- Topic No.14 Operations on each type of Queues: Algorithms and their analysis.

UNIT-III Linked Lists:

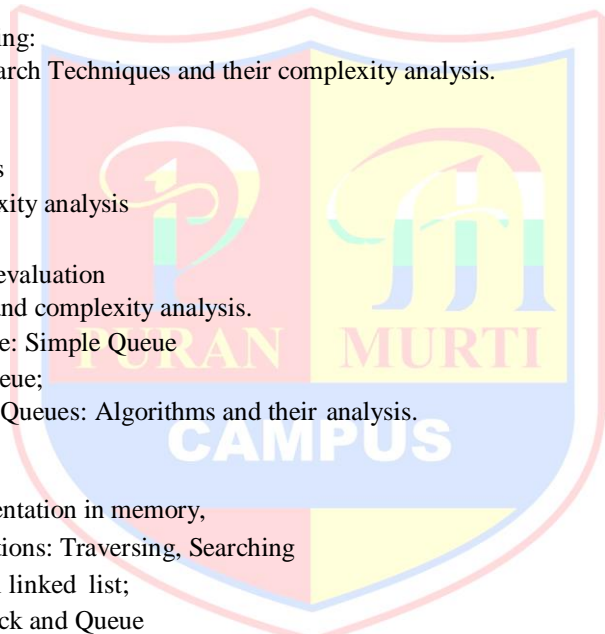
- Topic No.15: Singly linked lists: Representation in memory,
- Topic No.16 Algorithms of several operations: Traversing, Searching
- Topic No.17 Insertion into, Deletion from linked list;
- Topic No.18 Linked representation of Stack and Queue
- Topic No.19 Header nodes, Doubly linked list: operations on it and algorithmic analysis
- Topic No.20 Circular Linked
- Topic No.21 Lists: all operations their algorithms and the complexity analysis.

Trees:

- Topic No.22 Basic Tree Terminologies, Different types of Trees: Binary Tree
- Topic No.23 Threaded Binary Tree, Binary Search Tree
- Topic No.24 AVL Tree;
- Topic No.25 Tree operations on each of the trees and their algorithms with complexity analysis.
- Topic No.26 Applications of Binary Trees. B Tree, B+ Tree: definitions, algorithms and analysis

UNIT-IV Sorting and Hashing:

- Topic No.26 Objective and properties of different sorting algorithms: Selection Sort
- Topic No.27 Bubble Sort, Insertion Sort, Quick Sort, Merge Sort
- Topic No.28 Heap Sort; Performance and Comparison among all the methods
- Topic No.29, Hashing.



Graph:

Topic No.30:Basic Terminologies and Representations

Topic No.31 Graph search and traversal algorithms and complexity analysis.

TEXT BOOKS :

1. Fundamentals of Data Structures , Illustrated Edition by Ellis Horowitz, Sartaj Sahni, Computer Science Press.
2. Data Structures , Revised 1st Edition by Seymour Lipschutz , Scaum's Outline Series McGraw Hill

REFERENCE BOOKS :

1. Algorithms, Data Structures, and Problem Solving with C++", Illustrated Edition by Mark Allen Weiss, Addison-Wesley Publishing Company
2. How to Solve it by Computer , 2nd Impression by R. G. Dromey, Pearson Education.

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For student admitted in B. Tech. 1st Year (C-Scheme) in 2019 and all trailing students.

Examinations and evaluation of students shall be conducted as per guidelines AICTE Examinations Reforms covering the entire syllabus. The students shall be made aware about the reforms.

Course Outcomes: Upon successful completion of the course , students will demonstrate the ability to:

1. Analyze the algorithm for a problem solution determine the time and computation complexity and justify the correctness.
2. Implement the algorithm for Search problem (Linear Search and Binary Search) .
3. Solve the given problem of Stack , Queue ,Linked list, Graph search and traversal implement it and analyze the same to determine the time and computation complexity.
4. Write an algorithm for Selection Sort, Bubble Sort, Insertion Sort, Quick Sort, Merge Sort, Heap sort and compare their performance in term

Department: Computer Science & Engineering – 3rd Semester

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Subject: Computer Organization & Architecture (Theory)

Subject Code: CSE203C

UNIT-I Functional blocks of a computer:

- Topic No.1 CPU, Memory, input/output subsystems, control unit ,
- Topic No.2 Multilevel viewpoint of a machine: digital logic, micro architecture
- Topic No.3 ISA, operating systems, high level language
- Topic No.4 RTL Computer Buses (basic design using multiplexers), Bus width
- Topic No.5 Bus clocking(synchronous , asynchronous), bus arbitration
- Topic No.6 Bus examples(ISA bus, PCI bus, Universal serial bus) .
- Topic No.7 Data representation : signed number representation
- Topic No.8 fixed and floating point representations
- Topic No.9 character representation.
- Topic No.10 Computer arithmetic –integer addition and subtraction
- Topic No.11 multiplication – shift-and add, Booth multiplier

UNIT-II CPU Organization

- Topic No.12 Instruction set architecture of a CPU , interpretation of instructions,
- Topic No.13 Instruction set based classification of processors (RISC, CISC, and their comparison),
- Topic No.14 CPU Architecture types (accumulator, register, stack, memory/ register)
- Topic No.15 Instruction cycle (Fetch-Decode-Execute)
- Topic No.16 Addressing modes(register, immediate, direct, indirect, indexed);
- Topic No.17 Operations in the instruction set; Arithmetic and Logical, Data Transfer, Control Flow;
- Topic No.18 Instruction set formats (fixed, variable, hybrid)
- Topic No.19 Pipelining (basic concepts, throughput and speedup, hazards)

UNIT-III : Input /Output & Control Unit:

- Topic No.20 Input Output Interface , Asynchronous data transfer
- Topic No.21(Strobe control, handshaking , serial transfer); Serial Vs parallel data transmission;
- Topic No.22 Modes of data transfer, (Programmed I/O, Interrupt driven, Direct Memory access (DMA).
- Topic No.23 Control Unit design:- Control unit design methods (hardwired & microprogrammed)
- Topic No.24 Control Memory, Address Sequencing, Micro instructions.

UNIT-IV: Memory Organization:

- Topic No.25 Memory device characteristics(access/ cycle time, cost per bit, volatility , storage density)
- Topic No.26; Memory hierarchy ;Main memory Design (Semiconductor RAM & ROM organization,
- Topic No.27 memory expansion, Static & dynamic memory types , their comparison);
- Topic No.28 Associative memory Design ,Match logic
- Topic No.29, Locality of reference principle(Temporal & Spatial)
- Topic No.30 Cache mapping(Direct , associative , set associative
- Topic No.31 Cache writing policies (Copy-Back , Write-through);
- Topic No.32 Virtual Memory(Address space , memory space , Address mapping using pages , Page replacement)

TEXT BOOKS:

1. Computer System Architecture by M. Mano, Prentice-Hall.
2. Structured Computer Organisation by A.S. Tanenbaum, 6th edition, Prentice-Hall of India, Eastern Economic Edition

REFERENCE BOOKS:

1. Computer Organization, 5th Edi, by Carl Hamacher, Zvonko Vranesic, 2002, SafwatZaky.
2. Computer Organization and Design, 2nd Ed., by David A. Patterson and John L. Hennessy, Morgan 1997, Kauffmann.
3. Computer Architecture and Organization, 3rd Edi, by John P. Hayes, 1998, TMH
4. Computer Organisation & Architecture: Designing for performance by W. Stallings, 4th edition, 1996, Prentice-Hall International edition.

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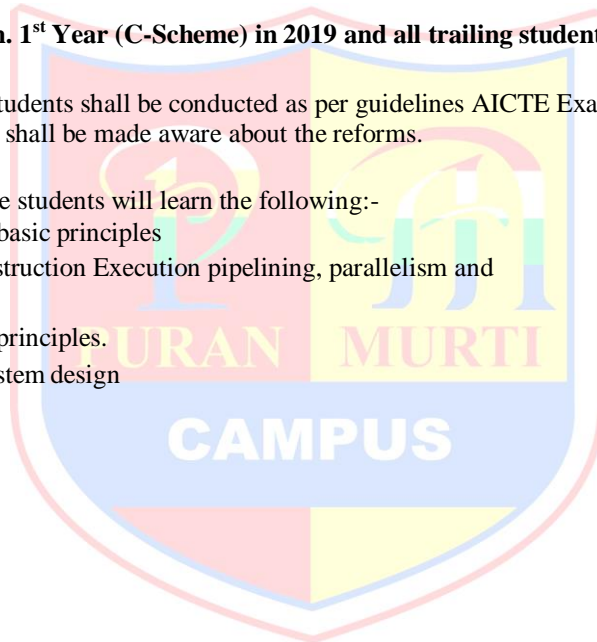
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Course Outcomes:

After successful completion of the course students will learn the following:-

1. How Computer Systems work & the basic principles
2. Instruction Level Architecture and Instruction Execution pipelining, parallelism and microprogramming
3. How I/O devices are accessed and its principles.
4. The current state of art in memory system design



Department: Computer Science & Engineering – 3rd Semester

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Subject: Digital System Design (Theory)
Subject Code: ECE203C
UNIT- I Logic Simplification:

Topic no.1. Review of Boolean Algebra and DeMorgan's Theorem, SOP & POS forms,
 Topic no.2. Canonical forms, Realization Using Gates.
 Topic no.3 Karnaugh maps up to 6 variables,
 Topic no.4 VEM technique,
 Topic no.5 Binary codes,
 Topic no.6 Code Conversion. Numericals.

UNIT- II: Combinational & Sequential Logic Design:

Topic no.7 Comparators, Multiplexers, Encoder,
 Topic no.8 Decoder, Half and Full Adders, Subtractors, Parallel Adders,
 Topic no.9 Adder with Look Ahead Carry, BCD Adder.
 Topic no.10 Sequential Logic Design: Building blocks like S-R,
 Topic no.11 JK and Master-Slave JK FF, Edge triggered FF,
 Topic no.12 Ripple and Synchronous counters,
 Topic no.13 Sequence Generator, Shift registers.

UNIT III :Finite state machines:

Topic no.14 Introduction, Design of synchronous FSM Driver & Multiplexed Display:
 Topic no.15 Serial Binary Adder, Sequence detector,
 Topic no.16 Parity Bit Generator, pulse train generator.
 Topic no.17 Algorithmic State Machines charts: Introduction,
 Topic no.18 Component of ASM chart, Introductory examples of ASM chart.

UNIT IV: Logic Families and PLDs:

Topic no.20 TTL NAND gate, Specifications, Noise margin,
 Topic no.21 Propagation delay, fan-in, fan-out,
 Topic no.22 Tristate TTL, ECL, CMOS families and their interfacing.
 Topic no.23 Concept of Programmable logic devices like PAL, PLA, ROM, CPLD and FPGA.
 Topic no.24 Logic implementation using Programmable Devices

TEXT /REFERENCE BOOKS:

1. R.P. Jain, "Modern digital Electronics", Tata McGraw Hill, 4th edition, 2009
2. A. Anand Kumar, "Switching Theory & Logic Design", PHI.
3. W.H. Gothmann, "Digital Electronics- An introduction to theory and practice", PHI, 2nd edition, 2006.
4. D.V. Hall, "Digital Circuits and Systems", Tata McGraw Hill, 1989.
5. Morris Mano, "Digital Design: With an Introduction to the Verilog HDL", 5th Edition, Pearson Education, 2013.
6. Morris Mano, "Logic & Computer Fundamentals", 4th Edition, Pearson Education.



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Course Outcomes: Upon successful completion of the course , students will demonstrate the ability to:

1. Understand binary codes, binary arithmetic, minimization techniques and their relevance to digital logic design.
2. Design & analyze modular combinational circuits with MUX/DEMUX, Decoder, Encoder and sequential logic circuits.
3. Understand finite state machines and develop a digital logic to find out sustainable solution of a real life problem.
4. Understand and implement various digital integrated circuits using different logic families and simple systems composed of PL



Department: Computer Science & Engineering – 3rd Semester

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Subject: Mathematics-III(PDE&T)

Subject Code:Math207C

UNIT-I :

Topic no.1.First order partial differential equations,
 Topic no.2.solutions of first order linear and non linear PDEs
 Topic no.3. Solution to homogenous and non-homogenous linear partial differential equations second
 Topic no.4 higher order by complimentary function and particular integral method.

UNIT-II

Topic no.5 Flows, vibrations and diffusions, Topic no.6 second-order linear equations and their- classification,
 Topic no.7 Initial and boundary conditions (with an informal description of well-posed problems),
 Topic no.8 D'Alembert's solution of the wave equation;
 Topic no.9 Duhamel's principle for one dimensional wave equation.
 Topic no.10 Separation of variables method to simple problems in Cartesian coordinates.
 Topic no.11 The Laplacian in plane, cylindrical and spherical polar coordinates,
 Topic no.12 solutions with Bessel functions and Legendre functions.
 Topic no.13 One dimensional diffusion equation and its solution by separation of variables.
 Topic no.14 Boundary-value problems:
 Topic no.15 Solution of boundary-value problems for various linear PDEs in Various geometries.

UNIT-III

Topic no.16 Polynomials, Orthogonal Polynomials-Lagrange's,
 Topic no.17 Chebysev Polynomials; Trigonometric Polynomials,
 Topic no.18 Laplace Transform, Properties of Laplace Transform,
 Topic no.19 Laplace transform of periodic function.
 Topic no.20 Finding inverse Laplace transform by different. methods,
 Topic no.21 convolution theorem. Evaluation of integrals by Laplace transform,
 Topic no.22 solving ODEs 'and PDEs by Laplace Transform method.

UNIT-IV

Topic no.23 Fourier transforms,
 Topic no.24 Z-transform and Wavelet transforms:properties,
 Topic no.25 methods, inverses and their applications.

TEXT BOOKS :

1. Erwin Kreyszig -Advanced Engineering Mathematics, 9th Edition, John' Wiley & Sons, 2006.
2. S.S. Sastry, Engineering Mathematics, PHI, Vol. I & II.
3. B.S. Grewal, Higher Engineering Mathematics, Khanna Publishers, 35th Edition, 2000.

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Course Outcomes:

1. The students will understand solutions of first and second order linear and non linear PDFs and their classifications.
2. The students will understand to solve various naming equations using separation of variables method.
3. The students will come across various Polynomials such as-Lagrange's, Chebysev Polynomials, Trigonometric Polynomials.

The students will be able to solve various engineering mathematical problems using various transforms such as Laplace Transform Fourier Transforms, Z-transform and Wavelet transform



. Department: Computer Science & Engineering – 3rd Semester

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Subject: Engineering Economics

Subject Code: MGT201C

UNIT-I: Concept of Economics-

- Topic no.1 various definitions, nature of Economic problem
- Topic no.2, Micro and macro economics- their features and scope
- Topic no.3, production possibility curve, Relationship between Science,
- Topic no.4 Engineering Technology and Economics.
- Topic no.5 Utility: Concept and measurement of utility,
- Topic no.6 Law of Diminishing Marginal Utility,
- Topic no.7 Law of equi-marginal utility – its importance and practical applications.

UNIT-II: Demand:

- Topic no.8 Concept, Individual and Market demand schedule,
- Topic no.9 Law of demand, shape of demand curve.
- Topic no.10 Elasticity of demand: Concept,
- Topic no.11 measurement of elasticity of demand,
- Topic no.12 factors affecting elasticity of demand,
- Topic no.13 practical application of elasticity of demand.
- Topic no.14 Various concepts of cost: Fixed cost, variable cost,
- Topic no.15 average cost, marginal cost, money cost,
- Topic no.16 real cost, opportunity cost.

UNIT III: Production :

- Topic no.17 Meaning of production and factors of production;
- Topic no.18 Law of variable proportions, Law of Return to Scale
- Topic no.19 Internal and External economics and diseconomies of scale.
- Topic no.20 Meaning of Market, Type of Market – perfect Competition,
- Topic no.21 Monopoly, Oligopoly,
- Topic no.22 Monopolistic competition (Main features of these markers).

UNIT-IV: Supply :

- Topic no.23 Law of Supply,
- Topic no.24 Role of Demand & Supply in Price Determination and effect of changes in demand
- Topic no.25 supply on price. Nature and characteristics of Indian economy,
- Topic no.26 privatization – meaning, merits and demerits.
- Topic no.27 Globalisation – meaning, merits and demand



TEXT BOOKS:

1. Ahuja H.L”Micro Economic Theory” S. Chand Publication, New Delhi
2. Dewett K.K “Modern Economic Theory” S. Chand Publication, New Delhi
3. Jain T.R, Grover M.L, Ohri V.K Khanna O.P,”Economics for engineers” V.K .Publication ,New Delhi
4. Dr. R.K. Agarwal & Rashmi Agarwal, “ Principles and Applications of Economic”, Pragati Prakashan.

SUGGESTED BOOKS:

1. Jhingan I. Jhingan M.L”Micro Economic Theory” S.Chand Publication ,New Delhi
2. Chopra P.N “Principle of Economics” Kalyani Publishers, Delhi
3. Mishra S.K “Modern Micro Economics” Pragati Publication Mumbai. 44
4. Dwivedi D.N ”Micro Economics ” Pearson Education, New Delhi.

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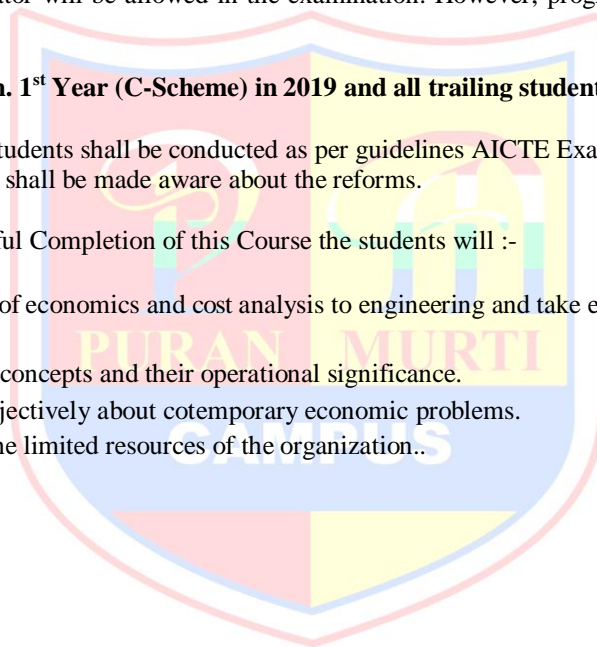
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COURSE OUTCOMES: Upon Successful Completion of this Course the students will :-

1. Acquire the skills to apply the basics of economics and cost analysis to engineering and take economically sound decision.
2. Acquaint the with the basic economic concepts and their operational significance.
3. Be able to think systematically and objectively about cotemporary economic problems.
4. Learn the ability to optimally utilize the limited resources of the organization..



Department: Computer Science & Engineering – 3rd Semester

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1	-	-	4	25	75	3 hours	100

Subject:ITWorkshop

Subject Code: CSE205C

UNIT-I:Introduction:

- Topic no.1 Data types and variables: Introduction to MATLAB, Data Types,
- Topic no.2 Inter-conversion of Data types, MATLAB Variables,
- Topic no.3 Keywords and Constant, Session Command.
- Topic no.4 MATLAB Operators and Operations: Operators(Arithmetic, Relational, Logical, Bitwise),
- Topic no.5 Set Operations, Operator Precedence,
- Topic no.6 Mathematical Functions.

UNIT-II:MATLAB Programming

- Topic no.7: Script and Function, Decision Making,
- Topic no.8Loops, branches, Functions,
- Topic no.9 Working on Script File (Creating, Saving and Executing),
- Topic no.10 MATLAB I/O,
- Topic no.11 IFormatted I/O Method,.

UNIT-III:Arrays

- Topic no.12: Introduction to Matrices,
- Topic no.13Operations on Arrays/Matrices,
- Topic no.14 Manipulations of Arrays/Matrices, Expansion of Matrix Size,
- Topic no.15 Reduction of Matrices/Arrays order,
- Graphics:
- Topic no.16Introduction to plot, Basic 2-D Plots(Style options, Labels, Axis control, etc.),
- Topic no.17 specialized 2-D
- Topic no.18Plots, drawing multiple plots.
- Topic no.19 Using MATLAB for fractals and chaos and Conway game of life

UNIT-IV:File Handling:

- Topic no.20File Handling: Introduction to file handling,
- Topic no.21working on files, accessing of Text File,
- Topic no.22 Saving/ Loading MATLAB Variables
- Topic no.23 reading data without opening file,
- Topic no.24 reading and writing Excel.
- Debugging: Introduction to debugging, Break points,
- Topic no.25debugger, stepping, watching variable values, debugging commands.

TEXT BOOKS:

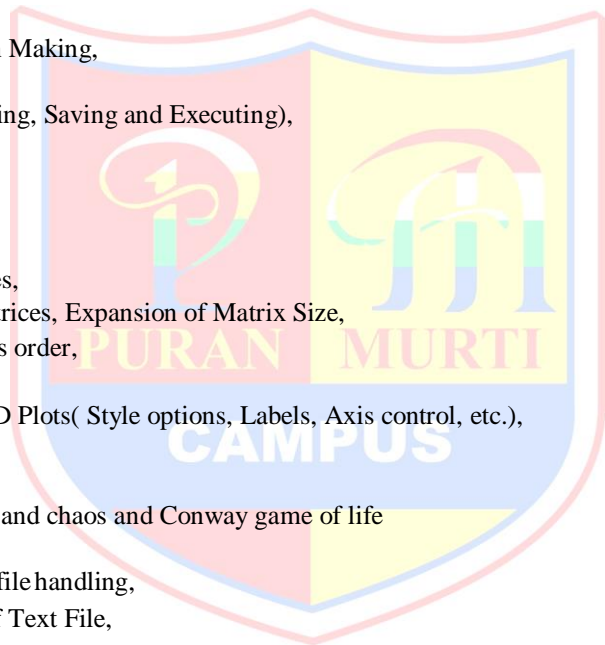
1. Delores M. Etter, David C. Kuncicky, Holly Moore, “Introduction to MATLAB 7.0”, Pearson, 2013.
- 2.RudraPratap, “Getting Started with MATLAB”, OXFORD University Press, 2010.
- 3.Agam Kumar Tyagi, “MATLAB and Simulink for Engineers”, University Press, 2012.

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Department: Computer Science & Engineering – 3rd Semester

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L	T	P	Credits	Max. Marks	Max. Marks	Exam Duration	
	-	4		25	75	3 hours	100

Subject: Data Structures & Algorithms Lab

Subject Code: CSE281C

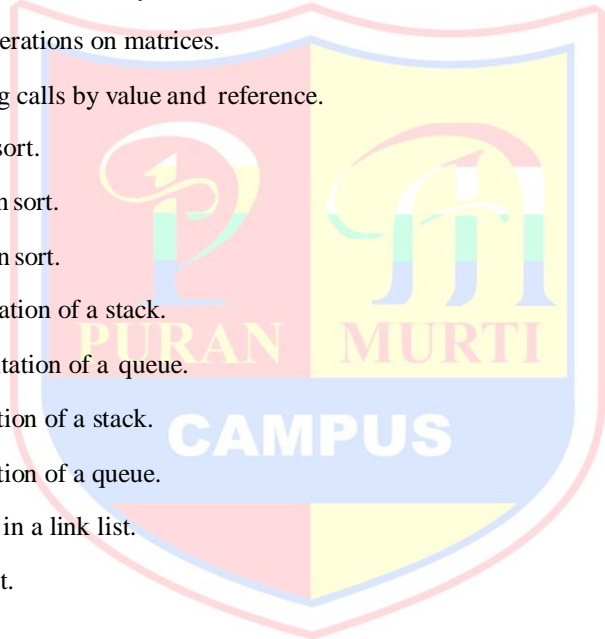
List of Programs:

1. Write a program to perform binary search in an array.
2. Write a program to perform binary search using recursion.
3. Write a program to perform linear search in 2D array.
4. Write a program to perform various operations on matrices.
5. Write a program to swap two nos. using calls by value and reference.
6. Write a program to implement bubble sort.
7. Write a program to implement insertion sort.
8. Write a program to implement selection sort.
9. Write a program of link list implementation of a stack.
10. Write a program of link list implementation of a queue.
11. Write a program of array implementation of a stack.
12. Write a program of array implementation of a queue.
13. Write a program to search an element in a link list.
14. Write a program to maintain a link list.
15. Write a program to implement BST

The teacher concerned may give 10 more exercises based upon syllabus CSE201C

Course Outcomes: Upon successful completion of the course , students will be able to :

1. Implement the algorithm for a problem solution , determine the time and computation complexity and justify the correctness.
2. Implement the algorithm for Search problem (Linear Search and Binary Search) .
3. Solve the given problem of Stack , Queue ,Linked list, Graph search and traversal implement it and analyze the same to determine the time and computation complexity.
4. Write an algorithm for Selection Sort, Bubble Sort, Insertion Sort, Quick Sort, Merge Sort, Heap sort and compare their performance in term of Space and time complexity.



Department: Computer Science & Engineering – 3rd Semester

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L	T	P	Credits	Max. Marks	Max. Marks	Exam Duration	
	-	4		25	75	3 hours	100

Subject: DSD lab

Subject Code: ECE 283C

LIST OF EXPERIMENTS:

- 1 To study & design basic gates.
- 2 To realize and minimize five & six variables using K-Map method.
- 3 To verify the operation of Multiplexer & De-multiplexer.
- 4 To perform Half adder and Full adder
- 5 To perform Half subtractor and Full subtractor.
- 6 To verify the truth table of S-R, J-K, T & D Type flip flop .
- 7 To study FLIP- FLOP conversion.
- 8 To design & verify the operation of 3 bit synchronous counter.
- 9 To design & verify the operation of synchronous UP/DOWN decade counter using JK flip
- 10 To design & verify operation of Asynchronous counter.
- 11 To design and implement a circuit to detect a Count Sequence.
- 12 Conversion of state diagram to the state table and implement it using logical circuit.

Text/Reference Books:

1. R.P. Jain, “Modern digital Electronics”, Tata McGraw Hill, 4th edition, 2009
2. A.Anand Kumar, “Switching Theory & Logic Design”, PHI.
3. W.H. Gothmann, “Digital Electronics- An introduction to theory and practice”, PHI, 2nd edition, 2006.

Note:-

1. Each laboratory class/section shall not be more than about 20 students.
2. To allow fair opportunity of practical hands on experience to each student, each experiment may either done by each student individually or in group of not more than 3-4 students. Larger groups be strictly discouraged/ disallowed.

Course Outcomes: At the end of the course, students will demonstrate the ability to:

1. Implement the basic digital theory concepts practically and will be able to verify various results derived in theory.
2. Design, analyze and troubleshoot broad range of combinational and sequential circuits for various practical problems using basic gates and flip flops I.C’s.
3. Develop technical writing skills to communication effectively and present one’s own work.

Subject: Constitution of India
Subject Code: MC203C

Study Scheme				Evaluation Scheme			Total Marks
Lectures per week				Internal Assessment	External Assessment (Examination)		
L	T	P	Credits	Max. Marks	Max. Marks	Exam Duration	
3	-	-	3	25	75	3 hours	100

Unit 1 Philosophy of Indian Constitution:

Topic No 1 Ideological Basis and Salient Features of Indian Constitution,
Topic No 2 Fundamental Rights & Duties of the Citizens,
Topic No3 Directive Principles of State Policy

Unit 2 Nature and Dynamics of Indian Federalism:

Topic No 4 Federalism: Theory and Practice in India,
Topic No 5 Federal Features of the Indian Constitution, Legislative,
Topic No 6 Administrative and Financial Relations between the Union and the States.

Unit 3 Union and State Legislature :

Topic No 7 Parliament: Composition, Functions and Working of the Parliamentary system
Topic No 8 State Legislature:
Topic No 9 Composition and Functions of Vidhan Sabha/ Vidhan Parishad

Unit 4 Centre and State: Executive and Judiciary:

Topic No 10 President,
Topic No 11 Prime Minister and Council of Ministers ,
Topic No 12 Governor,
Topic No 13 Chief Minister and Council of Ministers, Judiciary:
Topic No 14 Supreme Court;
Topic No 15 High Court

Text Books:

1. Austin G., The Indian Constitution: Corner Stone of a Nation, New Delhi: Oxford University Press, 196
2. Basu D.D., An Introduction to the Constitution of India, New Delhi: Prentice Hall, 1994
3. Kothari R., Politics in India, New Delhi: Orient Language, 1970
4. Siwach J.R., Dynamics of Indian Government and Politics, New Delhi: Sterling Publishers, 1985
5. Bhambhri C.P., The Indian State--Fifty Years, New Delhi: Shipra, 1997
6. Ghai U.R., Indian Political System, Jalandhar: New Academic Publishing Company, 2010

Course Outcomes: Upon successful completion of this course, students will be able:

1. To understand basic features of the constitution and rights and duties of Indian citizens
2. To understand the basic structure of Centre and State Government
3. To get acquainted with the nature of parliamentary form of Government
To have knowledge of the executive and judiciary powers in Indian democratic set-up

Scheme of End Semester Examinations (Major Test):

1. The duration of examinations will be three hours.
2. Nine questions of 15 marks each will be set out of which the students will have to attempt five questions in all.
3. First question of 15 marks will be compulsory. It will cover all the four units of the syllabus. The nature of the questions in each unit will depend upon the nature of content therein. The questions may have sub-parts with marks assigned against each.
4. Question No 02 to 09 of 15 marks each will be set from the four units of the syllabus --- two from each unit.
5. In addition to first compulsory question the students will have to attempt four more questions, selecting one from each unit.

Department: Computer Science & Engineering – 3rd Semester

Study Scheme				Evaluation Scheme			Total Marks
Lectures per week				Internal Assessment	External Assessment (Examination)		
L	T	P	Credits	Max. Marks	Max. Marks	Exam Duration	
	-	4		25	75	3 hours	100

Subject: Constitution of India

Subject Code: MC201C

Course Objectives:

To make students conscious citizens of India and well equip them to explain and understand the importance of constitution of the country

Unit I: Philosophy of Indian Constitution

Topic no.1 Ideological Basis and Salient Features of Indian Constitution

Topic no.2 Fundamental Rights & Duties of the Citizens

Topic no.3 Directive Principles of State Policy

Unit II: Nature and Dynamics of Indian Federalism

Topic no.4 Federalism: Theory and Practice in India

Topic no.5 Federal Features of the Indian Constitution

Topic no.6 Legislative, Administrative and Financial Relations between the Union and the States

Unit III: Union and State Legislature

Topic no.7 Parliament: Composition,

Topic no.8 Functions and Working of the Parliamentary system

Topic no.9 State Legislature

Topic no.10 Composition and Functions of Vidhan Sabha/ Vidhan Parishad

Unit IV: Centre and State: Executive and Judiciary

Topic no.11 President, Prime Minister and Council of Ministers

Topic no.12 Governor, Chief Minister and Council of Ministers

Topic no.13 Judiciary: Supreme Court; High Court

Course Outcomes:

At the end of the course students will be able to

1. To understand basic features of the constitution and rights and duties of Indian citizens
2. To understand the basic structure of Centre and State Government
3. To get acquainted with the nature of parliamentary form of Government
4. To have knowledge of the executive and judiciary powers in Indian democratic set-up

Scheme of End Semester Examinations (Major Test):

1. The duration of examinations will be three hours.
2. Nine questions of 15 marks each will be set out of which the students will have to attempt five questions in all.
3. First question of 15 marks will be compulsory. It will cover all the four units of the syllabus. The nature of the questions in each unit will depend upon the nature of content therein. The questions may have sub-parts with marks assigned against each.
4. Question No 02 to 09 of 15 marks each will be set from the four units of the syllabus --- two from each unit.
5. In addition to first compulsory question the students will have to attempt four more questions, selecting one from each unit.

Recommended Readings:

1. Austin G., The Indian Constitution: Corner Stone of a Nation, New Delhi: Oxford University Press, 1966
2. Basu D.D., An Introduction to the Constitution of India, New Delhi: Prentice Hall, 1994
3. Kothari R., Politics in India, New Delhi: Orient Language, 1970
4. Siwach J.R., Dynamics of Indian Government and Politics, New Delhi: Sterling Publishers, 1985
5. Bhambhri C.P., The Indian State--Fifty Years, New Delhi: Shipra, 1997
6. Ghai U.R., Indian Political System, Jalandhar: New Academic Publishing Company, 2010

Note:

1. In Semester Examinations, the examiner will set two questions from each unit (total 8 questions in all) covering the entire syllabus. The students will be required to attend only five questions selecting atleast one question from each unit.
2. The use of scientific calculator will be allowed in the examination. However, programmable calculator and cellular phone will not be allowed.