



VIGNAN'S INSTITUTE OF MANAGEMENT AND TECHNOLOGY FOR WOMEN

An Autonomous Institution

(Sponsored by Lavu Educational Society)

[Affiliated to JNTUH, Hyderabad & Approved by AICTE, New Delhi]



Department of Computer Science & Engineering

BOARD OF STUDIES

S. No.	Name of the Member	Designation	Organization	Role
1	Mrs. M. Parimala	Associate Professor & HoD	VMTW, Hyderabad.	Chairman
2	Dr. E. Hemalatha	Associate Professor	UCESTH, JNTUH	Member (JNTUH Nominee)
3	Dr. G. Madhu Sree	Principal	University College for Women, KU	Member (Academician)
4	Dr. M. Jithender Reddy	Assistant Professor	Vasavi College of Engineering, Hyd.	Member (Academician)
5	Dr. M. Ramesh Babu	Project Manager, Cognizant	Cognizant, Hyd.	Member (Industry)
6	Ms. K. Lasya Priya	Software Engineer, TCS	TCS, Hyderabad.	Member (Alumni)
7	Dr. C. Srinivasa Kumar	Professor	VMTW, Hyderabad.	Member
8	Dr. B. Phijik	Associate Professor & Dean	VMTW, Hyderabad.	Member
9	Dr. P. Rajendra Prasad	Associate Professor & Dean	VMTW, Hyderabad.	Member
10	Dr. G. Rajesh	Associate Professor & CoE	VMTW, Hyderabad.	Member
11	Dr. M, Shalima Sulthana	Associate Professor	VMTW, Hyderabad.	Member
12	Mr. R. Krishna Nayak	Associate Professor	VMTW, Hyderabad.	Member
13	Mrs. G. Anitha	Sr. Assistant Professor	VMTW, Hyderabad.	Member
14	Mrs. P. Rupa	Sr. Assistant Professor	VMTW, Hyderabad.	Member
15	Mrs. B. Geetha	Sr. Assistant Professor	VMTW, Hyderabad.	Member
16	Mrs. Amulya Rachana	Assistant Professor	VMTW, Hyderabad.	Member
17	Mr. S. Chandra Shekar	Assistant Professor	VMTW, Hyderabad.	Member


PRINCIPAL

Vignan's Institute of Management & Technology For Women
Kondapur (V), Ghatkesar (M), Medchal-Malkajgiri (Dt)-501301, Telangana State

Kondapur Village, Ghatkesar Mandal, Medchal - Malkajgiri District - 501301
Phone: +91 96529 10002/3/4, E-mail: info.vmtw@gmail.com, principal@vmtw.in
Website: www.vmtw.edu.in



VIGNAN'S INSTITUTE OF MANAGEMENT AND TECHNOLOGY FOR WOMEN

(An Autonomous Institution)

[Sponsored by Lavu Educational Society, Affiliated to JNTUH & Approved by AICTE, New Delhi]
Kondapur (V), Ghatkesar (M), Medchal - Malkajgiri (D) - 501 301. Phone: 96529 10002/3

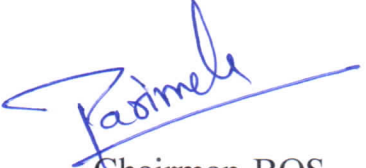


Department of Computer Science and Engineering

1st BoS Meeting on 19th December 2024

AGENDA

Item No.	Agenda Item
1.0	Review and Confirmation of Items
1.1	BOS- Chaiman – Presents the Minutes of Meeting of the 1 st Academic Council held on 23 rd November 2024.
2.0	Approval Items
2.1	Ratification of I B.Tech I & II Semester Course Structure.
2.2	Ratification of Syllabus for I B.Tech I Semester.
2.3	Approval of Syllabus for I B.Tech II Semester.
2.4	Approval of II B.Tech I & II Semester Course Structure.
2.5	Approval of Syllabus for II B.Tech I & II Semester.
2.6	Ratification of M.Tech Course Structure.
2.7	Ratification of Syllabus for I M.Tech I Semester.
2.8	Approval of Syllabus for M.Tech II, III & IV Semesters.
2.9	Approval of Nominated faculty for Paper setting and Paper Evaluation
2.10	Review and Approval of Changes in Course Outcomes of few Subjects.
3.0	Any other items with permission of Chair


Chairman-BOS



VIGNAN'S INSTITUTE OF MANAGEMENT AND TECHNOLOGY FOR WOMEN

(An Autonomous Institution)

[Sponsored by Lavu Educational Society, Affiliated to JNTUH & Approved by AICTE, New Delhi]
Kondapur (V), Ghatkesar (M), Medchal - Malkajgiri (D) - 501 301. Phone: 96529 10002/3



Department of Computer Science and Engineering

1st BoS Meeting on 19th December 2024

MEMBERS PRESENT:

S. No	Name of the Member	Designation	Organization	Role	Signature
1	Mrs. M. Parimala	Associate Professor & HoD	VMTW, Hyderabad.	Chairman	
2	Dr. E. Hemalatha	Associate Professor	UCE, JNTUH	Member (JNTUH)	
3	Dr. G. Madhu Sree	Principal	University College for Women, KU	Member (Academician)	
4	Dr. M. Jithender Reddy	Assistant Professor	Vasavi College of Engineering, Hyd.	Member (Academician)	
5	Dr. M. Ramesh Babu	Project Manager, Cognizant	Cognizant, Hyd.	Member (Industry)	
6	Ms. K. Lasya Priya	Software Engineer, TCS	TCS, Hyderabad.	Member (Alumni)	
7	Dr. C. Srinivasa Kumar	Professor	VMTW, Hyderabad.	Member	
8	Dr. B. Phijik	Associate Professor & Dean	VMTW, Hyderabad.	Member	
9	Dr. P. Rajendra Prasad	Associate Professor & Dean	VMTW, Hyderabad.	Member	
10	Dr. G. Rajesh	Associate Professor & CoE	VMTW, Hyderabad.	Member	
11	Dr. M. Shalima Sulthana	Associate Professor	VMTW, Hyderabad.	Member	
12	Mr. R. Krishna Nayak	Associate Professor	VMTW, Hyderabad.	Member	
13	Mrs. G. Anitha	Sr. Assistant Professor	VMTW, Hyderabad.	Member	
14	Mrs. P. Rupa	Sr. Assistant Professor	VMTW, Hyderabad.	Member	
15	Mrs. B. Geetha	Sr. Assistant Professor	VMTW, Hyderabad.	Member	
16	Mrs. Amulya Rachana	Assistant Professor	VMTW, Hyderabad.	Member	
17	Mr. S. Chandra Shekar	Assistant Professor	VMTW, Hyderabad.	Member	

MINUTES BOOK

Vignan's Institute of Management & Technology for Women (An Autonomous Institutions & Accredited by NBA & NAAC)

Department of Computer Science and Engineering

Minutes of the 1st Board of Studies (BoS) meeting held on 19th December 2024, 11.00AM
at Conference Hall, VMTW

The Quorum (minimum 40%) was satisfied.

The Chairman-BoS, Mrs. M. Parimala introduced the following members in the Board.

S. No.	Name	Designation	Organization	Position in BoS
1	Mrs. M. Parimala	Associate Professor & HoD	VMTW, Hyderabad.	Chairman
2	Dr. E. Hemalatha	Associate Professor	UCESTH, JNTUH	Member (JNTUH Nominee)
3	Dr. G. Madhu Sree	Principal	University College for Women, KU Warangal.	Member (Academician)
4	Dr. M. Jithender Reddy	Assistant Professor	Vasavi College of Engineering, Hyd.	Member (Academician)
5	Dr. M. Ramesh Babu	Project Manager, Cognizant	Cognizant, Hyd.	Member (Industry)
6	Ms. K. Lasya Priya	Software Engineer, TCS	TCS, Hyderabad.	Member (Alumni)
7	Dr. C. Srinivasa Kumar	Professor	VMTW, Hyderabad.	Member
8	Dr. B. Phijik	Associate Professor & Dean	VMTW, Hyderabad.	Member
9	Dr. P. Rajendra Prasad	Associate Professor & Dean	VMTW, Hyderabad.	Member
10	Dr. G. Rajesh	Associate Professor & CoE	VMTW, Hyderabad.	Member
11	Dr. M. Shalima Sulthana	Associate Professor	VMTW, Hyderabad.	Member
12	Mr. R. Krishna Nayak	Associate Professor	VMTW, Hyderabad.	Member
13	Mrs. G. Anitha	Sr. Assistant Professor	VMTW, Hyderabad.	Member
14	Mrs. P. Rupa	Sr. Assistant Professor	VMTW, Hyderabad.	Member
15	Mrs. B. Geetha	Sr. Assistant Professor	VMTW, Hyderabad.	Member
16	Mrs. Amulya Rachana	Assistant Professor	VMTW, Hyderabad.	Member
17	Mr. S. Chandra Shekar	Assistant Professor	VMTW, Hyderabad.	Member

Minutes of the Board of Studies (BoS) meeting held on Thursday, 19th December 2024

The following members were present:

1. Mrs. M. Parimala
2. Dr. E. Hemalatha
3. Dr. G. Madhu Sree
4. Dr. M. Jithender Reddy
5. Dr. M. Ramesh Babu
6. Ms. K. Lasya Priya
7. Dr. C. Srinivasa Kumar
8. Dr. B. Phijik
9. Dr. P. Rajendra Prasad
10. Dr. G. Rajesh
11. Dr. M. Shalima Sulthana
12. Mr. R. Krishna Nayak
13. Mrs. G. Anitha
14. Mrs. P. Rupa
15. Mrs. B. Geetha
16. Mrs. Amulya Rachana
17. Mr. S. Chandra Shekar

The Chairman-BoS welcomed all the members to the meeting of the Board of Studies.

Proceedings of the meeting of the Board of Studies

1.0 Review and Confirmation of Items.

1.1 BoS- Chairman – Presented the Minutes of Meeting of the 1st Academic Council held on 23rd November 2024.

The Board noted the points from the Minutes of the Meeting of the 1st Academic Council held on 23rd November 2024.

2.0 Approval Items.

2.1 Ratification of I B.Tech I & II Semester Course Structure

The Chairman-BoS presented the adopted Course Structure (attached here with Annexure -I) for I BTech. I & II Semester to the members.

The Board has Ratified the Course Structure for I BTech. I & II Semester.

2.2 Ratification of Syllabus for I B.Tech I Semester.

The Chairman-BoS presented the adopted Syllabus (attached here with Annexure - II) to the members.

The Board has ratified the adopted syllabi.

2.3 Approval of Syllabus for I B.Tech II Semester.

The Chairman-BoS presented the proposed Syllabus for I B.Tech II Semester (attached here with Annexure -III) to the members.

The Board has approved the syllabi.

2.4 Approval of II B.Tech I & II Semester Course Structure.

The Chairman-BoS presented the Course Structure (attached here with Annexure - IV) for II B.Tech. I & II Semester to the members.

The Board has approved the Course Structure for II B.Tech. I & II Semester.

2.5 Approval of Syllabus for II B.Tech I & II Semester.

The Chairman-BoS presented the proposed Syllabus for II B.Tech I & II Semester (attached here with Annexure -V) to the members.

The Board has approved the syllabi.

2.6 Ratification of M.Tech Course Structure.

The Chairman-BoS presented the adopted Course Structure (attached here with Annexure -VI) for M.Tech. to the members.

The Board has Ratified the Course Structure for M.Tech.

2.7 Ratification of Syllabus for I M.Tech I Semester.

The Chairman-BoS presented the adopted Syllabus (attached here with Annexure - VII) for I M.Tech I Semester to the members.

The Board has ratified the adopted syllabi.

2.8 Approval of Syllabus for M.Tech II, III & IV Semesters.

The Chairman-BOS presented the Syllabus (attached here with Annexure - VIII) for M.Tech II, III & IV Semesters to the members.

The Board has approved the above syllabi.

2.9 Approval of Nominated faculty for Paper setting and Paper Evaluation

The Chairman-BOS nominated the identified subject experts for Paper setting and Evaluation (attached here with Annexure - IX) for the approval.

The Board has approved the above subject experts.

2.10 Review and Approval of Changes in Course Outcomes of few Subjects.

The Chairman-BOS presented the changes made in Course Outcomes of few subjects without making any changes in adopted syllabus for approval (attached here with Annexure - X).

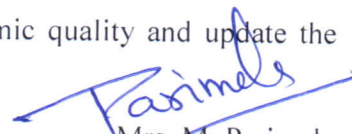
The Board has approved the above changes.

3.0 Any other item with the permission of the Chair

1. **Dr. E. Hemalatha**, Associate Professor, JNTUH UCESTH, inquired about the syllabus of the PPS subject and recommended including more experiments in the Programming for Problem Solving course.
2. **Dr.G.Madhu Sree**, suggested to include a theory course for Python in future
3. **Dr. M. Jithender Reddy**, suggested modifying the course structure and incorporating additional experiments in the PPS Lab."
4. **Dr. M. Ramesh Babu**, Project Manager, Cognizant, Hyderabad, suggested the inclusion of a theory course on Python with advanced topics focused on solving industry-related problems.
5. **Dr. P. Rajendra Prasad**, Associate Professor & Dean, IT Services, VMTW, Hyderabad, proposed modifying the credits for subjects, specifically by assigning more credits to programming language courses.
6. **Dr. B. Phijik**, Associate Professor & Dean, Academics, VMTW, Hyderabad, recommended introducing Summer Internship for internships for B.Tech students.
7. **Mr. R. Krishna Nayak**, Associate Professor, VMTW, Hyderabad, suggested including test cases for lab-related subjects like PPS and Python.
8. **Mrs. G. Anitha**, Sr. Assistant Professor, inquired about the course structure and credit distribution.
9. **Ms. K. Lasya Priya**, Software Engineer, TCS, asked whether the theory units align with lab experiments. The Chairman-BOS confirmed that the mapping is done according to the units.
10. **Mr. S. Chandra Shekar**, Assistant Professor, VMTW, Hyderabad, advised including more experiments in the Python lab.
11. **Dr. G. Rajesh**, Associate Professor & COE, recommended including the latest editions of the suggested books in the syllabus.

12. **Dr. C. Srinivasa Kumar**, Professor, inquired about the syllabus for the M.Tech subject "Research Methodology and IPR" and suggested incorporating an NPTEL course for these subjects.
13. **Mrs. B. Geetha**, Sr. Assistant Professor, VMTW, inquired about the PPS lab experiments.
14. **Dr. Shalima Sulthana**, Associate Professor, VMTW, suggested adding case studies for M.Tech students related to the NLP subject.

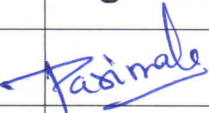
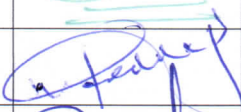
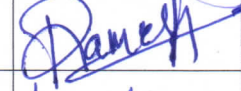
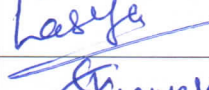
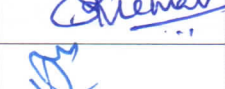
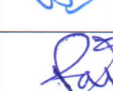
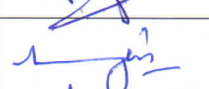
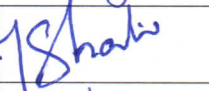
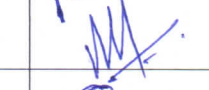
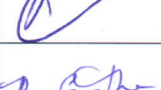
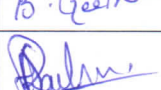
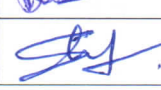
The Board suggested that the Chairman-BOS to maintain academic quality and update the syllabus to uphold the institution's standards.


Mrs. M. Parimala
Chairman - BoS

Vignan's Institute of Management & Technology for Women
(An Autonomous Institutions& Accredited by NBA & NAAC)

Department of Computer Science and Engineering

Minutes of the 1st Board of Studies (BoS) meeting held on 19th December 2024, 11.00AM
at Conference Hall, VMTW

S. No	Name of the Member	Designation	Organization	Role	Signatures
1	Mrs. M. Parimala	Associate Professor & HoD	VMTW, Hyderabad.	Chairman	
2	Dr. E. Hemalatha	Associate Professor	UCE, JNTUH	Member (JNTUH Nominee)	
3	Dr. G. Madhu Sree	Principal	University College for Women, KU Warangal.	Member (Academician)	
4	Dr. M. Jithender Reddy	Assistant Professor	Vasavi College of Engineering, Hyd.	Member (Academician)	
5	Dr. M. Ramesh Babu	Project Manager, Cognizant	Cognizant, Hyd.	Member (Industry)	
6	Ms. K. Lasya Priya	Software Engineer, TCS	TCS, Hyderabad.	Member (Alumni)	
7	Dr.C.Srinivasa Kumar	Professor	VMTW, Hyderabad.	Member	
8	Dr. B. Phijik	Associate Professor & Dean	VMTW, Hyderabad.	Member	
9	Dr. P. Rajendra Prasad	Associate Professor & Dean	VMTW, Hyderabad.	Member	
10	Dr. G. Rajesh	Associate Professor & CoE	VMTW, Hyderabad.	Member	
11	Dr. M, Shalima Sulthana	Associate Professor	VMTW, Hyderabad.	Member	
12	Mr. R. Krishna Nayak	Associate Professor	VMTW, Hyderabad.	Member	
13	Mrs. G. Anitha	Sr. Assistant Professor	VMTW, Hyderabad.	Member	
14	Mrs. P. Rupa	Sr. Assistant Professor	VMTW, Hyderabad.	Member	
15	Mrs. B. Geetha	Sr. Assistant Professor	VMTW, Hyderabad.	Member	
16	Mrs. Amulya Rachana	Assistant Professor	VMTW, Hyderabad.	Member	
17	Mr. S. Chandra Shekar	Assistant Professor	VMTW, Hyderabad.	Member	

Minutes of the Board of Studies (BOS) meeting held on Thursday, 19th December 2024

Annexure

I



VIGNAN'S INSTITUTE OF MANAGEMENT AND TECHNOLOGY FOR WOMEN

(An Autonomous Institution)

[Sponsored by Lavu Educational Society, Affiliated to JNTUH & Approved by AICTE, New Delhi]
Kondapur (V), Ghatkesar (M), Medchal - Malkajgiri (D) - 501 301. Phone: 96529 10002/3



COMPUTER SCIENCE AND ENGINEERING

COURSE STRUCTURE – VR24

I B.Tech. – I Semester

S.No.	Course Code	Course	L	T	P	Credits
1	MA101BS	Matrices and Calculus	3	1	0	4
2	CH102BS	Engineering Chemistry	3	1	0	4
3	CS103ES	Programming for Problem Solving	3	0	0	3
4	EE104ES	Basic Electrical Engineering	2	0	0	2
5	ME105ES	Computer Aided Engineering Graphics	1	0	4	3
6	CS106ES	Elements of Computer Science & Engineering	0	0	2	1
7	CH107BS	Engineering Chemistry Laboratory	0	0	2	1
8	CS108ES	Programming for Problem Solving Laboratory	0	0	2	1
9	EE109ES	Basic Electrical Engineering Laboratory	0	0	2	1
Total			12	2	12	20

I B.Tech. - II Semester

S.No.	Course Code	Course	L	T	P	Credits
1	MA201BS	Ordinary Differential Equations and Vector Calculus	3	1	0	4
2	PH202BS	Applied Physics	3	1	0	4
3	ME203ES	Engineering Workshop	0	1	3	2.5
4	EN204HS	English for Skill Enhancement	2	0	0	2
5	EC205ES	Electronic Devices and Circuits	2	0	0	2
6	ML206ES	Python Programming Laboratory	0	1	2	2
7	PH207BS	Applied Physics Laboratory	0	0	3	1.5
8	EN208HS	English Language and Communication Skills Laboratory	0	0	2	1
9	IT209ES	IT Workshop	0	0	2	1
10	*MC210	Environmental Science	3	0	0	0
Total			13	4	12	20

Note:

L - Theory

T - Tutorial

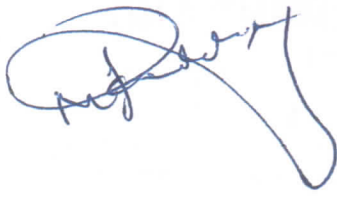
P - Practical

C - Credits

I. Kasimela

[Signature]

[Signature]

4. 

5. Ramesh

6. Laxmi

7. Anur

8. Anu

9. Raj

10. Raj

11. Shahi

12. M

13. A

14. A

15. B. Gaur

16. Rachna

17. Sty

Annexure

II

MA101BS

Vignan's Institute of Management and Technology for Women
An Autonomous Institution

VR24

B.Tech.

L T P C

I Year - I Semester

3 1 0 4

MATRICES AND CALCULUS

(Common for CSE, CSE(AI&ML), ECE, IT, CSE(DS))

Course Objectives: To learn

- Types of matrices and their properties.
- Concept of a rank of the matrix and applying this concept to know the consistency and solving the system of linear equations.
- Concept of eigen values and eigenvectors and to reduce the quadratic form to canonical form
- Geometrical approach to the mean value theorems and their application to the mathematical problems
- Evaluation of surface areas and volumes of revolutions of curves.
- Evaluation of improper integrals using Beta and Gamma functions.
- Partial differentiation, concept of total derivative
- Finding maxima and minima of function of two and three variables.
- Evaluation of multiple integrals and their applications

Course Outcomes: After learning the contents of this paper the student must be able to

- Write the matrix representation of a set of linear equations and to analyze the solution of the system of equations
- Find the Eigen values and Eigen vectors
- Reduce the quadratic form to canonical form using orthogonal transformations.
- Solve the applications on the mean value theorems.
- Evaluate the improper integrals using Beta and Gamma functions
- Find the extreme values of function of two variables with/without constraints.
- Evaluate the multiple integrals and apply the concept to find areas, volumes

UNIT-I: Matrices

Rank of a matrix by Echelon form and Normal form, Inverse of Non-singular matrices by Gauss- Jordan method, System of linear equations: Solving system of Homogeneous and Non-Homogeneous equations by Gauss elimination method, Gauss Seidel Iteration Method.

UNIT-II: Eigen values and Eigen vectors

Linear Transformation and Orthogonal Transformation: Eigen values, Eigenvectors and their properties, Diagonalization of a matrix, Cayley-Hamilton Theorem (without proof), finding inverse and power of a matrix by Cayley-Hamilton Theorem, Quadratic forms and Nature of the Quadratic Forms, Reduction of Quadratic form to canonical forms by Orthogonal Transformation.

UNIT-III: Calculus

Mean value theorems: Rolle's theorem, Lagrange's Mean value theorem with their Geometrical Interpretation and applications, Cauchy's Mean value Theorem, Taylor's Series. Applications of definite integrals to evaluate surface areas and volumes of revolutions of curves (Only in Cartesian coordinates), Definition of Improper Integral: Beta

C. S. S. S.

2)

B. S. S. S.

3)

B. S. S. S.

4)

B. S. S. S.

5)

B. S. S. S.

and Gamma functions and their applications.

UNIT-IV: Multivariable Calculus (Partial Differentiation and applications)

Definitions of Limit and continuity. Partial Differentiation: Euler's Theorem, Total derivative, Jacobian, Functional dependence & independence. Applications: Maxima and minima of functions of two variables and three variables using method of Lagrange multipliers.

UNIT-V: Multivariable Calculus (Integration)

Evaluation of Double Integrals (Cartesian and polar coordinates), change of order of integration (only Cartesian form). Evaluation of Triple Integrals: Change of variables (Cartesian to polar) for double and (Cartesian to Spherical and Cylindrical polar coordinates) for triple integrals. Applications: Areas (by double integrals) and volumes (by double integrals and triple integrals).

Text Books:

1. B.S. Grewal, Higher Engineering Mathematics, Khanna Publishers, 36th Edition, 2010.
2. R.K. Jain and S.R.K. Iyengar, Advanced Engineering Mathematics, Narosa Publications, 5th Edition, 2016.

Reference Books:

1. Erwin Kreyszig, Advanced Engineering Mathematics, 9th Edition, John Wiley & Sons, 2006.
2. G.B. Thomas and R.L. Finney, Calculus and Analytic geometry, 9th Edition, Pearson, Reprint, 2002.
3. N.P. Bali and Manish Goyal, A text book of Engineering Mathematics, Laxmi Publications, Reprint, 2008.
4. H. K. Dass and Er. Rajnish Verma, Higher Engineering Mathematics, S Chand and Company Limited, New Delhi.

1)



2)



3)



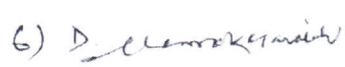
4)



5)



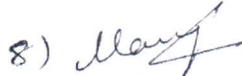
6)



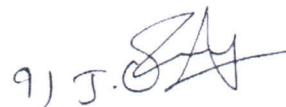
7)



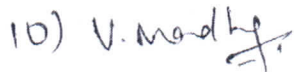
8)



9)



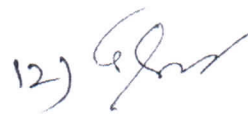
10)



11)



12)



B Tech

L T P C

I Year - I Semester

3 1 0 4

ENGINEERING CHEMISTRY
(Common to CSE, IT & CSE(DS))

Course Objectives:

- To bring adaptability to new developments in Engineering Chemistry and to acquire the skills required to become a perfect engineer.
- To include the importance of water in industrial usage, fundamental aspects of battery chemistry, significance of corrosion it's control to protect the structures.
- To imbibe the basic concepts of petroleum and its products.
- To acquire required knowledge about engineering materials like cement, smart materials and Lubricants.

Course Outcomes:

- Students will acquire the basic knowledge of electrochemical procedures related to corrosion and its control.
- The students are able to understand the basic properties of water and its usage in domestic and industrial purposes.
- They can learn the fundamentals and general properties of polymers and other engineering materials.
- They can predict potential applications of chemistry and practical utility in order to become good engineers and entrepreneurs.

UNIT - I: Water and its treatment:

Introduction to hardness of water – Estimation of hardness of water by complex metric method and related numerical problems. Potable water and its specifications - Steps involved in the treatment of potable water - Disinfection of potable water by chlorination and break - point chlorination. Defluoridation - Determination of F- ion by ion- selective electrode method.

Boiler troubles: Sludges, Scales and Caustic embrittlement. Internal treatment of Boiler feed water - Calgon conditioning - Phosphate conditioning - Colloidal conditioning. External treatment methods - Softening of water by ion- exchange processes. Desalination of water – Reverse osmosis

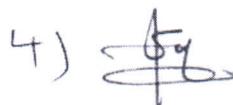
UNIT – II Battery Chemistry & Corrosion

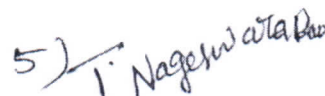
Introduction - Classification of batteries- primary, secondary and reserve batteries with examples. Basic requirements for commercial batteries. Construction, working and applications of: Zn-air and Lithium ion battery. Applications of Li-ion battery to electrical vehicles. Fuel Cells- Differences between battery and a fuel cell. Construction and applications of Methanol Oxygen fuel cell and Solid oxide fuel cell. Solar cells - Introduction and applications of Solar cells.

Corrosion: Causes and effects of corrosion – theories of chemical and electrochemical corrosion – mechanism of electrochemical corrosion, Types of corrosion: Galvanic, water-line and pitting corrosion. Factors affecting rate of corrosion, Corrosion control methods- Cathodic protection – Sacrificial anode and impressed current methods.

2) 

3) 

4) 

5)  Nageswara Rao

UNIT - III: Polymeric materials:

Definition – Classification of polymers with examples – Types of polymerization – addition (free radical addition) and condensation polymerization with examples – Nylon 6:6, Terylene Plastics: Definition and characteristics- thermoplastic and thermosetting plastics, Preparation, Properties and engineering applications of PVC and Bakelite, Teflon, Fiber reinforced plastics (FRP). Rubbers: Natural rubber and its vulcanization.

Elastomers: Characteristics –preparation – properties and applications of Buna-S, Butyl and Thiokol rubber.

Conducting polymers: Characteristics and Classification with examples-mechanism of conduction in trans-poly acetylene and applications of conducting polymers.

Biodegradable polymers: Concept and advantages - Polylactic acid and poly vinyl alcohol and their applications.

UNIT - IV: Energy Sources:

Introduction, Calorific value of fuel – HCV, LCV- Dulong's formula. Classification- solid fuels: coal – analysis of coal – proximate and ultimate analysis and their significance. Liquid fuels – petroleum and its refining, cracking types – moving bed catalytic cracking. Knocking – octane and cetane rating, synthetic petrol - Fischer-Tropsch's process; Gaseous fuels – composition and uses of natural gas, LPG and CNG, Biodiesel – Transesterification, advantages.

UNIT - V: Engineering Materials:

Cement: Portland cement, its composition, setting and hardening. Smart materials and their engineering applications

Shape memory materials- Poly L- Lactic acid. Thermo response materials- Polyacryl amides, Poly vinyl amides

Lubricants: Classification of lubricants with examples-characteristics of a good lubricants - mechanism of lubrication (thick film, thin film and extreme pressure)- properties of lubricants: viscosity, cloud point, pour point, flash point and fire point

Text Books:

1. Engineering Chemistry by P.C. Jain and M. Jain, Dhanpatrai Publishing Company, 2010
2. Engineering Chemistry by Rama Devi, Venkata Ramana Reddy and Rath, Cengage learning, 2016
3. A text book of Engineering Chemistry by M. Thirumala Chary, E. Laxminarayana and K. Shashikala, Pearson Publications, 2021.
4. Textbook of Engineering Chemistry by Jaya Shree Anireddy, Wiley Publications

Reference Books:

1. Engineering Chemistry by Shikha Agarwal, Cambridge University Press, Delhi (2015)
2. Engineering Chemistry by Shashi Chawla, Dhanpatrai and Company (P) Ltd, Delhi (2011)

2) Sash

3) yash

4) Sy

5) T. Nageswara Rao

B.Tech.

L T P C

I Year - I Semester

3 0 0 3

PROGRAMMING FOR PROBLEM SOLVING

(Common for CSE, CSE(DS), CSE(AIML), IT)

Course Objectives:

- To learn the fundamentals of computers.
- To understand the various steps in program development.
- To learn the syntax and semantics of the C programming language.
- To learn the usage of structured programming approaches in solving problems.

Course Outcomes: The student will learn

- To write algorithms and to draw flowcharts for solving problems.
- To convert the algorithms/flowcharts to C programs.
- To code and test a given logic in the C programming language.
- To decompose a problem into functions and to develop modular reusable code.
- To use arrays, pointers, strings and structures to write C programs.
- Searching and sorting problems.

UNIT - I: Introduction to Programming

Compilers, compiling and executing a program.

Representation of Algorithm - Algorithms for finding roots of a quadratic equations, finding minimum and maximum numbers of a given set, finding if a number is prime number Flowchart/Pseudocode with examples, Program design and structured programming

Introduction to C Programming Language: variables (with data types and space requirements), Syntax and Logical Errors in compilation, object and executable code, Operators, expressions and precedence, Expression evaluation, Storage classes (auto, extern, static and register), type conversion, The main method and command line arguments Bitwise operations: Bitwise AND, OR, XOR and NOT operators

Conditional Branching and Loops: Writing and evaluation of conditionals and consequent branching with if, if-else, switch-case, ternary operator, goto, Iteration with for, while, do- while loops

I/O: Simple input and output with scanf and printf, formatted I/O, Introduction to stdin, stdout and stderr. Command line arguments

UNIT - II: Arrays, Strings, Structures and Pointers:

Arrays: one and two dimensional arrays, creating, accessing and manipulating elements of arrays Strings: Introduction to strings, handling strings as array of characters, basic string functions available in C (strlen, strcat, strcpy, strstr etc.), arrays of strings

Structures: Defining structures, initializing structures, unions, Array of structures

Pointers: Idea of pointers, Defining pointers, Pointers to Arrays and Structures, Use of Pointers in self-referential structures, usage of self referential structures in linked list (no implementation) Enumeration data type

1. Farideh2. Harsh3. all

UNIT - III: Preprocessor and File handling in C:

Preprocessor: Commonly used Preprocessor commands like include, define, undef, if, ifdef, ifndef Files: Text and Binary files, Creating and Reading and writing text and binary files, Appending data to existing files, Writing and reading structures using binary files, Random access using fseek, ftell and rewind functions

UNIT - IV: Function and Dynamic Memory Allocation:

Functions: Designing structured programs, Declaring a function, Signature of a function, Parameters and return type of a function, passing parameters to functions, call by value, Passing arrays to functions, passing pointers to functions, idea of call by reference, Some C standard functions and libraries

Recursion: Simple programs, such as Finding Factorial, Fibonacci series etc., Limitations of Recursive functions Dynamic memory allocation: Allocating and freeing memory, Allocating memory for arrays of different data types

UNIT - V: Searching and Sorting:

Basic searching in an array of elements (linear and binary search techniques), Basic algorithms to sort array of elements (Bubble, Insertion and Selection sort algorithms), Basic concept of order of complexity through the example programs

Text Books:

1. **Jeri R. Hanly and Elliot B.Koffman**, Problem solving and Program Design in C 7th Edition, Pearson
2. **B.A. Forouzan and R.F. Gilberg**, C Programming and Data Structures, Cengage Learning, (3rd Edition)

Reference Books:

1. Brian W. Kernighan and Dennis M. Ritchie, The C Programming Language, Prentice Hall of India
2. E. Balagurusamy, Computer fundamentals and C, 2nd Edition, McGraw-Hill
3. Yashavant Kanetkar, Let Us C, 18th Edition, BPB
4. R.G. Dromey, How to solve it by Computer, Pearson (16th Impression)
5. Programming in C, Stephen G. Kochan, Fourth Edition, Pearson Education.
6. Herbert Schildt, C: The Complete Reference, Mc Graw Hill, 4th Edition
7. Byron Gottfried, Schaum's Outline of Programming with C, McGraw-Hill

1. Tasimeh 2. Harsh 3. @ell.
4. Aditya 5. Ramesh 6. Lasya
7. Suman 8. Yam 9. Raf
10. Jim 11. Shah 12. M 13. A 14. A
15. B. B. B. 16. B. B. B. 17. B. B. B. 18. B. B. B.

B.Tech.
I Year - I Semester

L	T	P	C
2	0	0	2

BASIC ELECTRICAL ENGINEERING
(Common for CSE, IT & CSE(DS))

Course Objectives:

- To understand DC and Single & Three phase AC circuits.
- To study and understand the different types of DC, AC machines and Transformers.
- To impart the knowledge of various electrical installations and the concept of power, powerfactor and its improvement.

Course Outcomes: After learning the contents of this paper the student must be able to

- Understand and analyze basic Electrical circuits.
- Study the working principles of Electrical Machines and Transformers.
- Introduce components of Low Voltage Electrical Installations.

UNIT-I:

D.C. Circuits: Electrical circuit elements (R, L and C), voltage and current sources, KVL&KCL, analysis of simple circuits with dc excitation. Superposition, Thevenin and Norton Theorems. Time-domain analysis of first-order RL and RC circuits.

UNIT-II:

A.C. Circuits: Representation of sinusoidal waveforms, peak and rms values, phasor representation, real power, reactive power, apparent power, power factor, Analysis of single-phase ac circuits consisting of R, L, C, RL, RC, RLC combinations (series and parallel), resonance in series R-L-C circuit. Three-phase balanced circuits, voltage and current relations in star and delta connections.

UNIT-III:

Transformers: Ideal and practical transformer, equivalent circuit, losses in transformers, regulation and efficiency. Auto-transformer and three-phase transformer connections.

UNIT-IV:

Electrical Machines: Construction and working principle of dc machine, performance characteristics of dc shunt machine. Generation of rotating magnetic field. Construction and working of a three-phase induction motor. Significance of torque-slip characteristics. Single-phase induction motor. Construction and working. Construction and working of synchronous generator.

UNIT-V:

Electrical Installations: Components of LT Switchgear: Switch Fuse Unit (SFU), MCB, ELCB, MCCB. Types of Wires and Cables, Earthing. Types of Batteries. Important Characteristics for Batteries. Elementary calculations for energy consumption, power factor improvement and battery backup.

2) 

3) 

4) 

5) 

Text Books:

1. D.P. Kothari and I. J. Nagrath, "Basic Electrical Engineering", Tata McGraw Hill, 4th Edition, 2019.
2. MS Naidu and S Kamakshaiah, "Basic Electrical Engineering", Tata McGraw Hill, 2nd Edition, 2008.

Reference Books:

1. P. Ramana, M. Suryakalavathi, G.T. Chandrasheker, "Basic Electrical Engineering", S. Chand, 2nd Edition, 2019.
2. D. C. Kulshreshtha, "Basic Electrical Engineering", McGraw Hill, 2009
3. M. S. Sukhija, T. K. Nagsarkar, "Basic Electrical and Electronics Engineering", Oxford, 1st Edition, 2012.
4. Abhijit Chakrabarti, Sudipta Debnath, Chandan Kumar Chanda, "Basic Electrical Engineering", 2nd Edition, McGraw Hill, 2021.
5. L. S. Bobrow, "Fundamentals of Electrical Engineering", Oxford University Press, 2011.
6. E. Hughes, "Electrical and Electronics Technology", Pearson, 2010.
7. V. D. Toro, "Electrical Engineering Fundamentals", Prentice Hall India, 1989

1) ~~Prasad~~

2) ~~Tm~~

3) ~~Ank~~

4) ~~Sk~~

5) ~~Qashif~~

6) ~~Voz~~

7) ~~MSRagh~~

8) ~~Alf~~

9) ~~G. Sar~~

B.Tech.

I Year - I Semester

L	T	P	C
1	0	4	3

COMPUTER AIDED ENGINEERING GRAPHICS

(Common for CSE, CSE(DS) & IT)

Course Objectives:

- To develop the ability of visualization of different objects through technical drawings.
- To acquire computer drafting skill for communication of concepts, ideas in the design of engineering products.

Course Outcomes: At the end of the course, the student will be able to:

- Apply computer aided drafting tools to create 2D and 3D objects.
- Sketch conics and different types of solids.
- Appreciate the need of Sectional views of solids and Development of surfaces of solids.
- Read and interpret engineering drawings.
- Conversion of orthographic projection into isometric view and vice versa manually and by using computer aided drafting.

UNIT-I: Introduction to Engineering Graphics:

Principles of Engineering Graphics and their Significance, Scales – Plain & Diagonal, Conic Sections including the Rectangular Hyperbola – General method only, Cycloid, Epicycloid and Hypocycloid, Introduction to Computer aided drafting – views, commands and conics.

UNIT-II: Orthographic Projections:

Principles of Orthographic Projections – Conventions – Projections of Points and Lines, Projections of Plane regular geometric figures. Auxiliary Planes. Computer aided orthographic projections – points, lines and planes.

UNIT-III Projections of Regular Solids:

Auxiliary Views - Sections or Sectional views of Right Regular Solids – Prism, Cylinder, Pyramid, Cone – Auxiliary views, Computer aided projections of solids – sectional views.

UNIT-IV: Development of Surfaces of Right Regular Solids:

Prism, Cylinder, Pyramid and Cone, Development of surfaces using computer aided drafting.

UNIT-V: Isometric Projections:

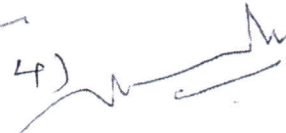
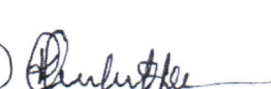
Principles of Isometric Projection – Isometric Scale – Isometric Views – Conventions – Isometric Views of Lines, Plane Figures, Simple and Compound Solids – Isometric Projection of objects having non- isometric lines. Isometric Projection of Spherical Parts. Conversion of Isometric Views to Orthographic Views and Vice-versa –Conventions. Conversion of orthographic projection into isometric view using computer aided drafting.

Text Books:

- Engineering Drawing N.D. Bhatt / Charotar Engineering Drawing and graphics Using AutoCAD Third Edition, T. Jeyapoovan, Vikas: S. Chand and company Ltd.

Reference Books:

- Engineering Drawing, Basant Agrawal and C M Agrawal, Third Edition McGraw Hill
- Engineering Graphics and Design, WILEY, Edition 2020
- Engineering Drawing, M. B. Shah, B.C. Rane / Pearson.
- Engineering Drawing, N. S. Parthasarathy and Vela Murali, Oxford
- Computer Aided Engineering Drawing – K Balaveera Reddy et al – CBS Publishers

2)  3)  4)  5) 

ENGINEERING CHEMISTRY LABORATORY

(Common for CSE, IT & CSE(DS))

Course Objectives: The course consists of experiments related to the principles of Chemistry required for engineering student. The student will learn:

- Estimation of hardness of water to check its suitability for drinking purpose.
- Students are able to perform estimations of acids and bases using conductometry.
- Potentiometry and pH metry methods. Students will learn to prepare polymers such as Bakelite and nylon-6 in the laboratory.
- Students will learn skills related to the lubricant properties such as saponification value, surface tension and viscosity of oils.

Course Outcomes: The experiments will make the student gain skills on:

- Determination of parameters like hardness of water and rate of corrosion of mild steel in various conditions.
- Able to perform methods such as conductometry, potentiometry and pH metry in order to find out the concentrations or equivalence points of acids and bases.
- Students are able to prepare polymers like bakelite and nylon-6.
- Estimations saponification value, surface tension and viscosity of lubricant oils.

List of Experiments:

1. **Volumetric Analysis:** Estimation of Hardness of water by EDTA Complexometry method.
2. **Conductometry:** Estimation of the concentration of an acid by Conductometry.
3. **Potentiometry:** Estimation of the amount of Fe^{2+} by Potentiometry.
4. **pH Metry:** Determination of an acid concentration using pH meter.
5. **Preparations:**
 - a. Preparation of Bakelite.
 - b. Preparation of Nylon-6.
6. **Lubricants:**
 - a. Estimation of acid value of given lubricant oil.
 - b. Estimation of Viscosity of lubricant oil using Ostwald's Viscometer.

7. **Corrosion:** Determination of rate of corrosion of mild steel in the presence and absence of inhibitor.
8. **Virtual lab experiments**
 - a. Construction of Fuel cell and it's working.
 - b. Smart materials for Biomedical applications
 - c. Batteries for electrical vehicles.
 - d. Functioning of solar cell and its applications.

Reference Books:

1. Lab manual for Engineering chemistry by B. Kamadevi and P. Aparna, S. Chand Publications, New Delhi (2022)
2. Vogel's text book of practical organic chemistry 5th Edition
3. Inorganic Quantitative analysis by A. I. Vogel, ELBS Publications.
4. College Practical Chemistry by V. K. Ahluwalia, Narosa Publications Ltd, New Delhi (2007).

2) SLN-3) 4) 5) T. Nageswara Rao

B.Tech.

L T P C

I Year - I Semester

ELEMENTS OF COMPUTER SCIENCE AND ENGINEERING
(Common to CSE,IT&CSE(DS))

0 0 2 1

Course Objective:

- To provide an overview of the subjects of computer science and engineering.

Course Outcomes: The student will learn

1. Know the working principles of functional units of a basic Computer
2. Understand program development, the use of data structures and algorithms in problem solving.
3. Know the need and types of operating system, database systems.
4. Understand the significance of networks, internet, WWW and cyber security.
5. Understand Autonomous systems, the application of artificial intelligence.

UNIT - I:

Basics of a Computer–Hardware, Software, Generations of computers. Hardware–functional units, Components of CPU, Memory – hierarchy, types of memory, Input and output devices. Software–systems software, application software, packages, frame works, IDEs.

UNIT - II:

Software development–water fall model, Agile, Types of computer languages–Programming, markup, scripting Program Development–steps in program development, flowcharts, algorithms, data structures–definition, types of data structures

UNIT - III:

Operating systems: Functions of operating systems, types of operating systems, Device & Resource management

Database Management Systems: Data models, RDBMS, SQL, Database Transactions, data centers, cloud services

UNIT - IV:

Computer Networks: Advantages of computer networks, LAN, WAN, MAN, internet, WiFi, sensor networks, vehicular networks, 5G communication.

World Wide Web–Basics, role of HTML, CSS, XML, Tools for web designing, Social media, Online social networks.

Security–information security, cyber security, cyber laws

UNIT - V:

Autonomous Systems: IoT, Robotics, Drones, Artificial Intelligence – Learning, Game Development, natural language processing, image and video processing.

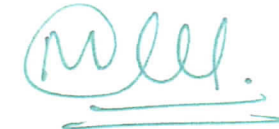
Text Books:

1. Invitation to Computer Science, G. Michael Schneider, Macalester College, Judith L. Gersting University of Hawaii, Hilo, Contributing author: Keith Miller University of Illinois, Springfield.

1. 

2.



3. 

Reference Books:

1. Fundamentals of Computers, Reema Thareja, Oxford Higher Education, Oxford University Press.
2. Introduction to computers, Peter Norton, 8th Edition, Tata McGraw Hill.
3. Computer Fundamentals, Anita Goel, Pearson Education India, 2010.
4. Elements of computer science, Cengage.

1. Tasmele

2. Hand

3.

all.

4. Ref

5. Remeth.

6. Lasus

7. Skumar

8. Sum

9. Ref

10. gis

11. Shah

12. M

13. Ref

14. Ref

15. B. Geetha

16. Bachu

17. Ref

B.Tech. CSE

L T P C

I Year - I Semester

0 0 2 1

PROGRAMMING FOR PROBLEM SOLVING LABORATORY

(Common for CSE,IT,CSE(AI&ML),CSE(DS))

Course Objectives:

- To work with an IDE to create, edit, compile, run and debug programs
- To analyze the various steps in program development.
- To develop programs to solve basic problems by understanding basic concepts in C like operators, control statements etc.
- To develop modular, reusable and readable C Programs using the concepts like functions, arrays etc.
- To Write programs using the Dynamic Memory Allocation concept.
- To create, read from and write to text and binary files.

Course Outcomes: The student will learn

- Formulate The Algorithms For Simple Problems
- Translate Given Algorithms To A Working And Correct Program
- Correct Syntax Errors As Reported By The Compilers
- Identify And Correct Logical Errors Encountered During Execution
- Represent And Manipulate Data With Arrays, Strings And Structures
- Use Pointers Of Different Types
- Create, Read And Write To And From Simple Text And Binary Files
- Modularize The Code With Functions So That They Can Be Reused.

Practice sessions:

- Write a simple program that prints the results of all the operators available in C (including pre/post increment, bitwise and/or/not, etc.). Read required operand values from standard input.
- Write a simple program that converts one given data type to another using auto conversion and casting. Take the values from standard input.

Simple numeric problems:

- Write a program for finding the max and min from the three numbers.
- Write the program for the simple, compound interest.
- Write a program that declares Class awarded for a given percentage of marks, where mark <40% = Failed, 40% to <60% = Second class, 60% to <70% = First class, >= 70% = Distinction. Read percentage from standard input.
- Write a program that prints a multiplication table for a given number and the number of rows in the table. For example, for a number 5 and rows = 3, the output should be:
 - 5 x 1 = 5
 - 5 x 2 = 10
 - 5 x 3 = 15

1. Tarimele

2. Efful

3. Mili

- h. Write a program that shows the binary equivalent of a given positive number between 0 to 255.

Expression Evaluation:

- a. A building has 10 floors with a floor height of 3 meters each. A ball is dropped from the top of the building. Find the time taken by the ball to reach each floor. (Use the formula $s = ut + (1/2)at^2$ where u and a are the initial velocity in m/sec ($= 0$) and acceleration in m/sec^2 ($= 9.8 m/s^2$)).
- b. Write a C program, which takes two integer operands and one operator from the user, performs the operation and then prints the result. (Consider the operators $+$, $-$, $*$, $/$, $\%$ and use Switch Statement)
- c. Write a program that finds if a given number is a prime number
- d. Write a C program to find the sum of individual digits of a positive integer and test given number is palindrome.
- e. A Fibonacci sequence is defined as follows: the first and second terms in the sequence are 0 and 1. Subsequent terms are found by adding the preceding two terms in the sequence. Write a C program to generate the first n terms of the sequence.
- f. Write a C program to generate all the prime numbers between 1 and n , where n is a value supplied by the user.
- g. Write a C program to find the roots of a Quadratic equation.
- h. Write a C program to calculate the following, where x is a fractional value.
i. $1 - x/2 + x^2/4 - x^3/6$
- j. Write a C program to read in two numbers, x and n , and then compute the sum of this geometric progression: $1 + x + x^2 + x^3 + \dots + x^n$. For example: if n is 3 and x is 5, then the program computes $1 + 5 + 25 + 125$.

Arrays, Pointers and Functions:

- a. Write a C program to find the minimum, maximum and average in an array of integers.
- b. Write a function to compute mean, variance, Standard Deviation, sorting of n elements in a single dimension array.
- c. Write a C program that uses functions to perform the following:
- d. Addition of Two Matrices
- e. Multiplication of Two Matrices
- f. Transpose of a matrix with memory dynamically allocated for the new matrix as row and column counts may not be the same.
- g. Write C programs that use both recursive and non-recursive functions
- h. To find the factorial of a given integer.
- i. To find the GCD (greatest common divisor) of two given integers.
- j. To find x^n
- k. Write a program for reading elements using a pointer into an array and display

1. Tasimeh

2. H. L.

3. M. L.

the values using the array.

- l. Write a program for display values reverse order from an array using a pointer.
- m. Write a program through a pointer variable to sum of n elements from an array

Files:

- a. Write a C program to display the contents of a file to standard output device.
- b. Write a C program which copies one file to another, replacing all lowercase characters with their uppercase equivalents.
- c. Write a C program to count the number of times a character occurs in a text file. The file name and the character are supplied as command line arguments.
- d. Write a C program that does the following:
It should first create a binary file and store 10 integers, where the file name and 10 values are given in the command line. (hint: convert the strings using atoi function)
Now the program asks for an index and a value from the user and the value at that index should be changed to the new value in the file. (hint: use fseek function)
The program should then read all 10 values and print them back.
- e. Write a C program to merge two files into a third file (i.e., the contents of the first file followed by those of the second are put in the third file).

Strings:

- a. Write a C program to convert a Roman numeral ranging from I to L to its decimal equivalent.
- b. Write a C program that converts a number ranging from 1 to 50 to Roman equivalent
- c. Write a C program that uses functions to perform the following operations:
- d. To insert a sub-string into a given main string from a given position.
- e. To delete n Characters from a given position in a given string.
- f. Write a C program to determine if the given string is a palindrome or not (Spelled same in both directions with or without a meaning like madam, civic, noon, abcba, etc.)
- g. Write a C program that displays the position of a character ch in the string S or -1 if S doesn't contain ch.
- h. Write a C program to count the lines, words and characters in a given text.

Miscellaneous:

- a. Write a menu driven C program that allows a user to enter n numbers and then choose between finding the smallest, largest, sum, or average. The menu and all the choices are to be functions. Use a switch statement to determine what action to take. Display an error message if an invalid choice is entered.

1. Tarimele

2. EHL

3. @lll

- b. Write a C program to construct a pyramid of numbers as follows:

```

1          *          1          1          *
1 2        * *        2 3        2 2        * *
1 2 3      * * *      4 5 6      3 3 3      * * *
                                   4 4 4 4      * *
                                           *
```

Sorting and Searching:

- Write a C program that uses non recursive function to search for a Key value in a given
- list of integers using linear search method.
- Write a C program that uses non recursive function to search for a Key value in a given
- sorted list of integers using binary search method.
- Write a C program that implements the Bubble sort method to sort a given list of
- integers in ascending order.
- Write a C program that sorts the given array of integers using selection sort in descending order
- Write a C program that sorts the given array of integers using insertion sort in ascending order
- Write a C program that sorts a given array of names

TEXT BOOKS:

- Jeri R. Hanly and Elliot B.Koffman, Problem solving and Program Design in C 7th Edition, Pearson
- B.A. Forouzan and R.F. Gilberg C Programming and Data Structures, Cengage Learning, (3rdEdition)

REFERENCE BOOKS:

- Brian W. Kernighan and Dennis M. Ritchie, The C Programming Language, PHI
- E. Balagurusamy, Computer fundamentals and C, 2nd Edition, McGraw-Hill
- Yashavant Kanetkar, Let Us C, 18th Edition, BPB
- R.G. Dromey, How to solve it by Computer, Pearson (16th Impression)
- Programming in C, Stephen G. Kochan, Fourth Edition, Pearson Education.
- Herbert Schildt, C: The Complete Reference, Mc Graw Hill, 4th Edition
- Byron Gottfried, Schaum's Outline of Programming with C, McGraw-Hill

1. Tarimele

2. H.L

3. @ll

4. 

7. Gurmar

10. raj

13. 

16. Rachna

5. Ranab

8. 

11. G. Ghate

14. 

17. 

6. Rasga

9. 

12. 

15. B. Getha

B.Tech

L T P C

I Year - I Semester

0 0 2 1

BASIC ELECTRICAL ENGINEERING LABORATORY

(Common for CSE, IT & CSE(DS))

Course Objectives:

- To measure the electrical parameters for different types of DC and AC circuits using conventional and theorems approach.
- To study the transient response of various R, L and C circuits using different excitations.
- To determine the performance of different types of DC, AC machines and Transformers.

Course Outcomes: After learning the contents of this paper, the student must be able to

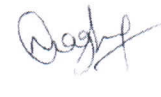
- Verify the basic Electrical circuits through different experiments.
- Evaluate the performance calculations of Electrical Machines and Transformers through various testing methods.
- Analyze the transient responses of R, L and C circuits for different input conditions.

List of experiments/demonstrations:**PART- A (compulsory)**

1. Verification of KVL and KCL
2. Verification of Thevenin's and Norton's theorem
3. Transient Response of Series RL and RC circuits for DC excitation
4. Resonance in series RLC circuit
5. Calculations and Verification of Impedance and Current of RL, RC and RLC Series circuits
6. Measurement of Voltage, Current and Real Power in primary and Secondary Circuits of a Single-Phase Transformer
7. Performance Characteristics of a DC Shunt Motor
8. Torque-Speed Characteristics of a Three-phase Induction Motor.

PART-B (any two experiments from the given list)

1. Verification of Superposition theorem.
2. Three Phase Transformer: Verification of Relationship between Voltages and Currents (Star-Delta, Delta-Delta, Delta-star, Star-Star)
3. Load Test on Single Phase Transformer (Calculate Efficiency and Regulation)
4. Measurement of Active and Reactive Power in a balanced Three-phase circuit
5. No-Load Characteristics of a Three-phase Alternator

2) 3) 4) 5) 

Text Books:

1. D.P. Kothari and I. J. Nagrath, "Basic Electrical Engineering", Tata McGraw Hill, 4th Edition, 2019.
2. MS Naidu and S Kamakshaiah, "Basic Electrical Engineering", Tata McGraw Hill, 2nd Edition, 2008.

Reference Books:

1. P. Ramana, M. Suryakalavathi, G.T. Chandrasheker, "Basic Electrical Engineering", S. Chand, 2nd Edition, 2019.
2. D. C. Kulshreshtha, "Basic Electrical Engineering", McGraw Hill, 2009
3. M. S. Sukhija, T. K. Nagsarkar, "Basic Electrical and Electronics Engineering", Oxford, 1st Edition, 2012.
4. Abhijit Chakrabarthy, Sudipta Debnath, Chandan Kumar Chanda, "Basic Electrical Engineering", 2nd Edition, McGraw Hill, 2021.
5. L. S. Bobrow, "Fundamentals of Electrical Engineering", Oxford University Press, 2011.
6. E. Hughes, "Electrical and Electronics Technology", Pearson, 2010.
7. V. D. Toro, "Electrical Engineering Fundamentals", Prentice Hall India, 1989

1) *VR*

2) *VR*

3) *VR*

4) *SK*

5) *VR*

6) *VR*

7) *VR*

8) *VR*

9) *VR*

Annexure

III

B.Tech.	L	T	P	C
I Year - II Semester	3	1	0	4
ORDINARY DIFFERENTIAL EQUATIONS AND VECTOR CALCULUS				
(Common for CSE, CSE(AI&ML), ECE, IT, CSE(DS))				

Course Objectives: To learn

- Methods of solving the differential equations of first and higher order.
- Concept, properties of Laplace transforms.
- Solving ordinary differential equations using Laplace transforms techniques.
- The physical quantities involved in engineering field related to vector valued functions.
- The basic properties of vector valued functions and their applications to line, surface and volume integrals.

Course outcomes: After learning the contents of this paper the student must be able to

- Identify whether the given differential equation of first order is exact or not.
- Solve higher differential equation and apply the concept of differential equation to real world problems.
- Use the Laplace transforms techniques for solving ODE's.
- Evaluate the line, surface and volume integrals and converting them from one to another.

UNIT-I: First Order ODE

Exact differential equations, Equations reducible to exact differential equations, linear and Bernoulli's equations, Orthogonal Trajectories (only in Cartesian Coordinates). Applications: Newton's law of cooling, Law of natural growth and decay.

UNIT-II: Ordinary Differential Equations of Higher Order

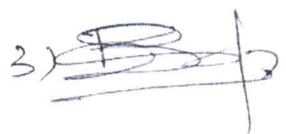
Second order linear differential equations with constant coefficients: Non-Homogeneous terms of the type e^{ax} , $\sin ax$, $\cos ax$, polynomials in x , $e^{ax} V(x)$ and $x V(x)$, method of variation of parameters, Equations reducible to linear ODE with constant coefficients: Legendre's equation, Cauchy-Euler equation. Applications: Electric Circuits.

UNIT-III: Laplace transforms

Laplace Transforms: Laplace Transform of standard functions, First shifting theorem, Second shifting theorem, Unit step function, Dirac delta function, Laplace transforms of functions when they are multiplied and divided by 't', Laplace transforms of derivatives and integrals of function, Evaluation of integrals by Laplace transforms, Laplace transform of periodic functions, Inverse Laplace transform by different methods, convolution theorem (without proof). Applications: solving Initial value problems by Laplace Transform method.

UNIT-IV: Vector Differentiation

Vector point functions and scalar point functions, Gradient, Divergence and Curl, Directional derivatives, Tangent plane and normal line, Vector Identities, Scalar potential functions, Solenoidal and Irrotational vectors.

2)  3)  4)  5) 

UNIT-V: Vector Integration

Line, Surface and Volume Integrals, Theorems of Green, Gauss and Stokes (without proofs) and their applications.

Text Books:

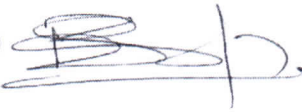
1. B.S. Grewal, Higher Engineering Mathematics, Khanna Publishers, 36th Edition, 2010
2. R.K. Jain and S.R.K. Iyengar, Advanced Engineering Mathematics, Narosa Publications, 5th Edition, 2016.

Reference Books:

1. Erwin Kreyszig, Advanced Engineering Mathematics, 9th Edition, John Wiley & Sons, 2006.
2. G.B. Thomas and R.L. Finney, Calculus and Analytic geometry, 9th Edition, Pearson, Reprint, 2002.
3. H. K. Dass and Er. Rajnish Verma, Higher Engineering Mathematics, S Chand and Company Limited, New Delhi
4. N.P. Bali and Manish Goyal, A text book of Engineering Mathematics, Laxmi Publications, Reprint, 2008.

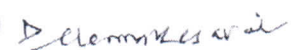
1) 

2) 

3) 

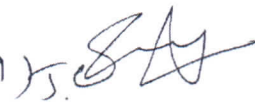
4) 

5) 

6) 

7) 

8) 

9) 

10) V. Medhy.

11) 

12) 

B.Tech.

L T P C

I Year - II Semester

3 1 0 4

APPLIED PHYSICS
(Common to CSE, CSE(DS) & IT)**Course Objectives:** The objectives of this course for the students are to:

- Understand the basic principles of quantum physics and band theory of solids.
- Understand the underlying mechanism involved in construction and working principles of various semiconductor devices.
- Study the fundamental concepts related to the dielectric, magnetic and energy materials.
- Identify the importance of nanoscale, quantum confinement and various fabrications techniques.
- Study the characteristics of lasers and optical fibers.

Course Outcomes: At the end of the course the student will be able to:

- Understand physical world from fundamental point of view by the concepts of Quantum mechanics and visualize the difference between conductor, semiconductor, and an insulator by classification of solids.
- Identify the role of semiconductor devices in science and engineering Applications.
- Explore the fundamental properties of dielectric, magnetic materials and energy for their applications.
- Appreciate the features and applications of Nanomaterials.
- Understand various aspects of Lasers and Optical fiber and their applications in diverse fields.

UNIT - I: Quantum Physics and Solids

Quantum Mechanics: Introduction to quantum physics, blackbody radiation – Stefan-Boltzmann's law, Wein's and Rayleigh-Jean's law, Planck's radiation law - photoelectric effect - Davisson and Germer experiment –Heisenberg uncertainty principle - Born interpretation of the wave function – time independent Schrodinger wave equation - particle in one dimensional potential box.

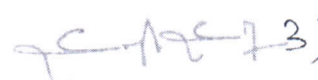
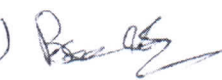
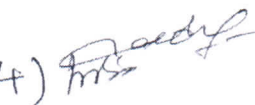
Solids: Symmetry in solids, free electron theory (Drude & Lorentz, Sommerfeld) - Fermi-Dirac distribution - Bloch's theorem - Kronig-Penney model – E-K diagram-effective mass of electron-origin of energy bands- classification of solids.

UNIT - II: Semiconductors and Devices

Intrinsic and extrinsic semiconductors – Hall effect - direct and indirect band gap semiconductors - construction, principle of operation and characteristics of P-N Junction diode, Zener diode and bipolar junction transistor (BJT)–LED, PIN diode, avalanche photo diode (APD) and solar cells, their structure, materials, working principle and characteristics.

UNIT - III: Dielectric, Magnetic and Energy Materials

Dielectric Materials: Basic definitions- types of polarizations (qualitative)-ferroelectric, piezoelectric, and pyroelectric materials – applications – liquid crystal displays (LCD) and crystal oscillators.

2)  3) 4) 5) 

Magnetic Materials: Hysteresis - soft and hard magnetic materials - magnetostriction, magnetoresistance - applications - bubble memory devices, magnetic field sensors and multiferroics.

Energy Materials: Conductivity of liquid and solid electrolytes- superionic conductors - materials and electrolytes for super capacitors - rechargeable ion batteries, solid fuel cells.

UNIT - IV: Nanotechnology

Nanoscale, quantum confinement, surface to volume ratio, bottom-up fabrication: sol-gel, precipitation, combustion methods - top-down fabrication: ball milling - physical vapor deposition (PVD) - chemical vapor deposition (CVD) - characterization techniques - XRD, SEM & TEM - applications of nanomaterials.

UNIT - V: Laser and Fiber Optics

Lasers: Laser beam characteristics-three quantum processes-Einstein coefficients and their relations- lasing action - pumping methods- ruby laser, He-Ne laser, CO₂ laser, Argon ion Laser, Nd:YAG laser- semiconductor laser-applications of laser.

Fiber Optics: Introduction to optical fiber- advantages of optical Fibers - total internal reflection- construction of optical fiber - acceptance angle - numerical aperture- classification of optical fibers- losses in optical fiber - optical fiber for communication system - applications.

Text Books:

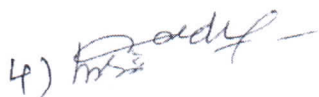
1. M. N. Avadhanulu, P.G. Kshirsagar & TVS Arun Murthy "A Text book of Engineering Physics"- S. Chand Publications, 11th Edition 2019.
2. Engineering Physics by Shatendra Sharma and Jyotsna Sharma, Pearson Publication, 2019
3. Semiconductor Physics and Devices- Basic Principle - Donald A. Neamen, Mc Graw Hill, 4th Edition, 2021.
4. B.K. Pandey and S. Chaturvedi, Engineering Physics, Cengage Learning, 2nd Edition, 2022.
5. Essentials of Nanoscience & Nanotechnology by Narasimha Reddy Katta, Typical Creatives NANO DIGEST, 1st Edition, 2021.

Reference Books:

1. Quantum Physics, H.C. Verma, TBS Publication, 2nd Edition 2012.
2. Fundamentals of Physics - Halliday, Resnick and Walker, John Wiley & Sons, 11th Edition, 2018.
3. Introduction to Solid State Physics, Charles Kittel, Wiley Eastern, 2019.
4. Elementary Solid-State Physics, S.L. Gupta and V. Kumar, Pragathi Prakashan, 2019.
5. A.K. Bandyopadhyay - Nano Materials, New Age International, 1st Edition, 2007.
6. Energy Materials a Short Introduction to Functional Materials for Energy Conversion and Storage Aliaksandr S. Bandarenka, CRC Press Taylor & Francis Group
7. Energy Materials, Taylor & Francis Group, 1st Edition, 2022.

2) 

3) 

4) 

5) 

B.Tech.

L T P C

I Year - II Semester

0 1 3 2.5

ENGINEERING WORKSHOP

(Common for CSE , CSE(DS) & IT)

Course Objectives:

- To Study of different hand operated power tools, uses and their demonstration.
- To gain a good basic working knowledge required for the production of various engineering products.
- To provide hands on experience about use of different engineering materials, tools, equipment's and processes those are common in the engineering field.
- To develop a right attitude, team working, precision and safety at workplace.
- It explains the construction, function, use and application of different working tools, equipment and machines.
- To study commonly used carpentry joints.
- To have a practical exposure to various welding and joining processes.
- Identify and use marking out tools, hand tools, measuring equipment and to work to prescribed tolerances.

Course Outcomes: At the end of the course, the student will be able to:

- Study and practice on machine tools and their operations.
- Practice on manufacturing of components using workshop trades including plumbing, fitting, carpentry, and foundry, house wiring and welding.
- Identify and apply suitable tools for different trades of Engineering processes including drilling, material removing, measuring, chiseling.
- Apply basic electrical engineering knowledge for house wiring practice.

I. TRADES FOR EXERCISES:**At least two exercises from each trade:**

1. Carpentry-(T-Lap Joint, Dovetail Joint, Mortise & Tenon Joint)
2. Fitting-(V-Fit, Dovetail Fit & Semi-circular fit)
3. Tin-Smithy- (Square Tin, Rectangular Tray & Conical Funnel)
4. Foundry-(Preparation of Green Sand Mould using Single Piece and Split Pattern)
5. Welding Practice-(Arc Welding & Gas Welding)
6. House-wiring-(Parallel & Series, Two-way Switch and Tube Light)
7. Black Smithy-(Round to Square, Fan Hook and S-Hook)

II. TRADES FOR DEMONSTRATION & EXPOSURE:

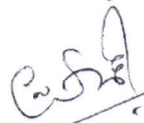
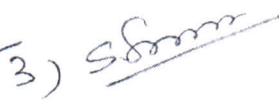
Plumbing, Machine Shop, Metal Cutting (Water Plasma), Power tools in construction and Wood Working

Text Books:

1. Workshop Practice/B. L. Juneja / Cengage
2. Workshop Manual/K. Venugopal / Anuradha.

Reference Books:

1. Workshop Manual-P. Kannaiah /K.L. Narayana /Scitech
2. Workshop Manual/ VenkatReddy /BSP

2)  3)  4)  5) 

EN204HS

Vignan's Institute of Management and Technology for Women
An Autonomous Institution

VR24

B.Tech.

I Year - II Semester

L T P C

2 0 0 2

ENGLISH FOR SKILL ENHANCEMENT

(Common for CSE, CSE(DS) & IT)

Course Objectives:

- Improve the language proficiency of students in English with an emphasis on Vocabulary, Grammar, Reading and Writing skills.
- Develop study skills and communication skills in various professional situations.
- Equip students to study engineering subjects more effectively and critically using the theoretical and practical components of the syllabus.

Course Outcomes: The student will learn

- Understand the importance of vocabulary and sentence structures.
- Choose appropriate vocabulary and sentence structures for their oral and written communication.
- Demonstrate their understanding of the rules of functional grammar.
- Develop comprehension skills from the known and unknown passages.
- Take an active part in drafting paragraphs, letters, essays, abstracts, précis and reports in various contexts.
- Acquire basic proficiency in reading and writing modules of English.

UNIT - I:

Chapter entitled 'Toasted English' by R.K.Narayan from "English: Language, Context and Culture" published by Orient Black Swan, Hyderabad.

Vocabulary: The Concept of Word Formation -The Use of Prefixes and Suffixes – Acquaintance with Prefixes and Suffixes from Foreign Languages to form Derivatives Synonyms and Antonyms

Grammar: Identifying Common Errors in Writing with Reference to Articles and Prepositions.

Reading: Reading and Its Importance- Techniques for Effective Reading.

Writing: Sentence Structures -Use of Phrases and Clauses in Sentences- Importance of Proper Punctuation- Techniques for Writing precisely – Paragraph Writing – Types, Structures and Features of a Paragraph - Creating Coherence-Organizing Principles of Paragraphs in Documents.

UNIT - II:

Chapter entitled 'Appro JRD' by Sudha Murthy from "English: Language, Context and Culture" published by Orient Black Swan, Hyderabad.

Vocabulary: Words Often Misspelt - Homophones, Homonyms and Homographs

Grammar: Identifying Common Errors in Writing with Reference to Noun-pronoun Agreement and Subject-verb Agreement.

Reading: Sub-Skills of Reading – Skimming and Scanning – Exercises for Practice

Chapter entitled 'Appro JRD' by Sudha Murthy from "English: Language, Context and Culture" published by Orient BlackSwan, Hyderabad.

Vocabulary: Words Often Misspelt - Homophones, Homonyms and Homographs

Grammar: Identifying Common Errors in Writing with Reference to Noun- pronoun Agreement and Subject-verb Agreement.

Reading: Sub-Skills of Reading – Skimming and Scanning – Exercises for Practice

2) 3) 4) 5) Kirane

UNIT - III:

Chapter entitled 'Lessons from Online Learning' by F.Haider Alvi, Deborah Hurst et al from "English: Language, Context and Culture" published by Orient Black Swan, Hyderabad.

Vocabulary: Words Often Confused - Words from Foreign Languages and their Use in English.

Grammar: Identifying Common Errors in Writing with Reference to Misplaced Modifiers and Tenses.

Reading: Sub-Skills of Reading – Intensive Reading and Extensive Reading – Exercises for Practice.

Writing: Format of a Formal Letter-Writing Formal Letters E.g... Letter of Complaint, Letter of Requisition, Email Etiquette, Job Application with CV/Resume

UNIT - IV:

Chapter entitled 'Art and Literature' by Abdul Kalam from "English: Language, Context and Culture" published by Orient BlackSwan, Hyderabad.

Vocabulary: Standard Abbreviations in English

Grammar: Redundancies and Clichés in Oral and Written Communication.

Reading: Survey, Question, Read, Recite and Review (SQ3R Method) - Exercises for Practice

Writing: Writing Practices- Essay Writing-Writing Introduction and Conclusion -Précis Writing.

UNIT - V:

Chapter entitled 'Go, Kiss the World' by Subroto Bagchi from "English: Language, Context and Culture" published by Orient BlackSwan, Hyderabad.

Vocabulary: Technical Vocabulary and their Usage

Grammar: Common Errors in English (Covering all the other aspects of grammar which were not covered in the previous units)

Reading: Reading Comprehension-Exercises for Practice

Writing: Technical Reports- Introduction – Characteristics of a Report – Categories of Reports **Formats** - Structure of Reports (Manuscript Format) -Types of Reports - Writing a Report.

Text Books:

1. "English: Language, Context and Culture" by Orient BlackSwan Pvt. Ltd, Hyderabad. 2022. Print.

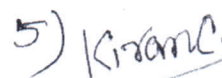
Reference Books:

1. Effective Academic Writing by Liss and Davis (OUP)
2. Richards, Jack C. (2022) Interchange Series. Introduction. 1,2,3. Cambridge University Press
3. Wood, F.T. (2007). Remedial English Grammar. Macmillan.
4. Chaudhuri, Santanu Sinha. (2018). Learn English: A Fun Book of Functional Language, Grammar and Vocabulary. (2nd ed.). Sage Publications India Pvt. Ltd.
5. (2019). Technical Communication. Wiley India Pvt. Ltd.
6. Vishwamohan, Aysha. (2013). English for Technical Communication for Engineering Students. Mc Graw-Hill Education India Pvt. Ltd.
7. Swan, Michael. (2016). Practical English Usage. Oxford University Press. Fourth Edition.

2) 

3) 

4) 

5) 

1) Quallu

6)

W

7) Inf.

8) Sung

9) Amu

10)

6/8

B.Tech.

L T P C

I Year - II Semester

2 0 0 2

ELECTRONIC DEVICES AND CIRCUITS

(Common for CSE, CSE(AI&ML), CSE(DS), IT & ECE)

Course Objectives:

- To introduce components such as diodes, BJTs and FETs.
- To know the applications of diodes.
- To know the switching characteristics of devices.
- To know the distinguish between different transistors like BJT, FET and MOSFET.
- To know the Special Purpose Devices.

Course Outcomes: The student will learn

- Acquire the knowledge of various electronic devices and their use in real life.
- Know the applications of various devices.
- Analyze the working operation, characteristics and structure of various electronic devices.
- Ability to design simple BJT and MOSFET circuits.
- Acquire the knowledge about the role of special purpose devices and their applications.

UNIT - I: Diodes

Diode - Static and Dynamic resistances, Equivalent circuit, Diffusion and Transition Capacitances, V-I Characteristics, Diode as a switch- switching times.

UNIT - II: Diode Applications:

Rectifier - Half Wave Rectifier, Full Wave Rectifier, Bridge Rectifier, Rectifiers with Capacitive and Inductive Filters, Clippers-Clipping at two independent levels, Clamper-Clamping Circuit Theorem, Clamping Operation, Types of Clampers.

UNIT - III: Bipolar Junction Transistor (BJT):

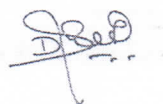
Principle of Operation, Common Emitter, Common Base and Common Collector Configurations, Transistor as a switch, switching times.

UNIT - IV: Junction Field Effect Transistor (FET):

Construction, Principle of Operation, Pinch-Off Voltage, Volt- Ampere Characteristic, Comparison of BJT and FET, FET as Voltage Variable Resistor, MOSFET, MOSTET as a capacitor.

UNIT - V: Special Purpose Devices:

Zener Diode - Characteristics, Zener diode as Voltage Regulator, Principle of Operation - SCR, Tunnel diode, UJT, Varactor Diode, Photo diode, Solar cell, LED, Schottky diode.

1. 2. 3. 

Text Books:

1. Jacob Millman - Electronic Devices and Circuits, McGraw Hill Education
2. Robert L. Boylestead, Louis Nashelsky- Electronic Devices and Circuits theory, 11th Edition, 2009, Pearson.

Reference Books:

1. Horowitz -Electronic Devices and Circuits, David A. Bell – 5th Edition, Oxford.
2. Chinmoy Saha, Arindam Halder, Debaati Ganguly - Basic Electronics-Principles and Applications, Cambridge, 2018.

1. inf

2. Sallyr 3. Red

4. Quinn

5. Star

6. Lanya

7. Kokkandhu 8. Sy

9. Red

10. Shanif

11. J

12. Shi

B.Tech. L T P C
I Year - II Semester 0 1 2 2

PYTHON PROGRAMMING LABORATORY
(Common for CSE(AI&ML), CSE, CSE(DS), IT)

Course Objectives:

- To install and run the Python interpreter.
- To learn control structures.
- To Understand Lists, Dictionaries in Python
- To Oversee Strings and Files in Python
- To create GUI Environment

Course Outcomes: The student will learn.

- Develop the application specific codes using python.
- Understand Strings, Lists, Tuples and Dictionaries in Python
- Verify programs using modular approach, file I/O, Python standard library.
- Implement Digital Systems using Python.
- Able to create GUI using Python

Week -1:

1. i) Use a web browser to go to the Python website <http://python.org>. This page contains information about Python and links to Python-related pages, and it gives you the ability to search the Python documentation.
ii) Start the Python interpreter and type help () to start the online help utility.
2. Start a Python interpreter and use it as a Calculator.
3. i) Write a program to calculate compound interest when principal, rate and number of periods are given.
ii) Given coordinates (x1, y1), (x2, y2) find the distance between two points
4. Read name, address, email and phone number of a person through keyboard and print the details.

Week - 2:

1. Print the triangle below using for loop.
5
4 4
3 3 3
2 2 2 2
1 1 1 1 1
2. Write a program to check whether the given input is digit or lowercase character or uppercase character or a special character (use 'if-else-if' ladder)
3. Python Program to Print the Fibonacci sequence using while loop

1. 

2. 

3. 

4. Python program to print all prime numbers in each interval (use break)

Week - 3:

1. i) Write a program to convert a list and tuple into arrays.
ii) Write a program to find common values between two arrays.
2. Write a function called GCD that takes parameters a and b and returns their greatest common divisor.
3. Write a function called palindrome that takes a string argument and returns True if it is a palindrome and False otherwise. Remember that you can use the built-in function len to check the length of a string.

Week - 4:

1. Write a function called is_sorted that takes a list as a parameter and returns True if the list is sorted in ascending order and False otherwise.
2. Write a function called has_duplicates that takes a list and returns True if there is any element that appears more than once. It should not modify the original list.
 - i). Write a function called remove_duplicates that takes a list and returns a new list with only the unique elements from the original. Hint: they don't have to be in the same order.
 - ii). The wordlist I provided, words.txt, doesn't contain single letter words. So you might want to add "I", "a", and the empty string.
 - iii). Write a python code to read dictionary values from the user. Construct a function to invert its content. i.e., keys should be values and values should be keys.
3. i) Add a comma between the characters. If the given word is 'Apple', it should become 'A,p,p,l,e'
ii) Remove the given word in all the places in a string?
iii) Write a function that takes a sentence as an input parameter and replaces the first letter of every word with the corresponding upper case letter and the rest of the letters in the word by corresponding letters in lower case without using a built-in function?
4. Writes a recursive function that generates all binary strings of n-bit length

Week - 5:

1. i) Write a python program that defines a matrix and prints
ii) Write a python program to perform addition of two square matrices
iii) Write a python program to perform multiplication of two square matrices
2. How do you make a module? Give an example of construction of a module using different geometrical shapes and operations on them as its functions.
3. Use the structure of exception handling all general-purpose exceptions.

Week-6:

1. a. Write a function called draw_rectangle that takes a Canvas and a Rectangle as arguments and draws a representation of the Rectangle on the Canvas.
b. Add an attribute named color to your Rectangle objects and modify draw_rectangle so that it uses the color attribute as the fill color.
c. Write a function called draw_point that takes a Canvas and a Point as arguments

1. 

2. 

3. K. Balan

and draws a representation of the Point on the Canvas.
 d. Define a new class called Circle with appropriate attributes and instantiate a few Circle objects. Write a function called draw_circle that draws circles on the canvas.

2. Write a Python program to demonstrate the usage of Method Resolution Order (MRO) in multiple levels of Inheritances.
 3. Write a python code to read a phone number and email-id from the user and validate it for correctness.

Week- 7:

1. Write a Python code to merge two given file contents into a third file.
 2. Write a Python code to open a given file and construct a function to check for given words present in it and display on found.
 3. Write a Python code to Read text from a text file, find the word with most number of occurrences
 4. Write a function that reads a file file1 and displays the number of words, number of vowels, blank spaces, lower case letters and uppercase letters.

Week - 8:

1. Import numpy, Plotly and Scipy and explore their functionalities.
 a) Install NumPy package with pip and explore it.
 2. Write a program to implement Digital Logic Gates – AND, OR, NOT, EX-OR
 3. Write a program to implement Half Adder, Full Adder, and Parallel Adder
 4. Write a GUI program to create a window wizard having two text labels, two text fields and two buttons as Submit and Reset.

TEXT BOOKS:

1. **Supercharged Python:** Take your code to the next level, Overland
 2. **Learning Python,** Mark Lutz, O'reilly

REFERENCE BOOKS:

1. Python for Data Science, Dr. Mohd. Abdul Hameed, Wiley Publications - 1st Ed. 2021
 2. Python Programming: A Modern Approach, Vamsi Kurama, Pearson
 3. Python Programming A Modular Approach with Graphics, Database, Mobile, and Web Applications, Sheetal Taneja, Naveen Kumar, Pearson
 4. Programming with Python, A User's Book, Michael Dawson, Cengage Learning, India Edition
 5. Think Python, Allen Downey, Green Tea Press
 6. Core Python Programming, W. Chun, Pearson
 7. Introduction to Python, Kenneth A. Lambert, Cengage

3. K. Balan

2. K. Balan

1. K. Balan

B.Tech.

L T P C

I Year - II Semester

0 0 3 1.5

APPLIED PHYSICS LABORATORY
(Common to CSE, CSE(DS),IT)**Course Objectives:** The objectives of this course for the student to

- Capable of handling instruments related to the Hall effect and photoelectric effect experiments and their measurements.
- Understand the characteristics of various devices such as PN junction diode, Zener diode, BJT, LED, solar cell, lasers and optical fiber and measurement of energy gap and resistivity of semiconductor materials.
- Able to measure the characteristics of dielectric constant of a given material.
- Study the behavior of B-H curve of ferromagnetic materials.
- Understanding the method of least squares fitting

Course Outcomes: The students will be able to:

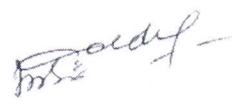
- Know the determination of the Planck's constant using Photo electric effect and identify the material whether it is n-type or p-type by Hall experiment.
- Appreciate quantum physics in semiconductor devices and optoelectronics.
- Gain the knowledge of applications of dielectric constant.
- Understand the variation of magnetic field and behavior of hysteresis curve.
- Carried out data analysis.

List Of Experiments:

1. Determination of work function and Planck's constant using photoelectric effect.
2. Determination of Hall co-efficient and carrier concentration of a given semiconductor.
3. Characteristics of series and parallel LCR circuits.
4. V-I characteristics of a p-n junction diode and Zener diode
5. Input and output characteristics of BJT (CE, CB & CC configurations)
6. a) V-I and L-I characteristics of light emitting diode (LED)
b) V-I Characteristics of solar cell
7. Determination of Energy gap of a semiconductor.
8. Determination of the resistivity of semiconductor by two probe method.
9. Study B-H curve of a magnetic material.
10. Determination of dielectric constant of a given material
11. a) Determination of the beam divergence of the given LASER beam
b) Determination of Acceptance Angle and Numerical Aperture of an optical fiber.
12. Understanding the method of least squares – torsional pendulum as an example.

Reference Book:

1. S. Balasubramanian, M.N. Srinivasan "A Text book of Practical Physics"- S Chand Publishers, 2017.

2) 3) 4) 5) 

B.Tech.

L T P C

I Year - II Semester

0 0 2 1

ENGLISH LANGUAGE AND COMMUNICATION SKILLS LABORATORY

(Common for CSE, CSE(DS) & IT)

Course Objectives:

- To facilitate computer-assisted multi-media instruction enabling individualized and independent language learning.
- To sensitize the students to the nuances of English speech sounds, word accent, intonation and rhythm.
- To bring about a consistent accent and intelligibility in students' pronunciation of English by providing an opportunity for practice in speaking.
- To improve the fluency of students in spoken English and neutralize the impact of dialects.
- To train students to use language appropriately for public speaking, group discussions and interviews.

Course Outcomes: The student will learn

- Understand the nuances of English language through audio- visual experience and group activities.
- Neutralize their accent for intelligibility.
- Speak with clarity and confidence which in turn enhances their employability skills

Syllabus: English Language and Communication Skills Lab (ELCS) shall have two parts:

- a) Computer Assisted Language Learning (CALL) Lab
- b) Interactive Communication Skills (ICS) Lab

Exercise – I

CALL Lab:

Understand: Listening Skill- Its importance – Purpose- Process- Types- Barriers- Effective Listening.

Practice: Introduction to Phonetics – Speech Sounds – Vowels and Consonants – Minimal Pairs- Consonant Clusters- Past Tense Marker and Plural Marker- *Testing Exercises*

ICS Lab:

Understand: Spoken vs. Written language- Formal and Informal English.

Practice: Ice-Breaking Activity and JAM Session- Situational Dialogues – Greetings – Taking Leave – Introducing Oneself and Others.

2)



3)



4)



5) Kiranm.

Exercise- II

CALL Lab:

Understand: Structure of Syllables – Word Stress– Weak Forms and Strong Forms Stress pattern in sentences – Intonation.

Practice: Basic Rules of Word Accent - Stress Shift - Weak Forms and Strong Forms- Stress pattern in sentences – Intonation - *Testing Exercises*

ICS Lab:

Understand: Features of Good Conversation – Strategies for Effective Communication.

Practice: Situational Dialogues – Role Play- Expressions in Various Situations –Making Requests and Seeking Permissions - Telephone Etiquette

Exercise - III

CALL Lab:

Understand: Errors in Pronunciation-Neutralising Mother Tongue Interference (MTI).

Practice: Common Indian Variants in Pronunciation – Differences between British and American Pronunciation -Testing Exercises

ICS Lab:

Understand: Descriptions- Narrations- Giving Directions and Guidelines – Blog Writing

Practice: Giving Instructions – Seeking Clarifications – Asking for and Giving Directions – Thanking and Responding – Agreeing and Disagreeing – Seeking and Giving Advice – Making Suggestions.

Exercise – IV

CALL Lab:

Understand: Listening for General Details.

Practice: Listening Comprehension Tests - Testing Exercises

ICS Lab:

Understand: Public Speaking – Exposure to Structured Talks - Non-verbal Communication- Presentation Skills.

Practice: Making a Short Speech – Extempore- Making a Presentation.

Exercise – V

CALL Lab:

Understand: Listening for Specific Details.

Practice: Listening Comprehension Tests -Testing Exercises

ICS Lab:

Understand: Group Discussion

Practice: Group Discussion

2) 

3) 

4) 

5) Kirana

B.Tech.

L T P C

I Year - II Semester

0 0 2 1

IT WORKSHOP

(Common for IT, CSE, CSE(AI&ML), CSE(DS))

Course Objectives: The IT Workshop for engineers is a training lab course spread over 60 hours. The modules include training on PC Hardware, Internet & World Wide Web and Productivity tools including Word, Excel, PowerPoint and Publisher.

Course Outcomes:

- Perform Hardware troubleshooting
- Understand Hardware components and inter dependencies
- Safeguard computer systems from viruses/worms
- Document/ Presentation preparation
- Perform calculations using spreadsheets.

PC Hardware

Task 1: Identify the peripherals of a computer, components in a CPU and its functions. Draw the block diagram of the CPU along with the configuration of each peripheral and submit to your instructor.

Task 2: Every student should disassemble and assemble the PC back to working condition. Lab instructors should verify the work and follow it up with a Viva. Also students need to go through the video which shows the process of assembling a PC. A video would be given as part of the course content.

Task 3: Every student should individually install MS windows on the personal computer. Lab instructor should verify the installation and follow it up with a Viva.

Task 4: Every student should install Linux on the computer. This computer should have windows installed. The system should be configured as dual boot with both Windows and Linux. Lab instructors should verify the installation and follow it up with a Viva.

Internet & World Wide Web

Task1: Orientation & Connectivity Boot Camp: Students should get connected to their Local Area Network and access the Internet. In the process they configure the TCP/IP setting. Finally students should demonstrate, to the instructor, how to access the websites and email. If there is no internet connectivity preparations need to be made by the instructors to simulate the WWW on the LAN.

Task 2: Web Browsers, Surfing the Web: Students customize their web browsers with the LAN proxy settings, bookmarks, search toolbars and pop up blockers. Also, plug-ins like Macromedia Flash and JRE for applets should be configured.

Task 3: Search Engines & Netiquette: Students should know what search engines are and how to use the search engines. A few topics would be given to the students for which they need to search on Google. This should be demonstrated to the instructors by type the student.

Task 4: Cyber Hygiene: Students would be exposed to the various threats on the

1.1. Qury

2. ~~Star~~3. ~~Star~~

4. Desm

internet and would be asked to configure their computer to be safe on the internet. They need to customize their browsers to block pop ups, block active x downloads to avoid viruses and/or worms.

LaTeX and WORD

Task 1 – Word Orientation: The mentor needs to give an overview of LaTeX and Microsoft (MS) office or equivalent (FOSS) tool word: Importance of LaTeX and MS office or equivalent (FOSS) tool Word as word Processors, Details of the four tasks and features that would be covered in each, Using LaTeX and word – Accessing, overview of toolbars, saving files, Using help and resources, rulers, format painter in word.

Task 2: Using LaTeX and Word to create a project certificate. Features to be covered:- Formatting Fonts in word, Drop Cap in word, Applying Text effects, Using Character Spacing, Borders and Colors, Inserting Header and Footer, Using Date and Time option in both LaTeX and Word.

Task 3: Creating project abstract Features to be covered:-Formatting Styles, Inserting table, Bullets and Numbering, Changing Text Direction, Cell alignment, Footnote, Hyperlink, Symbols, Spell Check, Track Changes.

Task 4: Creating a Newsletter: Features to be covered: Table of Content, Newspaper columns, Images from files and clipart, Drawing toolbar and Word Art, Formatting Images, Textboxes, Paragraphs and Mail Merge in word.

Excel

Excel Orientation: The mentor needs to tell the importance of MS office or equivalent (FOSS) tool Excel as a Spreadsheet tool, give the details of the four tasks and features that would be covered in each. Using Excel – Accessing, overview of toolbars, saving excel files, Using help and resources.

Task 1: Creating a Scheduler - Features to be covered: Gridlines, Format Cells, Summation, auto fill, Formatting Text

Task 2 : Calculating GPA - .Features to be covered:- Cell Referencing, Formulae in excel – average, std. deviation, Charts, Renaming and Inserting worksheets, Hyper linking, Count function, LOOKUP/VLOOKUP

Task 3: Split cells, freeze panes, group and outline, Sorting, Boolean and logical operators, Conditional formatting

Powerpoint

Task 1: Students will be working on basic power point utilities and tools which help them create basic powerpoint presentations. PPT Orientation, Slide Layouts, Inserting Text, Word Art, Formatting Text, Bullets and Numbering, Auto Shapes, Lines and Arrows in PowerPoint.

Task 2: Interactive presentations - Hyperlinks, Inserting –Images, Clip Art, Audio, Video, Objects, Tables and Charts.

Task 3: Master Layouts (slide, template, and notes), Types of views (basic, presentation, slide slotter, notes etc), and Inserting – Background, textures, Design Templates, Hidden slides.

1. S. Qureshi 2. Shank 3. S. M. W. 4. D. M. W.

Reference Books:

1. Comdex Information Technology course tool kit Vikas Gupta, WILEY Dreamtech
2. The Complete Computer upgrade and repair book, 3rd edition Cheryl A Schmidt, WILEY Dreamtech
3. Introduction to Information Technology, ITL Education Solutions limited, Pearson Education.
4. PC Hardware - A Handbook – Kate J. Chase PHI (Microsoft)
5. LaTeX Companion – Leslie Lamport, PHI/Pearson.
6. IT Essentials PC Hardware and Software Companion Guide Third Edition by David Anfinson and Ken Quamme. – CISCO Press, Pearson Education.
7. IT Essentials PC Hardware and Software Labs and Study Guide Third Edition by Patrick Regan – CISCO Press, Pearson Education.

5. Chongat

6. A. Gay

7. Helini

8. Pappa

9. A. Gay

10. Pappa

11. Pappa

12. Pappa

13. Gay

14. Pappa

MC210

Vignan's Institute of Management and Technology for Women
An Autonomous Institution

VR24

B Tech

L T P C

I Year - II Semester

3 0 0 0

ENVIRONMENTAL SCIENCE
(Common for CSE, CSE(DS) & IT)

Course Objectives:

- Understanding the importance of ecological balance for sustainable development.
- Understanding the impacts of developmental activities and mitigation measures.
- Understanding the environmental policies and regulations.

Course Outcomes:

- Based on this course, the Engineering graduate will understand /evaluate develop technologies on the basis of ecological principles and environmental regulations which in turn helps in sustainable development.

UNIT-I

Ecosystems: Definition, Scope, and Importance of ecosystem. Classification, structure, and function of an ecosystem, Food chains, food webs, and ecological pyramids. Flow of energy, Biogeochemical cycles, Bioaccumulation, Biomagnification, ecosystem value, services and carrying capacity, Field visits.

UNIT-II

Natural Resources: Classification of Resources: Living and Non-Living resources, **water resources:** use and over utilization of surface and ground water, flood sand droughts, Dams: benefits and problems. **Mineral resources:** use and exploitation, environmental effects of extracting and using mineral resources, **Land resources:** Forest resources, **Energy resources:** growing energy needs, renewable and non-renewable energy sources, use of alternate energy source, case studies.

UNIT-III

Biodiversity and Biotic Resources: Introduction, Definition, genetic, species and ecosystem diversity, Value of biodiversity; consumptive use, productive use, social, ethical, aesthetic and optional values. India as a mega diversity nation, Hot spots of biodiversity, Field visit. Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts; conservation of biodiversity: In- Situ and Ex-situ conservation, National Biodiversity act.

UNIT-IV

Environmental Pollution and Control Technologies: Environmental Pollution: Classification of pollution, **Air Pollution:** Primary and secondary pollutants, Automobile and Industrial pollution, Ambient air quality standards. **Water pollution:** Sources and types of pollution, drinking water quality standards. **Soil Pollution:** Sources and types, Impacts of modern agriculture, degradation of soil. **Noise Pollution:** Sources and Health hazards, standards, **Solid waste:** Municipal Solid Waste management, composition and characteristics of e-Waste and its management. **Pollution control technologies:** Waste water Treatment methods: Primary, secondary and Tertiary. Overview of air pollution control technologies, Concepts of bioremediation.

2)

3)

4)

5)

T. Nageswara Rao.

Global Environmental Issues and Global Efforts: Climate change and impacts on human environment. Ozone depletion and Ozone depleting substances (ODS). Deforestation and desertification. International conventions/ Protocols: Earth summit, Kyoto protocol, and Montréal Protocol. NAPCC-Gol Initiatives.

UNIT-V

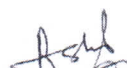
Environmental Policy, Legislation & EIA: Environmental Protection act, Legal aspects Air Act- 1981, Water Act, Forest Act, Wild life Act, Municipal solid waste management and handling rules, biomedical waste management and handling rules, hazardous waste management and handling rules. EIA: EIA structure, methods of baseline data acquisition. Overview on Impacts of air, water, biological and Socio-economical aspects. Strategies for risk assessment, Concepts of Environmental Management Plan (EMP). **Towards Sustainable Future:** Concept of Sustainable Development Goals. Population and its explosion, Crazy Consumerism, Environmental Education, Urban Sprawl, Human health, Environmental Ethics, Concept of Green Building, Ecological Foot Print, Life Cycle assessment (LCA), Low carbon life style.

Text Books:

- 1 Textbook of Environmental Studies fo Undergraduate Courses by Erach Bharucha for University Grants Commission.
- 2 Environmental Studies by R.Rajagopalan, Oxford University Press.

Reference Books:

1. Environmental Science: towards as ustainable future by RichardT.Wright.2008PHL Learning Private Ltd. New Delhi.
2. Environmental Engineering and science by Gilbert M. Masters and Wendell P. Ela. 2008 PHI Learning Pvt. Ltd.
3. Environmental Science by Danie IB.Botkin&Ed ward A.Keller,Wiley INDIA edition.
4. Environmental Studies by Anubha Kaushik, 4thEdition. New age international publishers.
5. Text book of Environmental Science and Technology - Dr. M. Anji Reddy 2007, BS Publications.
6. Introduction to Environmental Science by Y. Anjaneyulu, BS. Publications.

1) 

4) 

7) 

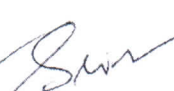
2) 

5) T. Nageswara Rao 8) 

3) 

6) N. Sambasiva

9) P. Ramen

10) 

Annexure

IV



VIGNAN'S INSTITUTE OF MANAGEMENT AND TECHNOLOGY FOR WOMEN

(An Autonomous Institution)

[Sponsored by Lavu Educational Society, Affiliated to JNTUH & Approved by AICTE, New Delhi]
Kondapur (V), Ghatkesar (M), Medchal - Malkajgiri (D) - 501 301. Phone: 96529 10002/3



COMPUTER SCIENCE & ENGINEERING

COURSE STRUCTURE-VR24

II B.Tech.-I Semester

S.No.	Course Code	Course	L	T	P	Credits
1	EC301ES	Digital Electronics	3	0	0	3
2	CS302PC	Data Structures	3	0	0	3
3	MA303BS	Computer Oriented Statistical Methods	3	1	0	4
4	CS304PC	Computer Organization and Architecture	3	0	0	3
5	CS305PC	Object Oriented Programming through Java	3	0	0	3
6	CS306PC	Data Structures Lab	0	0	3	1.5
7	CS307PC	Object Oriented Programming through Java Lab	0	0	3	1.5
8	CS308PC	Data visualization-R Programming/Power BI	0	0	2	1
9	*MC309	Gender Sensitization Lab	0	0	2	0
		Total	15	1	10	20

II B.Tech.-II Semester

S.No.	Course Code	Course	L	T	P	Credits
1	CS401PC	Discrete Mathematics	3	0	0	3
2	SM402MS	Business Economics & Financial Analysis	3	0	0	3
3	CS403PC	Operating Systems	3	0	0	3
4	CS404PC	Database Management Systems	3	0	0	3
5	CS405PC	Software Engineering	3	0	0	3
6	CS406PC	Operating Systems Lab	0	0	2	1
7	CS407PC	Database Management Systems Lab	0	0	2	1
8	CS408PC	Real-time Research Project/ Societal Related Project	0	0	4	2
9	CS409PC	Node JS /React JS / Django	0	0	2	1
10	*MC410	Constitution of India	3	0	0	0
		Total	18	0	10	20

Note: L-Theory

T-Tutorial

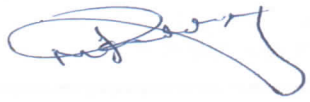
P-Practical

C-Credits

1. Tasmeel

2. Harsh

3. Ull

4. 
5. Danoh
6. Lasya
7. Kumar
8. Wuu
9. Raf
10. jin
11. V Shabo
12. M
13. A
14. A
15. B. Genth
16. Raulu
17. St

Annexure

V

B.Tech. ECE

II Year - I Semester

L	T	P	C
3	0	0	3

DIGITAL ELECTRONICS
(Common for CSE, CSE(DS) & IT)

Course Objectives:

- To provide a thorough understanding of the binary number system, Boolean algebra, and logic gates.
- To introduce gate-level minimization techniques using Karnaugh maps for circuit simplification.
- To analyze and design combinational logic circuits such as adders, multiplexers, and encoders.
- To explore sequential logic circuits, including flip-flops, counters, and shift registers.
- To understand memory devices, asynchronous sequential circuits, and programmable logic devices.

Course Outcomes: The student will learn

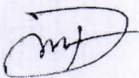
- Apply the principles of Boolean algebra and logic gates to simplify and design digital circuits.
- Use Karnaugh maps and other minimization techniques to optimize logic circuits for efficient hardware implementation.
- Design and analyze combinational logic circuits such as adders, encoders, and multiplexers using digital design methodologies.
- Implement sequential circuits including flip-flops, registers, and counters for various applications.
- Demonstrate knowledge of memory devices, programmable logic, and asynchronous sequential circuits in digital system design.

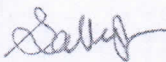
UNIT - I: BOOLEAN ALGEBRA AND LOGIC GATES:

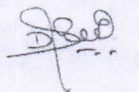
Digital Systems, Binary Numbers, Number base conversions, Octal and Hexadecimal Numbers, complements, Signed binary numbers, Binary codes, Binary Storage and Registers, Binary logic. Basic Definitions, Axiomatic definition of Boolean Algebra, Basic theorems and properties of Boolean algebra, Boolean functions, canonical and standard forms, other logic operations, Digital logic gates.

UNIT - II: GATE – LEVEL MINIMIZATION:

The map method, Four-variable map, Five-Variable map, product of sums simplification Don't-care conditions, NAND and NOR implementation other Two-level implementations, Exclusive – Or function.

1. 

2. 

3. 

UNIT - III: COMBINATIONAL LOGIC:

Combinational Circuits, Analysis procedure Design procedure, Binary Adder-Subtractor Decimal Adder, Binary multiplier, magnitude comparator, Decoders, Encoders, Multiplexers, HDL for combinational circuits.

UNIT - IV: SEQUENTIAL LOGIC:

Sequential circuits, latches, Flip-Flops Analysis of clocked sequential circuits, state Reduction and Assignment, Design Procedure. Registers, shift Registers, Ripple counters, synchronous counters, other counters.

UNIT - V: MEMORIES AND ASYNCHRONOUS SEQUENTIAL LOGIC:

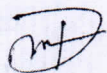
Introduction, Random-Access Memory, Memory Decoding, Error Detection and correction Read-only memory, Programmable logic Array programmable Array logic, Sequential Programmable Devices. Introduction, Analysis Procedure, Circuits with Latches, Design Procedure, Reduction of state and Flow Tables, Race-Free state Assignment Hazards, Design Example.

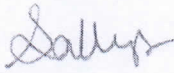
Text Books:

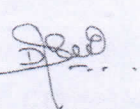
1. Digital Design – Third Edition, M. Morris Mano, Pearson Education/PHI.
2. Digital Principles and Applications Albert Paul Malvino Donald P. Leach TATA McGraw Hill Edition.
3. Fundamentals of Logic Design, Roth, 5th Edition, Thomson.

Reference Books:

1. Switching and Finite Automata Theory by Zvi. Kohavi, Tata McGraw Hill.
2. Switching and Logic Design, C.V.S. Rao, Pearson Education
3. Digital Principles and Design – Donald D. Givone, Tata McGraw Hill, Edition.
4. Fundamentals of Digital Logic and Microcomputer Design, 5TH Edition, M. Rafiquzzaman John Wiley.

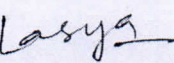
1. 

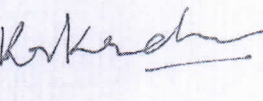
2. 

3. 

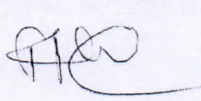
4. 

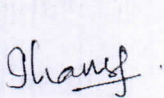
5. 

6. 

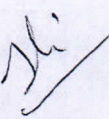
7. 

8. 

9. 

10. 

11. 

12. 

B.Tech. CSE

L T P C

II Year - I Semester

3 0 0 3

DATA STRUCTURES**Course Objectives:**

- Exploring basic data structures such as stacks and queues.
- Introduces a variety of data structures such as hash tables, search trees, tries, heaps, graphs.
- Introduces sorting and pattern matching algorithms.

Course Outcomes: The student will learn

- Ability to select the data structures that efficiently model the information in a problem
- Ability to assess efficiency trade-offs among different data structure implementations or combinations.
- Implement and know the application of algorithms for sorting and pattern matching.
- Design programs using a variety of data structures, including hash tables, binary and general tree structures, search trees, tries, heaps, graphs, and AVL-trees.
- Ability to assess the applications of patter matching and different types of Tries

UNIT-I:

Introduction to Data Structures, abstract data types, Linear list – singly linked list implementation, insertion, deletion and searching operations on linear list, Stacks-Operations, array and linked representations of stacks, stack applications, Queues-operations, array and linked representations.

UNIT – II:

Dictionaries: linear list representation, skip list representation, operations - insertion, deletion and searching. Hash Table Representation: hash functions, collision resolution-separate chaining, open addressing linear probing, quadratic probing, double hashing, rehashing, extendible hashing.

UNIT – III:

Search Trees: Binary Search Trees, Definition, Implementation, Operations- Searching, Insertion and Deletion, B- Trees, B+ Trees, AVL Trees, Definition, Height of an AVL Tree, Operations – Insertion, Deletion and Searching, Red –Black, Splay Trees.

UNIT – IV:

Graphs: Graph Implementation Methods. Graph Traversal Methods.

Sorting: Quick Sort, Heap Sort, External Sorting- Model for external sorting, Merge Sort.

UNIT– V:

Pattern Matching and Tries: Pattern matching algorithms-Brute force, the Boyer –Moore algorithm, the Knuth-Morris-Pratt algorithm, Standard Tries, Compressed Tries, Suffix tries.

1. Travels2. Hand3. Well.

TEXTBOOK:

1. Fundamentals of Data Structures in C, 2 nd Edition, E. Horowitz, S. Sahni and Susan Anderson Freed, Universities Press.
2. Data Structures using C – A. S.Tanenbaum, Y. Langsam, and M.J. Augenstein, PHI/Pearson Education.

Reference Books:

1. Data Structures: A Pseudocode Approach with C, 2 nd Edition, R. F. Gilberg and B.A.Forouzan, Cengage Learning.

1. Tamela

2. Harsh

3. Will.

4. Raj

5. Ranch

6. Lasya

7. Sumar

8. Sum

9. Gay

10. jin

11. Shah

12. M

13. G

14. A

15. B. Getha

16. Bachu

17. Gj

B.Tech. (CSE , IT & CSE [DS])

L T P C

II Year - I Semester

3 1 0 4

COMPUTER ORIENTED STATISTICAL METHODS
(Common for CSE, IT & CSE[DS])

Pre-requisites: Mathematics courses in first year of study.

Course Objectives: To learn

- The theory of Probability, Probability distributions of single and multiple random variables
- The sampling theory, testing of hypothesis and making statistical inferences
- Stochastic process and Markov chains.

Course outcomes: After learning the contents of this paper the student must be able to

- Apply the concepts of probability and distributions to case studies.
- Formulate and solve problems involving random variables and apply statistical methods for analyzing experimental data.
- Apply concept of estimation and testing of hypothesis to case studies.
- Correlate the concepts of one unit to the concepts in other units.

UNIT - I: Probability

Sample Space, Events, Counting Sample Points, Probability of an Event, Additive Rules, Conditional Probability, Independence, and the Product Rule, Baye's Rule.
Random Variables and Probability Distributions: Concept of a Random Variable, Discrete Probability Distributions, Continuous Probability Distributions.

UNIT - II: Expectation and discrete distributions

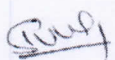
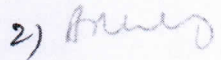
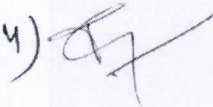
Mean of a Random Variable, Variance and Covariance of Random Variables, Means and Variances of Linear Combinations of Random Variables, Chebyshev's Theorem.
Discrete Probability Distributions: Binomial Distribution, Poisson distribution.

UNIT - III: Continuous and Sampling Distributions

Uniform Distribution, Normal Distribution, Areas under the Normal Curve, Applications of the Normal Distribution, Normal Approximation to the Binomial Distributions.
Fundamental Sampling Distributions: Random Sampling, Some Important Statistics, Sampling Distributions, Sampling Distribution of Means and the Central Limit Theorem, t - Distribution, F-Distribution.

UNIT - IV: Sample Estimation & Tests of Hypotheses

Introduction, Statistical Inference, Classical Methods of Estimation, Single Sample: Estimating the mean, standard error of a point estimate, prediction interval. Two sample: Estimating the difference between two means. Single sample: Estimating a proportion, Two samples: Estimating the difference between two proportions, Two samples: Estimating the ratio of two variances.

1)  2)  3)  4) 
5) 

Statistical Hypotheses: General Concepts, Testing a Statistical Hypothesis, Single sample: Tests concerning a single mean, Two samples: tests on two means, One sample: test on a single proportion. Two samples: tests on two proportions, Two- sample tests concerning variances.

UNIT-V: Stochastic Processes and Markov Chains

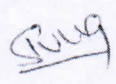
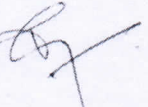
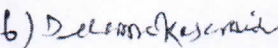
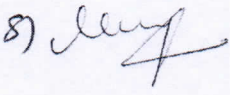
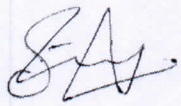
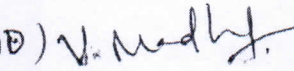
Introduction to Stochastic processes- Markov process. Transition Probability, Transition Probability Matrix, First order and Higher order Markov process, n-step transition probabilities, Markov chain, Steady state condition, Markov analysis.

TEXTBOOKS:

1. Ronald E. Walpole, Raymond H. Myers, Sharon L. Myers, Keying Ye, Probability & Statistics for Engineers & Scientists, 9th Ed. Pearson Publishers.
2. S C Gupta and V K Kapoor, Fundamentals of Mathematical statistics, Khanna publications.
3. S.D.Sharma, Operations Research, Kedarnath and Ramnath Publishers, Meerut, Delhi.

Reference Books:

1. T.T. Soong, Fundamentals of Probability and Statistics For Engineers, John Wiley & Sons, Ltd, 2004.
2. Sheldon M Ross, Probability and statistics for Engineers and scientists, academic press.
3. Miller and Freund's, Probability and Statistics for Engineers, 8th Edition, Pearson Educations.

1)  2)  3)  4) 
5)  6)  7)  8) 
9)  10)  11)  12) 

B.Tech. CSE

L T P C

II Year - I Semester

3 0 0 3

COMPUTER ORGANIZATION AND ARCHITECTURE

Course Objectives:

- The purpose of the course is to introduce principles of computer organization and the basic architectural concepts.
- It begins with basic organization, design, and programming of a simple digital computer and introduces simple register transfer language to specify various computer operations.
- Topics include computer arithmetic, instruction set design, microprogrammed control unit, pipelining and vector processing, memory organization and I/O systems, and multiprocessors

Course Outcomes:

- Understand the basics of instruction sets and their impact on processor design.
- Demonstrate an understanding of the design of the functional units of a digital computer system.
- Evaluate cost performance and design trade-offs in designing and constructing a computer processor including memory.
- Design a pipeline for consistent execution of instructions with minimum hazards.
- Recognize and manipulate representations of numbers stored in digital computers

UNIT - I

Digital Computers: Introduction, Block diagram of Digital Computer, Definition of Computer Organization, Computer Design and Computer Architecture. Register Transfer Language and Micro operations: Register Transfer language, Register Transfer, Bus and memory transfers, Arithmetic Micro operations, logic micro operations, shift micro operations, Arithmetic logic shift unit. Basic Computer Organization and Design: Instruction codes, Computer Registers Computer instructions, Timing and Control, Instruction cycle, Memory Reference Instructions, Input – Output and Interrupt.

UNIT - II

Microprogrammed Control: Control memory, Address sequencing, micro program example, design of control unit. Central Processing Unit: General Register Organization, Instruction Formats, Addressing modes, Data Transfer and Manipulation, Program Control.

UNIT - III

Data Representation: Data types, Complements, Fixed Point Representation, Floating Point Representation. Computer Arithmetic: Addition and subtraction, multiplication Algorithms, Division Algorithms, Floating – point Arithmetic operations. Decimal Arithmetic unit, Decimal Arithmetic op

UNIT - IV

1. Time

2. Hand

3. Well

Input-Output Organization: Input-Output Interface, Asynchronous data transfer, Modes of Transfer, Priority Interrupt Direct memory Access. Memory Organization: Memory Hierarchy, Main Memory, Auxiliary memory, Associate Memory, Cache Memory.

UNIT - V

Reduced Instruction Set Computer: CISC Characteristics, RISC Characteristics. Pipeline and Vector Processing: Parallel Processing, Pipelining, Arithmetic Pipeline, Instruction Pipeline, RISC Pipeline, Vector Processing, Array Processor. Multi Processors: Characteristics of Multiprocessors, Interconnection Structures, Interprocessor arbitration, Interprocessor communication and synchronization, Cache Coherence.

TEXT BOOKS:

1. Fundamentals of Data Structures in C, 2nd Edition, E. Horowitz, S. Sahni and Susan Anderson Freed, Universities Press.
2. Data Structures using C – A. S. Tanenbaum, Y. Langsam, and M. J. Augenstein, PHI/Pearson Education

Reference Books:

Data Structures: A Pseudocode Approach with C, 2nd Edition, R. F. Gilberg and B. A. Forouzan, Cengage Learning

1. Prasanna
2. Harsh
3. Will
4. Prasanna
5. Prasanna
6. hasya
7. Sumar
8. Sum
9. Sh
10. gus
11. Shah
12. M
13. Sh
14. A
15. B. Geetha
16. Prasanna
17. Sh

B.Tech. CSE

L T P C

II Year - I Semester

3 0 0 3

OBJECT ORIENTED PROGRAMMING THROUGH JAVA**Course Objectives:**

- To understand the basic object-oriented programming concepts and apply them in problem solving.
- To illustrate inheritance concepts for reusing the program.
- To Demonstrate multitasking by using multiple threads and event handling
- To develop data-centric applications using JDBC.
- To understand the basics of java console and GUI based programming.

Course Outcomes:

- Demonstrate the behavior of programs involving the basic programming constructs like control structures, constructors, string handling and garbage collection.
- Demonstrate the implementation of inheritance (multilevel, hierarchical and multiple) by using extend and implement keywords
- Use multithreading concepts to develop inter process communication.
- Understand the process of graphical user interface design and implementation using AWT or swings.
- Develop applets that interact abundantly with the client environment and deploy on the server.

UNIT-I:

Object oriented thinking and Java Basics- Need for oop paradigm, summary of oop concepts, coping with complexity, abstraction mechanisms. A way of viewing world – Agents, responsibility, messages, methods, History of Java, Java buzzwords, data types, variables, scope and lifetime of variables, arrays, operators, expressions, control statements, type conversion and casting, simple java program, concepts of classes, objects, constructors, methods, access control, this keyword, garbage collection, overloading methods and constructors, method binding, inheritance, overriding and exceptions, parameter passing, recursion, nested and inner classes, exploring string class.

UNIT – II:

Inheritance, Packages and Interfaces – Hierarchical abstractions, Base class object, subclass, subtype, substitutability, forms of inheritance specialization, specification, construction, extension, limitation, combination, benefits of inheritance, costs of inheritance. Member access rules, super uses, using final with inheritance, polymorphism- method overriding, abstract classes, the Object class. Defining, Creating and Accessing a Package, Understanding CLASSPATH, importing packages, differences between classes and interfaces, defining an interface, implementing interface, applying interfaces, variables in interface and extending interfaces. Exploring java.io.

1. Taximelo2. Hand3. all

UNIT – III:

Exception handling and Multithreading-- Concepts of exception handling, benefits of exception handling, Termination or resumptive models, exception hierarchy, usage of try, catch, throw, throws and finally, built in exceptions, creating own exception subclasses. String handling, Exploring java.util. Differences between multithreading and multitasking, thread life cycle, creating threads, thread priorities, synchronizing threads, inter thread communication, thread groups, daemon threads. Enumerations, autoboxing, annotations, generics.

UNIT – IV:

Event Handling: Events, Event sources, Event classes, Event Listeners, Delegation event model, handling mouse and keyboard events, Adapter classes. The AWT class hierarchy, user interface components- labels, button, canvas, scrollbars, text components, check box, checkbox groups, choices, lists panels – scrollpane, dialogs, menubar, graphics, layout manager – layout manager types – border, grid, flow, card and grid bag.

UNIT– V:

Applets – Concepts of Applets, differences between applets and applications, life cycle of an applet, types of applets, creating applets, passing parameters to applets. Swing – Introduction, limitations of AWT, MVC architecture, components, containers, exploring swing- JApplet, JFrame and JComponent, Icons and Labels, text fields, buttons – The JButton class, Check boxes, Radio buttons, Combo boxes, Tabbed Panes, Scroll Panes, Trees, and Tables.

TEXTBOOK:

1. Java the complete reference, 7th edition, Herbert schildt, TMH.
2. Understanding OOP with Java, updated edition, T. Budd, Pearson education.

Reference Books:

1. An Introduction to programming and OO design using Java, J.Nino and F.A. Hosch, John wiley & sons.
2. An Introduction to OOP, third edition, T. Budd, Pearson education.
3. Introduction to Java programming, Y. Daniel Liang, Pearson education.
4. An introduction to Java programming and object-oriented application development, R.A. Johnson- Thomson.
5. Core Java 2, Vol 1, Fundamentals, Cay.S. Horstmann and Gary Cornell, eighth Edition, Pearson Education.
6. Core Java 2, Vol 2, Advanced Features, Cay.S. Horstmann and Gary Cornell, eighth Edition, Pearson Education
7. Object Oriented Programming with Java, R.Buyya, S.T.Selvi, X.Chu, TMH. 8. Java and Object Orientation, an introduction, John Hunt, second edition, Springer. 9. Maurach's Beginning Java2 JDK 5, SPD.

1. Taximela

2. Hand

3. Well

4. 

5. Ramesh

6. Rajya

7. Suman

8. B.

9. By

10. gün

11. Shah

12. MM

13. G

14. A

15. B. Gether

16. Richa

17. By

B.Tech. CSE

L T P C

II Year - I Semester

0 0 3 1.5

DATA STRUCTURES LAB**Course Objectives:**

- It covers various concepts of C programming language
- It introduces searching and sorting algorithms
- It provides an understanding of data structures such as stacks and queues.

Course Outcomes:

- Ability to develop C programs for computing and real-life applications using basic elements like control statements, arrays, functions, pointers and strings, and data structures like stacks, queues and linked lists.
- Ability to Implement searching and sorting algorithms

List of Experiments:

1. Write a program that uses functions to perform the following operations on singly linked list.:
i) Creation ii) Insertion iii) Deletion iv) Traversal
2. Write a program that uses functions to perform the following operations on doubly linked list.:
i) Creation ii) Insertion iii) Deletion iv) Traversal
3. Write a program that uses functions to perform the following operations on circular linked list.
i) Creation ii) Insertion iii) Deletion iv) Traversal
4. Write a program that implement stack (its operations) using
i) Arrays ii) Pointers
5. Write a program that implement Queue (its operations) using
i) Arrays ii) Pointers
6. Write a program that implements the following sorting methods to sort a given list of integers in ascending order
i) Quick sort ii) Heap sort iii) Merge sort
7. Write a program to implement the tree traversal methods (Recursive and Non Recursive).
8. Write a program to implement

1. Taximele2. Harsh3. Mell

- i) Binary Search tree ii) B Trees iii) B+ Trees iv) AVL trees
- v) Red - Black trees
- 9. Write a program to implement the graph traversal methods.
- 10. Implement a Pattern matching algorithms using Boyer- Moore, Knuth-Morris-Pratt

Text Books:

1. Fundamentals of Data Structures in C, 2nd Edition, E. Horowitz, S. Sahni and Susan Anderson Freed, Universities Press.
2. Data Structures using C – A. S. Tanenbaum, Y. Langsam, and M. J. Augenstein, PHI/Pearson Education.

Reference Books:

1. Data Structures: A Pseudo code Approach with C, 2nd Edition, R. F. Gilberg and B. A. Forouzan, Cengage Learning

1. Tasimeh

2. Hani

3. Mell.

4. Prasanna

5. Ramiah

6. Lasya

7. Kumar

8. D.

9. Sal

10. giz.

11. Shah

12. M.

13. G

14. R

15. B. Geetha

16. Bachan

17. by

B.Tech. CSE

L T P C

II Year - I Semester

0 0 2 1

DATA VISUALIZATION - R PROGRAMMING/ POWER BI

Course Objectives:

- Effective use of Business Intelligence (BI) technology (Tableau) to apply data visualization
- To discern patterns and relationships in the data.
- To build Dashboard applications.
- To communicate the results clearly and concisely.
- To be able to work with different formats of data sets.

Course Outcomes: The student will learn

- Understand How to import data into Tableau.
- Understand Tableau concepts of Dimensions and Measures.
- Develop Programs and understand how to map Visual Layouts and Graphical Properties.
- Create a Dashboard that links multiple visualizations.
- Use graphical user interfaces to create Frames for providing solutions to real world problems.

LIST OF EXPERIMENTS

1. Understanding Data, What is data, where to find data, Foundations for building Data Visualizations, Creating Your First visualization?
2. Getting started with Tableau Software using Data file formats, connecting your Data to Tableau, creating basic charts(line, bar charts, Tree maps),Using the Show me panel.
3. Tableau Calculations, Overview of SUM, AVR, and Aggregate features, Creating custom calculations and fields.
4. Applying new data calculations to your visualizations, Formatting Visualizations, Formatting Toolsand Menus, Formatting specific parts of the view.
5. Editing and Formatting Axes, Manipulating Data in Tableau data, Pivoting Tableau data.
6. Structuring your data, Sorting and filtering Tableau data, Pivoting Tableau data.
7. Advanced Visualization Tools: Using Filters, Using the Detail panel, using the Size panels,customizing filters, Using and Customizing tooltips, Formatting your data with colors.
8. Creating Dashboards & Storytelling, creating your first dashboard and Story, Design for different displays, adding interactivity to your Dashboard, Distributing & Publishing your Visualization

1. Taximela

2. Harsh

3. all

9. Tableau file types, publishing to Tableau Online, Sharing your visualizations, printing, and Exporting.
10. 10. Creating custom charts, cyclical data and circular area charts, Dual Axis charts

Reference Books:

1. Microsoft Power BI cookbook, Brett Powell, 2nd edition.
2. R Programming for Data Science by Roger D. Peng (References)
3. The Art of R Programming by Norman Matloff Cengage Learning India.

1. Tavimale

2. Harsh

3. Will.

4. Prady

5. Ramesh

6.

7. Guemar

8. Om

9. Ray

10. Agis

11. Shanku

12. M

13. G

14. A

15. B. Gauth

16. Radhika

17. Shy

18.

B.Tech. CSE

L T P C

II Year - I Semester

0 0 3 1.5

OBJECT ORIENTED PROGRAMMING THROUGH JAVA LAB**Course Objectives:**

- To write programs using abstract classes.
- To write programs for solving real world problems using the java collection framework.
- To write multithreaded programs.
- To write GUI programs using swing controls in Java.
- To introduce java compiler and eclipse platform.
- To impart hands-on experience with java programming.

Course Outcomes:

- Able to write programs for solving real world problems using the java collection framework.
- Able to write programs using abstract classes.
- Able to write multithreaded programs.
- Able to write GUI programs using swing controls in Java.

Note:

1. Use LINUX and MySQL for the Lab Experiments. Though not mandatory, encourage the use of the Eclipse platform.
2. The list suggests the minimum program set. Hence, the concerned staff is requested to add more problems to the list as needed.

List of Experiments:

1. Use Eclipse or Net bean platform and acquaint yourself with the various menus. Create a test project, add a test class, and run it. See how you can use auto suggestions, auto fill. Try code formatter and code refactoring like renaming variables, methods, and classes. Try debug step by step with a small program of about 10 to 15 lines which contains at least one if else condition and a for loop.
2. Write a Java program that works as a simple calculator. Use a grid layout to arrange buttons for the digits and for the +, -, *, % operations. Add a text field to display the result. Handle any possible exceptions like divided by zero.
3. A) Develop an applet in Java that displays a simple message.
B) Develop an applet in Java that receives an integer in one text field, and computes its factorial Value and returns it in another text field, when the button named "Compute" is clicked.
4. Write a Java program that creates a user interface to perform integer divisions. The user enters two numbers in the text fields, Num1 and Num2. The division of Num1 and Num2 is displayed in the Result field when the Divide button is clicked. If Num1 or Num2 were not an integer, the program would throw a Number Format Exception. If Num2

1. Tasimele2. Hand3. all.

were Zero, the program would throw an Arithmetic Exception. Display the exception in a message dialog box.

5. Write a Java program that implements a multi-thread application that has three threads. First thread generates a random integer every 1 second and if the value is even, the second thread computes the square of the number and prints. If the value is odd, the third thread will print the value of the cube of the number.
6. Write a Java program for the following: Create a doubly linked list of elements. Delete a given element from the above list. Display the contents of the list after deletion.
7. Write a Java program that simulates a traffic light. The program lets the user select one of three lights: red, yellow, or green with radio buttons. On selecting a button, an appropriate message with "Stop" or "Ready" or "Go" should appear above the buttons in the selected color. Initially, there is no message shown.
8. Write a Java program to create an abstract class named Shape that contains two integers and an empty method named print Area (). Provide three classes named Rectangle, Triangle, and Circle such that each one of the classes extends the class Shape. Each one of the classes contains only the method print Area () that prints the area of the given shape.
9. Suppose that a table named Table.txt is stored in a text file. The first line in the file is the header, and the remaining lines correspond to rows in the table. The elements are separated by commas. Write a java program to display the table using Labels in Grid Layout.
10. Write a Java program that handles all mouse events and shows the event name at the center of the window when a mouse event is fired (Use Adapter classes).
11. Write a Java program that loads names and phone numbers from a text file where the data is organized as one line per record and each field in a record are separated by a tab (\t). It takes a name or phone number as input and prints the corresponding other value from the hash table (hint: use hash tables).
12. Write a Java program that correctly implements the producer – consumer problem using the concept of inter thread communication. 13. Write a Java program to list all the files in a directory including the files present in all its subdirectories.

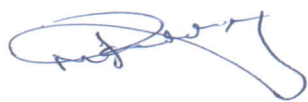
Reference Books:

1. Java for Programmers, P. J. Deitel and H. M. Deitel, 10th Edition Pearson education.
2. Thinking in Java, Bruce Eckel, Pearson Education.
3. Java Programming, D. S. Malik and P. S. Nair, Cengage Learning.
4. Core Java, Volume 1, 9th edition, Cay S. Horstmann and G Cornell, Pearson.

1. Tasmele

2. Arul

3. Arul

4. 

5. Ramesh

6. Lasya

7. Kumar

8. 

9. 

10. Anjan

11. G. Shakti

12. 

13. 

14. A

15. B. Geetha

16. Duhra

17. 

MC309

Vignan's Institute of Management and Technology for Women
An Autonomous Institution

VR24

B.Tech.

II Year - I Semester

L	T	P	C
2	0	0	0

Gender Sensitization Lab
(Common to CSE, CSE(DS))

Course Objectives:

- To develop students' sensibility with regard to issues of gender in contemporary India.
- To provide a critical perspective on the socialization of men and women.
- To introduce students to information about some key biological aspects of genders.
- To expose the students to debates on the politics and economics of work.
- To help students reflect critically on gender violence.
- To expose students to more egalitarian interactions between men and women.

Course Outcomes: The student will learn

- Students will have developed a better understanding of important issues related to gender in contemporary India.
- Students will be sensitized to basic dimensions of the biological, sociological, psychological and legal aspects of gender. This will be achieved through discussion of materials derived from research, facts, everyday life, literature and film.
- Students will attain a finer grasp of how gender discrimination works in our society and how to counter it.
- Students will acquire insight into the gendered division of labor and its relation to politics and economics.
- Men and women students and professionals will be better equipped to work and live together as equals.
- Students will develop a sense of appreciation of women in all walks of life.
- Through providing accounts of studies and movements as well as the new laws that provide protection and relief to women, the textbook will empower students to understand and respond to gender violence.

UNIT-I:

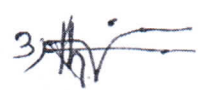
Introduction: Definition of Gender-Basic Gender Concepts and Terminology-Exploring Attitudes towards Gender-Construction of Gender-Socialization: Making Women, Making Men - Preparing for Womanhood, Growing up Male, First lessons in Cas

UNIT - II:

Two or Many? -Struggles with Discrimination-Gender Roles and Relations-Types of Gender Roles Gender Roles and Relationships Matrix-Missing Women-Sex Selection and Its Consequences- Declining Sex Ratio, Demographic Consequences-Gender Spectrum: Beyond the Binary

UNIT - III:

Division and Valuation of Labour-Housework: The Invisible Labor- "My Mother doesn't Work." "Share the Load."-Work: Its Politics and Economics -Fact and Fiction, Unrecognized and Unaccounted work. -Gender Development Issues-Gender, Governance and Sustainable Development-Gender and Human Rights-Gender and Mainstreaming

2)  3)  4)  5) Kirane.

UNIT – IV:

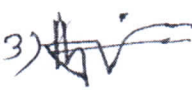
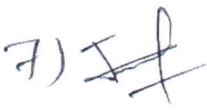
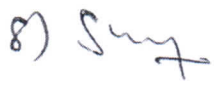
The Concept of Violence- Types of Gender-based Violence-Gender-based Violence from a Human Rights Perspective-Sexual Harassment: Say No!-Sexual Harassment, not Eve-teasing- Coping with Everyday Harassment- Further Reading: "Chupulu". Domestic Violence: Speaking Out Is Home a Safe Place? -When Women Unite [Film]. Rebuilding Lives. Thinking about Sexual Violence Blaming the Victim-"I Fought for my Life..."

UNIT– V:

Gender and Film-Gender and Electronic Media-Gender and Advertisement-Gender and Popular Literature- Gender Development Issues-Gender Issues-Gender Sensitive Language-Gender and Popular Literature - Just Relationships: Being Together as Equals Mary Kom and Onler, Love and Acid just do not Mix, Love Letters, Mothers and Fathers, Rosa Parks The Brave Heart.

Text Book:

1. **ESSENTIAL READING:** The Textbook, "Towards a World of Equals: A Bilingual Textbook on Gender" written by A.Suneetha, Uma Bhargubanda, Duggirala Vasanta, Rama Melkote, Vasudha Nagaraj, Asma Rasheed, Gogu Shyamala, Deepa Sreenivas and Susie Tharu published by Telugu Akademi, Telangana Government in 2015.

- 2)  3)  4)  5) Kirane.
- 1)  6)  7)  8) 
- 9)  10) 

B.Tech. CSE

L T P C

II Year - II Semester

3 0 0 3

DISCRETE MATHEMATICS

Course Objectives:

- Introduces elementary discrete mathematics for computer science and engineering.
- Topics include formal logic notation, methods of proof, induction, sets, relations, algebraic structures, elementary graph theory, permutations and combinations, counting principles; recurrence relations and generating functions.

Course Outcomes: The student will learn

- Understand and construct precise mathematical proofs
- Apply logic and set theory to formulate precise statements
- Analyze and solve counting problems on finite and discrete structures
- Describe and manipulate sequences
- Apply graph theory in solving computing problems

UNIT-I:

Mathematical logic: Introduction, Statements and Notation, Connectives, Normal Forms, Theory of Inference for the Statement Calculus, The Predicate Calculus, Inference Theory of the Predicate Calculus.

UNIT – II:

Set theory: Introduction, Basic Concepts of Set Theory, Representation of Discrete Structures, Relations and Ordering, Functions.

UNIT – III:

Algebraic Structures: Introduction, Algebraic Systems, Semi groups and Monoids, Lattices as Partially Ordered Sets, Boolean Algebra.

UNIT – IV:

Elementary Combinatorics: Basics of Counting, Combinations and Permutations, Enumeration of Combinations and Permutations, Enumerating Combinations and Permutations with Repetitions, Enumerating Permutation with Constrained Repetitions, Binomial Coefficient, The Binomial and Multinomial Theorems, The Principle of Exclusion.

UNIT– V:

Graph Theory: Basic Concepts, Isomorphism and Subgraphs, Trees and their Properties, Spanning Trees, Directed Trees, Binary Trees, Planar Graphs, Euler's Formula, Multi-graphs and Euler Circuits, Hamiltonian Graphs, Chromatic Numbers, The Four-Color Problem.

TEXTBOOK:

1. Discrete Mathematical Structures with Applications to Computer Science: J.P. Tremblay, R. Manohar, McGraw-Hill, 1st ed.

1. Taximele

2. Amal

3. all

2. Discrete Mathematics for Computer Scientists & Mathematicians: Joe I. Mott, Abraham Kandel, Theodore P. Baker, Prentis Hall of India, 2nd ed.

Reference Books:

1. Discrete and Combinatorial Mathematics - an applied introduction: Ralph.P. Grimald, Pearson education, 5th edition.
2. Discrete Mathematical Structures: Thomas Kosy, Tata McGraw Hill publishing co.

1. Tasimela

2. Amal

3. Mell.

4. Ref. Book

5. Danesh

6. Lasya

7. Shamir

8. Shamir

9. Shamir

10. Shamir

11. Shamir

12. Shamir

13. Shamir

14. Shamir

15. B. Geetha

16. Shamir

17. Shamir

B.Tech.
II Year - II Semester

L	T	P	C
3	0	0	3

Business Economics and Financial Analysis
(Common for CSE, IT & CSE(DS))

Course Objectives:

- To learn the basic business types, impact of the economy on Business and Firms specifically.
- To understand the fundamental concepts of demand and supply in economics.
- To understand the relationship among production, cost, market structures, and pricing strategies for business decision-making.
- To understand the fundamental accounting principles.
- To analyze the Business from the Financial Perspective.

Course Outcomes: The student will learn

- Various Forms of Business and the impact of economic variables on the Business.
- Problem-solving skills by applying demand and supply theories to real-world situations.
- How production, costs and market structures influence pricing decisions and business profitability.
- To prepare, analyze, and interpret financial statements.
- To analyse financial position by analysing the Financial Statements of a Company.

Unit-I: Introduction to Business and Economics

Business: Structure of Business Firm, Theory of Firm, Types of Business Entities, Limited Liability Companies, Sources of Capital for a Company, Non-Conventional Sources of Finance.

Economics: Significance of Economics, Micro and Macro Economic Concepts, Concepts and Importance of National Income, Inflation, Money Supply and Inflation, Business Cycle, Features and Phases of Business Cycle, Nature and Scope of Business Economics, Role of Business Economist, Multidisciplinary nature of Business Economics.

UNIT-II: Demand and Supply Analysis

Elasticity of Demand: Elasticity, Types of Elasticity, Law of Demand, Measurement and Significance of Elasticity of Demand, Factors affecting Elasticity of Demand, Elasticity of Demand in decision making, Demand Forecasting: Characteristics of Good Demand Forecasting, Steps in Demand Forecasting, Methods of Demand Forecasting.

Supply Analysis: Determinants of Supply, Supply Function and Law of Supply.

UNIT-III: Production, Cost, Market Structures & Pricing

Production Analysis: Factors of Production, Production Function, Production Function with one variable input, two variable inputs, Returns to Scale, Different Types of Production Functions.

Cost analysis: Types of Costs, Short run and Long run Cost Functions.

Market Structures: Nature of Competition, Features of Perfect competition, Monopoly, Oligopoly, Monopolistic Competition, Pricing: Types of Pricing, Product Life Cycle based Pricing, Break Even Analysis, Cost Volume Profit Analysis.

2)

3)

4)

5) Sridhar

UNIT - IV: Financial Accounting

Accounting concepts and Conventions, Accounting Equation, Double-Entry system of Accounting, Rules for maintaining Books of Accounts, Journal, Posting to Ledger, Preparation of Trial Balance, Elements of Financial Statements, Preparation of Final Accounts (Simple Problems).

UNIT - V: Financial Ratios Analysis

Concept of Ratio Analysis, Importance and Types of Ratios, Liquidity Ratios, Turnover Ratios, Profitability Ratios, Proprietary Ratios, Solvency, Leverage Ratios- Analysis and Interpretation (simple problems).

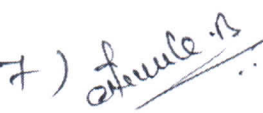
Text Books:

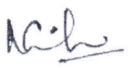
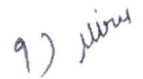
1. D. D. Chaturvedi, S. L. Gupta, Business Economics - Theory and Applications, International Book House Pvt. Ltd. 2013.
2. Dhanesh K Khatri, Financial Accounting, Tata Mc -Graw Hill, 2011.
3. Geethika Ghosh, Piyali Gosh, Purba Roy Choudhury, Managerial Economics, 2e, Tata Mc Graw Hill Education Pvt. Ltd. 2012.

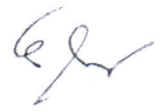
Reference Books:

1. Paresh Shah, Financial Accounting for Management 2e, Oxford Press, 2015.
2. S. N. Maheshwari, Sunil K Maheshwari, Sharad K Maheshwari, Financial Accounting, 5e, Vikas Publications, 2013.

2)  3)  4)  5) Sridhar

1)  6)  7) 

8)  9)  10) 

11) 

B.Tech. CSE

L T P C

II Year - II Semester

3 0 0 3

OPERATING SYSTEMS

Course Objectives:

- Introduce operating system concepts (i.e., processes, threads, scheduling, synchronization, deadlocks, memory management, file and I/O subsystems and protection)
- Introduce the issues to be considered in the design and development of operating system
- Introduce basic Unix commands, system call interface for process management, inter process communication and I/O in Unix

Course Outcomes: The student will learn

- Will be able to control access to a computer and the files that may be shared
- Demonstrate the knowledge of the components of computers and their respective roles in computing.
- Ability to recognize and resolve user problems with standard operating environments.
- Gain practical knowledge of how programming languages, operating systems, and architectures interact and how to use each effectively.

UNIT-I:

Operating System - Introduction, Structures - Simple Batch, Multi programmed, Time-shared, Personal Computer, Parallel, Distributed Systems, Real-Time Systems, System components, Operating System services, System Calls Process - Process concepts and scheduling, Operations on processes, Cooperating Processes, Threads.

UNIT-II:

CPU Scheduling - Scheduling Criteria, Scheduling Algorithms, Multiple -Processor Scheduling. System call interface for process management-fork, exit, wait, waitpid, exec Deadlocks - System Model, Deadlocks Characterization, Methods for Handling Deadlocks, Deadlock Prevention, Deadlock Avoidance, Deadlock Detection, and Recovery from Deadlock.

UNIT-III:

Process Management and Synchronization - The Critical Section Problem, Synchronization Hardware, Semaphores, and Classical Problems of Synchronization, Critical Regions, Monitors Inter process Communication Mechanisms: IPC between processes on a single computer system, IPC between processes on different systems, using pipes, FIFOs, message queues, shared memory.

UNIT-IV:

Memory Management and Virtual Memory - Logical versus Physical Address Space, Swapping, Contiguous Allocation, Paging, Segmentation, Segmentation with Paging, Demand Paging, Page Replacement, Page Replacement Algorithms.

1. Prasanna

2. Harsh

3. Meera

UNIT-V:

File System Interface and Operations -Access methods, Directory Structure, Protection, File System Structure, Allocation methods, Free-space Management. Usage of open, create, read, write, close, lseek, stat, ioctl system calls.

Text Books:

1. Operating System Principles- Abraham Silberchatz, Peter B. Galvin, Greg Gagne 7th Edition, John Wiley.
2. Advanced programming in the UNIX environment, W.R. Stevens, Pearson education.

Reference Books:

1. Operating Systems- Internals and Design Principles, William Stallings, Fifth Edition-2005, Pearson Education/PHI
2. Operating System A Design Approach- Crowley, TMH.
3. Modern Operating Systems, Andrew S. Tanenbaum 2nd edition, Pearson/PHI
4. UNIX programming environment, Kernighan and Pike, PHI/ Pearson Education
5. UNIX Internals -The New Frontiers, U. Vahalia, Pearson Education.

1. Taimur

2. Harsh

3. Will

4. Raj

5. Ramesh

6. Laxya

7. Kumar

8. Manu

9. Raf

10. Rishi

11. Ashwin

12. Vijay

13. G

14. A

15. B. Geshu

16. Rachin

17. Arjun

B.Tech. CSE	L	T	P	C
II Year - II Semester	3	0	0	3

CS404PC: DATABASE MANAGEMENT SYSTEMS

Course Objectives:

- To understand the basic concepts and the applications of database systems.
- To master the basics of SQL and construct queries using SQL.
- Topics include data models, database design, relational model, relational algebra, transaction control, concurrency control, storage structures and access techniques.

Course Outcomes: The student will learn

- Gain knowledge of fundamentals of DBMS, database design and normal forms
- Master the basics of SQL for retrieval and management of data.
- Be acquainted with the basics of transaction processing and concurrency control.
- Familiarity with database storage structures and access techniques

UNIT-I:

Database System Applications: A Historical Perspective, File Systems versus a DBMS, the Data Model, Levels of Abstraction in a DBMS, Data Independence, Structure of a DBMS
Introduction to Database Design: Database Design and ER Diagrams, Entities, Attributes, and Entity Sets, Relationships and Relationship Sets, Additional Features of the ER Model, Conceptual Design With the ER Model.

UNIT – II:

Introduction to the Relational Model: Integrity constraint over relations, enforcing integrity constraints, querying relational data, logical database design, introduction to views, destroying/altering tables and views. Relational Algebra, Tuple relational Calculus, Domain relational calculus.

UNIT – III:

SQL: QUERIES, CONSTRAINTS, TRIGGERS: form of basic SQL query, UNION, INTERSECT, and EXCEPT, Nested Queries, aggregation operators, NULL values, complex integrity constraints in SQL, triggers and active databases.

Schema Refinement: Problems caused by redundancy, decompositions, problems related to decomposition, reasoning about functional dependencies, First, Second, Third normal forms, BCNF, lossless join decomposition, multivalued dependencies, Fourth normal form, Fifth normal form.

1. Tadimela

2. Harsh

3. Neel

UNIT – IV:

Transaction Concept, Transaction State, Implementation of Atomicity and Durability, Concurrent Executions, Serializability, Recoverability, Implementation of Isolation, Testing for serializability, Lock Based Protocols, Timestamp Based Protocols, Validation- Based Protocols, Multiple Granularity, Recovery and Atomicity, Log-Based Recovery, Recovery with Concurrent Transactions.

UNIT– V:

Data on External Storage, File Organization and Indexing, Cluster Indexes, Primary and Secondary Indexes, Index data Structures, Hash Based Indexing, Tree based Indexing, Comparison of File Organizations, Indexes- Intuitions for tree Indexes, Indexed Sequential Access Methods (ISAM), B+ Trees: A Dynamic Index Structure.

TEXTBOOK:

1. Database System Concepts, Silberschatz, Korth, McGraw hill, V edition. 3rd Edition
2. Database Management Systems, Raghurama Krishnan, Johannes Gehrke, Tata McGraw Hill

Reference Books:

1. Database Systems design, Implementation, and Management, Peter Rob & Carlos Coronel 7th Edition.
2. Fundamentals of Database Systems, Elmasri Navrate, Pearson Education
3. Introduction to Database Systems, C. J. Date, Pearson Education
4. Oracle for Professionals, The X Team, S. Shah and V. Shah, SPD.
5. Database Systems Using Oracle: A Simplified guide to SQL and PL/SQL, Shah, PHI.
6. Fundamentals of Database Management Systems, M. L. Gillenson, Wiley Student Edition.

1. Rasimela

2. Effort

3. Will

4. Rajesh

5. Ramesh

6. Ranga

7. Ramesh

8. Raj

9. Raj

10. Raj

11. Raj

12. Raj

13. Raj

14. Raj

15. Raj

16. Raj

17. Raj

B.Tech. CSE

L T P C

II Year - I Semester

3 0 0 3

SOFTWARE ENGINEERING

Course Objectives:

- The aim of the course is to provide an understanding of the working knowledge of the techniques for estimation, design, testing and quality management of large software development projects.
- Topics include process models, software requirements, software design, software testing, software process/product metrics, risk management, quality management and UML diagrams

Course Outcomes:

- Ability to analyse the different view of process and assess various models
- Ability to translate end-user requirements into system and software requirements, using e.g. UML, and structure the requirements in a Software Requirements Document (SRD).
- Identify and apply appropriate software architectures and patterns to carry out high level design of a system and be able to critically compare alternative choices.
- Will have experience and/or awareness of testing problems and will be able to develop a simple testing report.
- Identify the various Quality Management techniques

UNIT-I:

Introduction to Software Engineering: The evolving role of software, changing nature of software, software myths.

A Generic view of process: Software engineering- a layered technology, a process framework, the capability maturity model integration (CMMI).

Process models: The waterfall model, Spiral model and Agile methodology.

UNIT – II:

Software Requirements: Functional and non-functional requirements, user requirements, system requirements, interface specification, the software requirements document. **Requirements engineering process:** Feasibility studies, requirements elicitation and analysis, requirements validation, requirements management.

UNIT – III:

Design Engineering: Design process and design quality, design concepts, the design model.

Creating an architectural design: software architecture, data design, architectural styles and patterns, architectural design, conceptual model of UML, basic structural modeling, class diagrams, sequence diagrams, collaboration diagrams, use case diagrams, component diagrams.

1. Examine

2. Hand

3. well

UNIT - IV

Testing Strategies: A strategic approach to software testing, test strategies for conventional software, black-box and white-box testing, validation testing, system testing, the art of debugging. Metrics for Process and Products: Software measurement, metrics for software quality.

UNIT- V:

Risk management: Reactive Vs proactive risk strategies, software risks, risk identification, risk projection, risk refinement, RMMM.

Quality Management: Quality concepts, software quality assurance, software reviews, formal technical reviews, statistical software quality assurance, software reliability, the ISO 9000 quality standards.

TEXTBOOK:

1. Software Engineering, A practitioner's Approach- Roger S. Pressman, 6th edition, McGraw Hill International Edition.
2. Software Engineering- Sommerville, 7th edition, Pearson Education.

Reference Books:

1. The unified modeling language user guide Grady Booch, James Rumbaugh, Ivar Jacobson, Pearson Education.
2. Software Engineering, an Engineering approach- James F. Peters, Witold Pedrycz, John Wiley.
3. Software Engineering principles and practice- Waman S Jawadekar, The McGraw-Hill Companies.
4. Fundamentals of object-oriented design using UML Meiler page-Jones: Pearson Education.

1. Faizme

2. Amal

3. Ull.

4. Rajesh

5. Ramesh

6. Rajeev

7. Suman

8. Am

9. Raj 10. Raj

11. A. Shakti

12. Am

13. B 14. A

15. B. Geeta

16. B. Chandra

17. By

B.Tech. CSE

L T P C

II Year - II Semester

0 0 2 1

OPERATING SYSTEMS LAB

Course Objectives:

- To provide an understanding of the design aspects of operating system concepts through simulation
- Introduce basic Unix commands, system call interface for process management, interprocess communication and I/O in Unix

Course Outcomes: The student will learn

- Simulate and implement operating system concepts such as scheduling, deadlock management, file management and memory management.
- Able to implement C programs using Unix system calls

List of Experiments:

1. Write C programs to simulate the following CPU Scheduling algorithms
a) FCFS b) SJF c) Round Robin d) priority
2. Write programs using the I/O system calls of UNIX/LINUX operating system (open, read, write, close, fcntl, seek, stat, opendir, readdir)
3. Write a C program to simulate Bankers Algorithm for Deadlock Avoidance and Prevention.
4. Write a C program to implement the Producer – Consumer problem using semaphores using UNIX/LINUX system calls.
5. Write C programs to illustrate the following IPC mechanisms
a) Pipes b) FIFOs c) Message Queues d) Shared Memory
6. Write C programs to simulate the following memory management techniques
a) Paging b) Segmentation
7. Write C programs to simulate Page replacement policies
a) FCFS b) LRU c) Optimal

Text Books:

1. Operating System Principles- Abraham Silberchatz, Peter B. Galvin, Greg Gagne 7th Edition, John Wiley
2. Advanced programming in the Unix environment, W.R.Stevens, Pearson education.

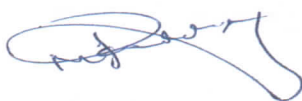
Reference Books:

1. Operating Systems – Internals and Design Principles, William Stallings, Fifth Edition– 2005, Pearson Education/PHI
2. Operating System - A Design Approach-Crowley, TMH.
3. Modern Operating Systems, Andrew S Tanenbaum, 2nd edition, Pearson/PHI
4. UNIX Programming Environment, Kernighan and Pike, PHI/Pearson Education
5. UNIX Internals: The New Frontiers, U. Vahalia, Pearson Education

1. Taxime

2. Harsh

3. Wali

- | | | |
|---|---|---|
| 4.  | 5. <u>Danab</u> | 6. <u>hazga</u> |
| 7. <u>Sumar</u> | 8.  | 9.  |
| 10. <u>zji</u> | 11. <u>Ghah</u> | 12.  |
| 13.  | 14.  | 15. <u>93. Getha</u> |
| 16. <u>Richus</u> | 17.  | |

B.Tech. CSE

L T P C

II Year - II Semester

0 0 2 1

DATABASE MANAGEMENT SYSTEMS LAB

Course Objectives:

- Introduce ER data model, database design and normalization
- Learn SQL basics for data definition and data manipulation

Course Outcomes: The student will learn

- Design database schema for a given application and apply normalization
- Acquire skills in using SQL commands for data definition and data manipulation.
- Develop solutions for database applications using procedures, cursors and triggers

List of Experiments:

1. Concept design with E-R Model
2. Relational Model
3. Normalization
4. Practicing DDL commands
5. Practicing DML commands
6. A. Querying (using ANY, ALL, UNION, INTERSECT, JOIN, Constraints etc.)
B. Nested, Correlated sub queries
7. Queries using Aggregate functions, GROUP BY, HAVING and Creation and dropping of Views.
8. Triggers (Creation of insert trigger, delete trigger, update trigger)
9. Procedures
10. Usage of Cursors

Text Books:

1. Database Management Systems, Raghurama Krishnan, Johannes Gehrke, Tata Mc Graw Hill, 3rd Edition
2. Database System Concepts, Silberschatz, Korth, McGraw Hill, V edition.

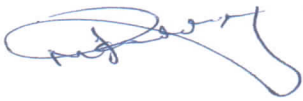
Reference Books:

1. Database Systems design, Implementation, and Management, Peter Rob & Carlos Coronel 7th Edition.
2. Fundamentals of Database Systems, Elmasri Navrate, Pearson Education
3. Introduction to Database Systems, C.J. Date, Pearson Education
4. Oracle for Professionals, The X Team, S. Shah and V. Shah, SPD.
5. Database Systems Using Oracle: A Simplified guide to SQL and PL/SQL, Shah, PHI.
6. Fundamentals of Database Management Systems, M. L. Gillenson, Wiley Student Edition.

1. Taximele

2. Harul

3. all

4. 

5. Ramab

6. Partha

7. Sumar

8. Don

9. Ed

10. Jim

11. Shah

12. M

13. B

14. A

15. B. Geetha

16. Dehna

17. By

18.

B.Tech. CSE

L T P C

II Year - II Semester

0 0 2 1

NODE JS/ REACT JS/ DJANGO

Course Objectives:

- To implement the static web pages using HTML and do client side validation using JavaScript.
- To design and work with databases using Java
- To develop an end to end application using java full stack.
- To introduce Node JS implementation for server side programming.
- To experiment with single page application development using React.

Course Outcomes: At the end of the course, the student will be able to

- Build a custom website with HTML, CSS, and Bootstrap and little JavaScript.
- Demonstrate Advanced features of JavaScript and learn about JDBC
- Develop Server – side implementation using Java technologies like
- Develop the server – side implementation using Node JS.
- Design a Single Page Application using React.

List of Experiments:

1. Build a responsive web application for shopping cart with registration, login, catalog and cart pages using CSS3 features, flex and grid.
2. Make the above web application responsive web application using Bootstrap framework.
3. Use JavaScript for doing client – side validation of the pages implemented in experiment 1 and experiment 2.
4. Explore the features of ES6 like arrow functions, callbacks, promises, async/await. Implement an application for reading the weather information from openweathermap.org and display the information in the form of a graph on the web page.
5. Develop a java stand alone application that connects with the database (Oracle / mySql) and perform the CRUD operation on the database tables.
6. Create an xml for the bookstore. Validate the same using both DTD and XSD.
7. Design a controller with servlet that provides the interaction with application developed in experiment 1 and the database created in experiment 5.
8. Maintaining the transactional history of any user is very important. Explore the various session tracking mechanism (Cookies, HTTP Session)
9. Create a custom server using http module and explore the other modules of Node JS like OS, path, event.
10. Develop an express web application that can interact with REST API to perform CRUD operations on student data. (Use Postman)
11. For the above application create authorized end points using JWT (JSON Web Token).

1. Tarimele

2. Harsh

3. Ull

12. Create a react application for the student management system having registration, login, contact, about pages and implement routing to navigate through these pages.
13. Create a service in react that fetches the weather information from openweathermap.org and the display the current and historical weather information using graphical representation using chart.js
14. Create a TODO application in react with necessary components and deploy it into github.

Reference Books:

1. Jon Duckett, Beginning HTML, XHTML, CSS, and JavaScript, Wrox Publications, 2010
2. Bryan Basham, Kathy Sierra and Bert Bates, Head First Servlets and JSP, O'Reilly Media, 2nd Edition, 2008.
3. Vasan Subramanian, Pro MERN Stack, Full Stack Web App Development with Mongo, Express, React, and Node, 2nd Edition, A Press.

1. Kasimela

2. Paul

3. Willy

4. Paul

5. Damerb

6. Larsen

7. Siemens

8. Paul

9. Paul

10. Paul

11. Shahid

12. M

13. Paul

14. Paul

15. B. G. G. G.

16. Paul

17. Paul

MC410

Vignan's Institute of Management and Technology for Women
An Autonomous Institution

VR24

B.Tech.

II Year - II Semester

L	T	P	C
3	0	0	0

Constitution of India
(COMMON TO CSE, CSE(DS), IT)

Course Objectives:

- Understand the premises informing the twin themes of liberty and freedom from a civil rights perspective.
- To address the growth of Indian opinion regarding modern Indian intellectuals' constitutional role and entitlement to civil and economic rights as well as the emergence of nationhood in the early years of Indian nationalism.
- To address the role of socialism in India after the commencement of the Bolshevik Revolution in 1917 and its impact on the initial drafting of the Indian Constitution.

Course Outcomes: The student will learn

- Discuss the growth of the demand for civil rights in India for the bulk of Indians before the arrival of Gandhi in Indian politics.
- Discuss the intellectual origins of the framework of argument that informed the conceptualization of social reforms leading to revolution in India.
- Discuss the circumstances surrounding the foundation of the Congress Socialist Party [CSP] under the leadership of Jawaharlal Nehru and the eventual failure of the proposal of direct elections through adult suffrage in the Indian Constitution.
- To prepare, analyze, and interpret financial statements.
- Discuss the passage of the Hindu Code Bill of 1956.

UNIT-I:

History of Making of the Indian Constitution- History of Drafting Committee.

UNIT-II:

Philosophy of the Indian Constitution- Preamble Salient Features

UNIT-III:

Contours of Constitutional Rights & Duties - Fundamental Rights

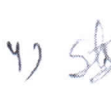
- Right to Equality
- Right to Freedom
- Right against Exploitation
- Right to Freedom of Religion
- Cultural and Educational Right
- Right to Constitutional Remedies
- Directive Principles of State Policy
- Fundamental Duties.

UNIT-IV:

Organs of Governance: Parliament, Composition, Qualifications and Disqualifications, Powers and Functions, Executive, President, Governor, Council of Ministers, Judiciary, Appointment and Transfer of Judges, Qualifications, Powers and Functions

UNIT-V:

Local Administration: District's Administration head: Role and Importance, Municipalities: Introduction, Mayor and role of Elected Representative, CEO of Municipal Corporation, Panchayat raj: Introduction, PRI: Zila Panchayat, Elected officials and their roles, CEO Zila Panchayat: Position and role, Block level:

2)  3)  4)  5) Sridhar

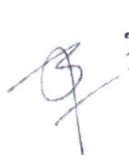
Organizational Hierarchy (Different departments), Village level: Role of Elected and Appointed officials, Importance of grass root democracy

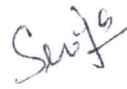
UNIT-VI:

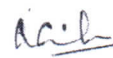
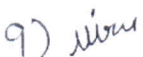
Election Commission: Election Commission: Role and Functioning, Chief Election Commissioner and Election Commissioners, State Election Commission: Role and Functioning, Institute and Bodies for the welfare of SC/ST/OBC and women.

Suggested Reading:

1. The Constitution of India, 1950 (Bare Act), Government Publication.
2. Dr. S. N. Busi, Dr. B. R. Ambedkar framing of Indian Constitution, 1st Edition, 2015.
3. M. P. Jain, Indian Constitution Law, 7th Edn., Lexis Nexis, 2014.
4. D.D. Basu, Introduction to the Constitution of India, Lexis Nexis, 2015.

2)  3)  4)  5) Sridhar

1)  6)  7) 

8)  9)  10) 

11) 

Annexure

VI



VIGNAN'S INSTITUTE OF MANAGEMENT AND TECHNOLOGY FOR WOMEN

(An Autonomous Institution)

[Sponsored by Lavu Educational Society, Affiliated to JNTUH & Approved by AICTE, New Delhi]
Kondapur (V), Ghatkesar (M), Medchal - Malkajgiri (D) - 501 301. Phone: 96529 10002/3



COMPUTER SCIENCE AND ENGINEERING

COURSE STRUCTURE – VR24

I M.Tech. – I Semester

S.No.	Course Code	Course	L	T	P	Credits
1	MC101PC	Mathematical Foundations of Computer Science	3	0	0	3
2	MC102PC	Advanced Data Structures	3	0	0	3
3	MC103PE MC104PE MC105PE	1. Database Programming with PL/SQL 2. Deep Learning 3. Natural Language Processing	3	0	0	3
4	MC106PE MC107PE MC108PE	1. Applied Cryptography 2. Software Quality Engineering 3. Mining Massive Datasets	3	0	0	3
5	MC109PC	Advanced Data Structures Lab	0	0	4	2
6	MC110PC MC111PC MC112PC	1. Database Programming with PL/SQL-Lab 2. Deep Learning-Lab 3. Natural Language Processing-Lab	0	0	4	2
7	SM113MS	Research Methodology & IPR	2	0	0	2
8	MC114AC	Audit Course-I	2	0	0	0
		Total	16	0	8	18

IM.Tech. - II Semester

S.No.	Course Code	Course	L	T	P	Credits
1	MC201PC	Advanced Algorithms	3	0	0	3
2	MC202PC	Advanced Computer Architecture	3	0	0	3
3	MC203PE MC204PE MC205PE	1. Enterprise Cloud Concepts 2. Advanced Computer Networks 3. Edge Analytics	3	0	0	3
4	MC206PE MC207PE MC208PE	1. Bioinformatics 2. Nature Inspired Computing 3. Robotic Process Automation	3	0	0	3
5	MC209PC	Advanced Algorithms Lab	0	0	4	2
6	MC210PE MC211PE MC212PE	1. Enterprise Cloud Concepts-Lab 2. Advanced Computer Networks-Lab 3. Edge Analytics-Lab	0	0	4	2
7	MC213PC	Mini Project with Seminar	0	0	4	2
8	MC214AC	Audit Course- II	2	0	0	0
		Total	14	0	12	18

1. Trained

2. 4 L

3. 100%

4. Prady

7. Sumar

10. raj

13. B

16. Richu

5. Ranab

8. Am

11. G. Ghate

14. A

17. Sty

6. hasya

9. Raf

12. M

15. B. Gathe

II M.Tech. - I Semester

S.No	Course Code	Course Title	L	T	P	Credits
1	MC301PE MC302PE MC303PE	1. Digital Forensics 2. High Performance Computing 3. Quantum Computing	3	0	0	3
2	MS304OE MC305OE MC306OE MC307OE MS308OE MC309OE MC310OE	1. IPR 2. Fault Tolerance Systems 3. Intrusion Detection Systems 4. Digital Forensics 5. Optimization Techniques 6. Cyber Physical Systems 7. Graph Analytics	3	0	0	3
3	MC3011PC	Dissertation Work Review- II	0	0	12	6
		Total	6	0	12	12

II M.Tech. - II Semester

S.No	Course Code	Course Title	L	T	P	Credits
1	MC401PC	Dissertation Work Review- III	0	0	12	6
2	MC402PC	Dissertation Viva-Voce	0	0	28	14
		Total	0	0	40	20

Audit Course I&II:

1. English for Research Paper Writing
2. Disaster Management
3. Sanskrit for Technical Knowledge
4. Value Education
5. Constitution of India
6. Pedagogy Studies
7. Stress Management by yoga
8. Personality Development Through Life Enlightenment Skills

Open Electives for other Departments:

8. IPR
9. Fault Tolerance Systems
10. Intrusion Detection Systems
11. Digital Forensics
12. Optimization Techniques
13. Cyber Physical Systems
14. Graph Analytics

Note:

L-Theory

P-Practical

C-Credits

1. Taximele

2. WHL

3. WHL

4. 

7. Sumar

10. gis

13. 

16. Buhus

5. Damah

8. 

11. Ghah

14. 

17. 

6. haga

9. 

12. 

15. B-Getha

Annexure VII

M.Tech. CSE

L T P C

I Year - I Semester

3 0 0 3

MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE (PC-I)

Course Objectives:

- Introduces the elementary discrete mathematics for computer science and engineering.
- Topics include formal logic notation, methods of proof, induction, sets, relations, graph theory, permutations and combinations, counting principles; recurrence relations and generating functions.

Course Outcomes: The student will learn

- Ability to understand and construct precise mathematical proofs.
- Ability to use logic and set theory to formulate precise statements.
- Ability to analyze and solve counting problems on finite and discrete structures.
- Ability to describe and manipulate sequences.
- Ability to apply graph theory in solving computing problems.

UNIT - I: The Foundations Logic and Proofs:

Propositional Logic, Applications of Propositional Logic, Propositional Equivalence, Predicates and Quantifiers, Nested Quantifiers, Rules of Inference, Introduction to Proofs, Proof Methods and Strategy.

UNIT - II: Basic Structures, Sets, Functions, Sequences, Sums, Matrices and Relations:

Sets, Functions, Sequences & Summations, Cardinality of Sets and Matrices Relations, Relations and Their Properties, n-ary. Relations and Their Applications, Representing Relations, Closures of Relations, Equivalence Relations, Partial Orderings

UNIT - III: Algorithms, Induction and Recursion:

Algorithms, The Growth of Functions, Complexity of Algorithms. Induction and Recursion: Mathematical Induction, Strong Induction and Well Ordering, Recursive Definitions and Structural Induction, Recursive Algorithms, Program Correctness

UNIT - IV: Discrete Probability and Advanced Counting Techniques:

An Introduction to Discrete Probability. Probability Theory, Bayes Theorem, Expected Value and Variance. Advanced Counting Techniques: Recurrence Relations, Solving Linear Recurrence Relations, Divide-and-Conquer Algorithms and Recurrence Relations, Generating Functions, Inclusion-Exclusion, Applications of Inclusion-Exclusion.

UNIT - V: Graphs:

Graphs and Graph Models, Graph Terminology and Special Types of Graphs, Representing Graphs and Graph Isomorphism, Connectivity, Euler and Hamilton Paths, Shortest-Path Problems, Planar Graphs, Graph Coloring. Trees: Introduction to Trees, Applications of Trees, Tree Traversal, Spanning Trees, Minimum Spanning Trees.

1. Tasmeh

2. Ash

3. all

Text Books:

1. Discrete Mathematical Structures with Applications to Computer Science: J.P. Tremblay, R. Manohar, McGraw-Hill, 1st ed.
2. Discrete Mathematics for Computer Scientists & Mathematicians: Joel Mott, Abraham Kandel, Theodore P. Baker, Prentis Hall of India, 2nd ed.

Reference Books:

1. Discrete and Combinatorial Mathematics-an applied introduction: Ralph P. Grimald, Pearson education, 5th edition.
2. Discrete Mathematical Structures: Thomas Kosy, Tata Mc Graw Hill publishing co

1. Tamirab

2. Hank

3. Mell.

4. Raj

5. Ramiah.

6. Larys

7. Kumar

8. Dun

9. Raj

10. gus

11. Shah

12. My

13. A

14. A

15. B. Getha

16. Bachus

17. St

M.Tech. CSE

L T P C

I Year - I Semester

3 0 0 3

ADVANCED DATA STRUCTURES

Course Objectives:

- Introduces the heap data structures such as leftist trees, binomial heaps, Fibonacci and minmax heaps
- Introduces a variety of data structures such as disjoint sets, hash tables, search structures and digital search structures

Course Outcomes: The student will learn

- Ability to select the data structures that efficiently model the information in a problem
- Ability to understand how the choice of data structures impact the performance of programs
- Design programs using a variety of data structures, including hash tables, search structures and digital search structures

UNIT-I:

Heap Structures Introduction, Min-Max Heaps, Leftist trees, Binomial Heaps, Fibonacci heaps.

UNIT-II:

Hashing and Collisions Introduction, Hash Tables, Hash Functions, different Hash Functions: Division Method, Multiplication Method, Mid-Square Method, Folding Method, Collisions

UNIT-III:

Search Structures: OBST, AVL trees, Red-Black trees, Splay trees, Multiway Search Trees: B-trees, 2-3 trees

UNIT-IV:

Digital Search Structures Digital Search trees, Binary tries and Patricia, Multiway Tries, Suffix trees, Standard Tries, Compressed Tries

UNIT-V:

Pattern matching Introduction, Brute force, the Boyer –Moore algorithm, Knuth-Morris-Pratt algorithm, Naïve String, Harspool, Rabin Karp

Text Books:

1. Fundamentals of data structures in C++ Sahni, Horowitz, Mehatha, Universities Press.
2. Introduction to Algorithms, TH Cormen, PHI

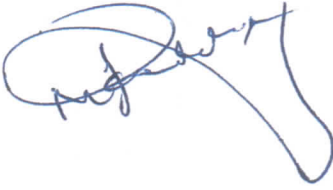
Reference Books:

1. Design methods and analysis of Algorithms, SK Basu, PHI.
2. Data Structures & Algorithm Analysis in C++, Mark Allen Weiss, Pearson Education.
3. Fundamentals of Computer Algorithms, 2nd Edition, Ellis Horowitz, Sartaj Sahni, Sanguthevar Rajasekaran, Universities Press.

1. Tarunde

2. Harsh

3. Will

4. 

5. Ramesh , ,

6. Ladga

7. Keumar

8. 

9. 

10. 

11. J. Shahu

12. 

13. 

14. 

15. B. Getha

16. Rachin

17. 

M.Tech. CSE

L T P C

I Year - I Semester

3 0 0 3

DATA BASE PROGRAMMING WITH PL/SQL (Professional Elective-I)

Course Objectives:

- Knowledge on significance of SQL fundamentals.
- Evaluate functions and triggers of PL/SQL 3. Knowledge on control structures, packages in PL/SQL and its applications

Course Outcomes: The student will learn

- Understand the importance of PL/SQL basics
- Implement functions and procedures using PL/SQL
- Understand the importance of triggers in database

UNIT - I

PL/SQL Basics: Block Structure, Behavior of Variables in Blocks, Basic Scalar and Composite Data Types, Control Structures, Exceptions, Bulk Operations, Functions, Procedures, and Packages, Transaction Scope.

UNIT - II

Language Fundamentals & Control Structures: Lexical Units, Variables and Data Types, Conditional Statements, Iterative Statements, Cursor Structures, Bulk Statements, Introduction to Collections, Object Types: V array and Table Collections, Associative Arrays, Oracle Collection API.

UNIT - III

Functions and Procedures: Function and Procedure Architecture, Transaction Scope, Calling Subroutines, Positional Notation, Named Notation, Mixed Notation, Exclusionary Notation, SQL Call Notation, Functions, Function Model Choices, Creation Options, Pass by-Value Functions, Pass-by- Reference Functions, Procedures, Pass-by-Value Procedures, Pass-by-Reference Procedures, Supporting Scripts.

UNIT - IV

Packages: Package Architecture, Package Specification, Prototype Features, Serially Reusable Pre compiler Directive, Variables, Types, Components: Functions and Procedures, Package Body, Prototype Features, Variables, Types, Components: Functions and Procedures, Definer vs. Invoker Rights Mechanics, Managing Packages in the Database Catalog, Finding, Validating, and Describing Packages, Checking Dependencies, Comparing Validation Methods: Timestamp vs. Signature.

UNIT - V

Triggers: Introduction to Triggers, Database Trigger Architecture, Data Definition Language Triggers, Event Attribute Functions, Building DDL Triggers, Data Manipulation Language Triggers, Statement- Level Triggers, Row-Level Triggers, Compound Triggers, INSTEADOF Triggers, System and Database Event Triggers, Trigger Restrictions, Maximum Trigger Size, SQL Statements, LONG and LONGRAW Data Types.

1. Tasimab

2. Arul

3. Arul

Text Books:

1. Oracle Database 12cPL/SQL Programming Michael McLaughlin, McGraw Hill Education

Reference Books:

1. Benjamin Rosenzweig, Elena Silvestrova Rakhimov, Oracle PL/SQL by example Fifth Edition
2. Dr.P.S. Deshpande, SQL & PL/SQL for Oracle11gBlack Book

1. Tasimeb

2. Amr

3. Wll.

4. Amr

5. Romem.

6. Lally

7. Kumar

8. Amr

9. Amr

10. Amr

11. J. Shakti

12. Amr

13. A

14. A

15. B. Getha

16. Amr

17. Amr

M.Tech. CSE

L T P C

I Year - I Semester

3 0 0 3

DEEP LEARNING (Professional Elective-I)

Course Objectives:

- To understand complexity of Deep Learning algorithms and their limitations
- To be capable of performing experiments in Deep Learning using real-world data.

Course Outcomes: The student will learn

- Implement deep learning algorithms, understand neural networks and traverse the layers of data
- Learn topics such as convolution neural networks, recurrent neural networks, training deep networks and high-level interfaces
- Understand applications of Deep Learning to Computer Vision
- Understand and analyze Applications of Deep Learning to NLP

UNIT - I

Introduction: Feed forward Neural networks, Gradient descent and the back propagation algorithm, Unit saturation, the vanishing gradient problem, and ways to mitigate it. ReLU Heuristics for avoiding bad local minima. Heuristics for faster training, Nestors accelerated gradient descent, Regularization, Dropout

UNIT - II

Convolutional Neural Networks: Architectures, convolution/pooling layers, Recurrent Neural Networks: LSTM, GRU, Encoder Decoder architectures. Deep Un supervised Learning: Auto Encoders, Variational Auto-encoders, Adversarial Generative Networks, Auto-encoder and DBM Attention and memory models, Dynamic Memory Models

UNIT - III

Applications of Deep Learning to Computer Vision: Image segmentation, object detection, automatic image captioning, Image generation with Generative adversarial networks, video to text with LSTM models, Attention Models for computer vision tasks

UNIT - IV

Applications of Deep Learning to NLP: Introduction to NLP and Vector Space Model of Semantics, Word Vector Representations: Continuous Skip-Gram Model, Continuous Bag of-Words model (CBOW), Glove, Evaluations and Applications in word similarity

UNIT - V

Analogy reasoning: Named Entity Recognition, Opinion Mining using Recurrent Neural Networks: Parsing and Sentiment Analysis using Recursive Neural Networks: Sentence Classification using Convolutional Neural Networks, Dialogue Generation with LSTMs

Text Books:

1. Deep Learning by Ian Good fellow, Yoshua Bengio and Aaron Courville, MIT Press
2. The Elements of Statistical Learning by T.Hastie, R.Tibshirani, and J.Friedman, Springer.
3. Probabilistic Graphical Models Koller, and N Friedman, MIT Press.

1. Faizel

2. Hastie

3. Wiley

Reference Books:

1. Bishop, CM Pattern Recognition and Machine Learning, Springer, 2006.
2. Yegnanarayana, B. Artificial Neural Networks PHI Learning Pvt. Ltd, 2009.
3. Golub, G.H, and Van Loan, C.F, Matrix Computations, JHUPress, 2013.
4. Satish Kumar, Neural Networks: A Classroom Approach, Tata Mc Graw-Hill Education, 2004.

1. Farimela

2. Hand

3. Will.

4. Hand

5. Ramash

6. Hand

7. Kumar

8. Hand

9. Hand

10. Hand

11. Shah

12. Hand

13. Hand

14. Hand

15. B. G. G. G.

16. Hand

17. Hand

M.Tech. CSE

L T P C

I Year - I Semester

3 0 0 3

NATURAL LANGUAGE PROCESSING

Course Objectives:

- Introduction to some of the problems and solutions of NLP and their relation to linguistics and statistics.

Course Outcomes: The student will learn

- Show sensitivity to linguistic phenomena and an ability to model them with formal grammars.
- Understand and carry out proper experimental methodology for training and evaluating empirical NLP systems
- Able to manipulate probabilities, construct statistical models over strings and trees, and estimate parameters using supervised and unsupervised training methods.
- Able to design, implement, and analyze NLP algorithms Able to design different language modeling Techniques.
- Able to design different language modeling Techniques.

UNIT-I

Finding the Structure of Words: Words and Their Components, Issues and Challenges, Morphological Models. Finding the Structure of Documents: Introduction, Methods, Complexity of the Approaches, Performances of the Approaches

UNIT-II

Syntax Analysis: Parsing Natural Language. Tree banks: A Data-Driven Approach to Syntax. Representation of Syntactic Structure, Parsing Algorithms, Models for Ambiguity Resolution in Parsing, Multilingual Issues.

UNIT-III

Semantic Parsing: Introduction, Semantic Interpretation, System Paradigms, Word Sense Systems, Software.

UNIT- IV

Predicate-Argument Structure, Meaning Representation Systems, Software

UNIT-V

Discourse Processing: Cohesion, Reference Resolution, Discourse Cohesion and Structure Language Modeling: Introduction, N-Gram Models, Language Model Evaluation, Parameter Estimation, Language Model Adaptation, Types of Language Models, Language-Specific Modeling Problems, Multilingual and Cross Lingual Language Modeling.

Text Books:

Multilingual natural Language Processing Applications: From Theory to Practice – Daniel M. Bikel and Imed Zitouni, Pearson Publication.

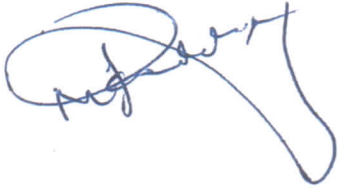
Natural Language Processing and Information Retrieval: Tanvier Siddiqui, U.S. Tiwary

Reference Books:Speech and Natural Language Processing - Daniel Jurafsky& James H Martin, Pearson Publications.

1. Tasme

2. Hand

3. all

4. 

5. Ramesh

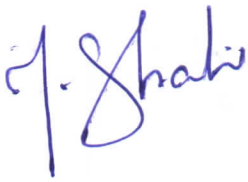
6. Lasya

7. Sumar

8. 

9. 

10. rajin

11. 

12. 

13. 

14. 

15. B. Gath

16. Dechen

17. 



M.Tech. CSE

L T P C

I Year - I Semester

3 0 0 3

APPLIED CRYPTOGRAPHY (Professional Elective-II)

Course Objectives:

- Knowledge on significance of cryptographic protocols and symmetric and public key algorithms

Course Outcomes: The student will learn

- Understand the various cryptographic protocols
- Analyze key length and algorithm types and modes
- Illustrate different public key algorithms in crypto systems
- Understand special algorithms for protocols and usage in the real world

UNIT- I-Foundations

Terminology, Steganography, Substitution Ciphers and Transposition Ciphers, Simple XOR, One-Time Pads, Computer Algorithms, Large Numbers, Cryptographic Protocols: Protocol Building Blocks: Introduction to Protocols, Communications Using Symmetric Cryptography, One-Way Functions, One-Way Hash Functions, Communications Using Public-Key Cryptography, Digital Signatures, Digital Signatures with Encryption, Random and Pseudo-Random-Sequence Generation

UNIT-II-Cryptographic Techniques

Key length: Symmetric Key length, Public key length, comparing symmetric and public key length. Algorithm types and modes: Electronic Code book Mode, Block Replay, Cipher Block Chaining Mode, Stream Cipher, Self-Synchronizing Stream Ciphers, Cipher-Feedback Mode, Synchronous Stream Ciphers. Output-Feedback Mod, Counter Mode, Other Block-Cipher Modes.

UNIT-III-Public-Key Algorithms

Background, Knapsack Algorithms, RSA, Pohlig-Hellman, Rabin, El Gamal, Mc Eliece, Elliptic Curve Cryptosystems, LUC, Finite Automaton Public-Key Cryptosystems

Public-Key Digital Signature Algorithms: Digital Signature Algorithm (DSA), DSA Variants, Gost Digital Signature Algorithm, Discrete Logarithm Signature Schemes, OngSchnorr-Shamir, ESIGN

UNIT-IV-Special Algorithms for Protocols

Multiple-Key Public-Key Cryptography, Secret-Sharing Algorithms, Subliminal Channel, Undeniable Digital Signatures, Designated Confirmer Signatures, Computing with Encrypted Data, Fair Coin Flips, One-Way Accumulators, All-or-Nothing Disclosure of Secrets, Fair and Failsafe Cryptosystems, Zero-Knowledge Proofs of Knowledge, Blind Signatures, Oblivious Transfer, Secure Multiparty Computation, Probabilistic Encryption, Quantum Cryptography

1. Taximela

2. Amul

3. Welf

UNIT-V-Real World Approaches

IBM Secret key management protocol, ISDN, Kerberos, Krypto Knight, Privacy enhanced mail (PEM), Message security protocol (MSP), PGP, Public-Key Cryptography Standards (PKCS), Universal Electronic Payment System (UEPS).

Text Books:

1. Bruce Schneier, Applied Cryptography, Second Edition: Protocols, Algorithms, and source Code in C (cloth)

1. Passmore

2. Hank

3. Will.

4. Robert

5. Romeo

6. Larry

7. Stewart

8. Tom

9. Ray

10. John

11. Shah

12. My

13. Al

14. A

15. B. G. G. G.

16. John

17. By

M.Tech. CSE

L T P C

I Year - I Semester

3 0 0 3

SOFTWARE QUALITY ENGINEERING (Professional Elective-II)

Course Objectives:

Knowledge on significance of Quality, quality assurance, quality engineering.

Course Outcomes: The student will learn

- Understand software quality and perspectives
- Analyze defect prevention and defect reductions of twar equality assurance
- Illustrates of twar equality engineering activities and its process

UNIT-I-Software Quality

Quality: perspectives and expectations, Quality frameworks and ISO 9126, correctness and defects: Definitions, properties and Measurements, A historical perspective of quality, software quality.

UNIT-II-Quality Assurance

Classification: QA as dealing with defects ,Defect Prevention, Education and training, Formal method, defect prevention techniques, Defect Reduction Inspection: Direct fault detection and removal. Testing: Failure observation and fault removal, other techniques and risk identification, Defect Containment- software fault tolerance, safety assurance and failure containment

UNIT-III-Quality Engineering

Activities and process, Quality planning: Goal setting and Strategy formation, Quality assessment and Improvement. Quality engineering in software process.

UNIT-IV-Test Activities, Management and Automation

Test planning and preparation, Test execution, Result checking and measurement, Analysis and follow- up, Activities People and Management, Test Automation

UNIT-V-Coverage and usage testing based on checklist and partitions

Checklist based testing and its limitations, Testing for partition Coverage, Usage based Statistical testing with Musa's operational profiles. Constructing operational profiles Case Study: OP forth ecart ridge Support Software

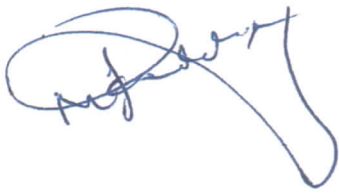
Text Books:

1. JeffTia'n, Software Quality Engineering, Testing, Quality Assurance, and Quantifiable improvement
2. Richard N. Taylor, Software Architecture: Foundations, Theory, and Practice

1. Taimela

2. Harl

3. Wlll.

4. 

5. Romesh

6. Lal Singh

7. Kumar

8. 

9. 

10. 

11. G. Shakti

12. 

13. 

14. 

15. B. G. G. G.

16. Rachin

17. 

M.Tech. CSE	L	T	P	C
I Year - I Semester	3	0	0	3

MINING MASSIVE DATA SETS (Professional Elective-II)

Course Objectives:

- This course will cover practical algorithms for solving key problems in mining massive datasets.
- This course focuses on parallel algorithmic techniques that are used for large data sets.
- This course will cover stream processing algorithms for data streams that arrive constantly, page ranking algorithms for web search, and online advertisement systems that are studied in detail.

Course Outcomes: The student will learn

- Handle massive data using Map Reduce.
- Develop and implement algorithms for massive data sets and methodologies in the context of data mining.
- Understand the algorithms for extracting models and information from large data sets
- Develop recommendation systems. 5. Gain experience in matching various algorithms for particular classes of problems.

UNIT- I Data Mining

Introduction-Definition of Data Mining-Statistical Limits on Data Mining, Map Reduce and the New Software Stack-Distributed File Systems, Map Reduce, Algorithms Using Map Reduce.

UNIT- II Similarity Search

Finding Similar Items-Applications of Near-Neighbor Search, Shingling of Documents, Similarity-Preserving Summaries of Sets, Distance Measures.
Streaming Data: Mining Data Streams-The Stream Data Model, Sampling Data in a Stream, Filtering Streams.

UNIT- III Link Analysis

Page Rank ,Efficient Computation of Page Rank, Link Spam Frequent Item sets – Handling Larger Datasets in Main Memory, Limited-Pass Algorithms, Counting Frequent Items in a Stream. Clustering-The CURE Algorithm, Clustering in Non-Euclidean Spaces, Clustering for Streams and Parallelism.

UNIT -IV Advertising on the Web-Issues

In On-Line Advertising, On-Line Algorithms, The Matching Problem, The Adwords Problem, Adwords Implementation. Recommendation Systems-A Model for Recommendation Systems, Content Based Recommendations, Collaborative Filtering, Dimensionality Reduction, The NetFlix Challenge.

UNIT- V Mining Social-Network Graphs

Social Networks as Graphs, Clustering of Social Network Graphs, Partitioning of Graphs, Sim rank, Counting Triangles.

1. Tasimeh

2. Amal

3. Will

Text Books:

1. Jure Leskovec, Anand Rajaraman, Jeff Ullman, Mining of Massive Data sets, 3rd Edition.

References:

1. Jiawei Han & Micheline Kamber, Data Mining—Concepts and Techniques 3rd Edition Elsevier.

2. Margaret H Dunham, Data Mining Introductory and Advanced topics, PEA.

3. Ian H. Witten and Eibe Frank, Data Mining: Practical Machine Learning Tools and Techniques, Morgan Kaufmann.

1. Taximela

2. Hunt

3. Ullman

4. Pradyumn

5. Remam

6. Lasya

7. Sumar

8. Shan

9. Raj

10. Agar

11. Shah

12. Wij

13. Ar

14. B

15. B. Geetha

16. Bachan

17. Sh

M.Tech. CSE

L T P C

I Year - I Semester

0 0 4 2

ADVANCED DATA STRUCTURES LAB (Lab - I)

Course Objectives:

- Introduces the basic concepts of Abstract Data Types.
- Reviews basic data structures such as stacks and queues.
- Introduces a variety of data structures such as hash tables, search trees, tries, heaps, graphs, and B-trees.
- Introduces sorting and pattern matching algorithms.

Course Outcomes: The student will learn

- Ability to select the data structures that efficiently model the information in a problem.
- Ability to assess efficiency trade-offs among different data structure implementations or combinations.
- Implement and know the application of algorithms for sorting and pattern matching.
- Design programs using a variety of data structures, including hash tables, binary and general tree structures, search trees, tries, heaps, graphs, and B-trees.

List of Programs

1. Write a program to perform the following operations:
 - a) Insert an element into a binary search tree.
 - b) Delete an element from a binary search tree.
 - c) Search for a key element in a binary search tree.
2. Write a program for implementing the following sorting methods:
 - a) Merge sort b) Heap sort c) Quick sort
3. Write a program to perform the following operations:
 - a) Insert an element into a B-tree.
 - b) Delete an element from a B-tree.
 - c) Search for a key element in a B-tree.
4. Write a program to perform the following operations:
 - a) Insert an element into a Min-Max heap
 - b) Delete an element from a Min-Max heap
 - c) Search for a key element in a Min-Max heap
5. Write a program to perform the following operations:
 - a) Insert an element into a Leftist tree
 - b) Delete an element from a Leftist tree
 - c) Search for a key element in a Leftist tree

1. Taximela

2. Hand

3. Welf.

6. Write a program to perform the following operations:
 - a) Insert an element into a binomial heap
 - b) Delete an element from a binomial heap.
 - c) Search for a key element in a binomial heap
7. Write a program to perform the following operations:
 - a) Insert an element into a AVL tree.
 - b) From Delete an element a AVL search tree.
 - c) Search for a key element in a AVL search tree.
8. Write a program to perform the following operations:
 - a) Insert an element into a Red-Black tree.
 - b) Delete an element from a Red-Black tree.
 - c) Search for a key element in a Red-Black tree.
9. Write a program to implement all the functions of a dictionary using hashing.
10. Write a program for implementing Knuth-Morris-Pratt pattern matching algorithm.
11. Write a program for implementing Brute Force pattern matching algorithm.
12. Write a program for implementing Boyer pattern matching algorithm.

Text Books:

1. Fundamentals of Data structures in C, E. Horowitz, S. Sahni and Susan Anderson Freed, 2nd Edition, Universities Press
2. Data Structures Using C—A.S. Tanenbaum, Y. Langsam, and M.J. Augenstein, PHI/Pearson education.
3. Introduction to Data Structures in C, Ashok Kamthane, 1st Edition, Pearson

Reference Books:

1. The C Programming Language, B.W. Kernighan, Dennis M. Ritchie, PHI/ Pearson Education
2. C Programming with problem solving, J.A. Jones & K. Harrow, Dream tech Press
3. Data structures: A Pseudocode Approach with C, R.F. Gilberg And B.A. Forouzan, 2nd Edition, Cengage Learning

1. Taximeb
 2. Hand
 3. Will
 4. Ref
 5. Romem
 6. Lasyle
 7. Sumar
 8. Don
 9. By
 10. Jan
 11. Shahis
 12. W
 13. P
 14. d
 15. B. Geller
 16. Arul
 17. S

M.Tech. CSE

L T P C

I Year - I Semester

0 0 4 2

DATABASE PROGRAMMING WITH PL/SQL LAB (Lab - II)

Course Objectives:

1. Knowledge on significance of SQL fundamentals.
2. Evaluate functions and triggers of PL/SQL
3. Knowledge on control structures, packages in PL/SQL and its applications.

Course Outcomes: The student will learn

1. Understand importance of PL/SQL basics
2. Implement functions and procedures using PL/SQL
3. Understand the importance of triggers in database

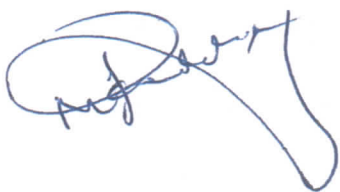
List of Programs

1. Write a PL/SQL program using FOR loop to insert ten rows into a database table.
2. Given the table EMPLOYEE (EmpNo, Name, Salary, Designation, DeptID), write a cursor to select the five highest paid employees from the table
3. Illustrate how you can embed PL/SQL in a high-level host language such as C/Java And demonstrates how a banking debit transaction might be done.
4. Given an integer i, write a PL/SQL procedure to insert the tuple (i, 'xxx') into a given relation.
5. Write a PL/SQL program to demonstrate Exceptions.
6. Write a PL/SQL program to demonstrate Cursors.
7. Write a PL/SQL program to demonstrate Functions.
8. Write a PL/SQL program to demonstrate Packages.
9. Write PL/SQL queries to create Procedures.
10. Write PL/SQL queries to create Triggers.

1. Trimeb

2. AmL

3. Wlll.

4. 

5. Ramesh

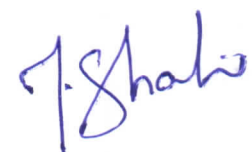
6. Lasya

7. Sumar

8. 

9. 

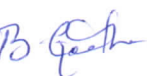
10. 

11. 

12. 

13. 

14. 

15. 

16. Rekha

17. 

M.Tech. CSE

L T P C

I Year - I Semester

0 0 4 2

DEEP LEARNING LAB (Lab - II)

Course Objectives:

1. To Build The Foundation Of Deep Learning.
2. To Understand How To Build The Neural Network.
3. To enable students to develop successful machine learning concepts.

Course Outcomes: The student will learn

1. Upon the Successful Completion of the Course, the Students would be able to:
2. Learn The Fundamental Principles Of Deep Learning.
3. Identify The Deep Learning Algorithms For Various Types of Learning Tasks in various domains.
4. Implement Deep Learning Algorithms And Solve Real-world problems.

List of Programs

1. Setting up the Spyder IDE Environment and Executing a Python Program
2. Installing Keras, Tensor flow and Pytorch libraries and making use of them
3. Applying the Convolution Neural Network on computer vision problems
4. Image classification on MNIST dataset (CNN model with Fully connected layer)
5. Applying the Deep Learning Models in the field of Natural Language Processing
6. Train a sentiment analysis model on IMDB dataset, use RNN layers with LSTM/GRU notes
7. Applying the Auto encoder algorithms for encoding the real-world data
8. Applying Generative Adversial Networks for image generation and unsupervised tasks.

Text Books:

1. Deep Learning by Ian Goodfellow, Yoshua Bengio and Aaron Courville, MIT Press.
2. The Elements of Statistical Learning by T. Hastie, R. Tibshirani, and J. Friedman, Springer.
3. Probabilistic Graphical Models. Koller, and N. Friedman, MIT Press.

Reference Books:

1. Bishop, C, M., Pattern Recognition and Machine Learning, Springer, 2006.
2. Yegnanarayana, B., Artificial Neural Networks PHI Learning Pvt. Ltd, 2009.
3. Golub, G.H., and Van Loan C.F., Matrix Computations, JHU Press, 2013.
4. Satish Kumar, Neural Networks: A Classroom Approach, Tata McGraw-Hill Education, 2004.

1. Taximela

2. Amal

3. Meel

4. 

M.Tech. CSE

L T P C

I Year - I Semester

0 0 4 2

NATURAL LANGUAGE PROCESSING(Lab-I)

Course Objectives:

- To Develop and explore the problems and solutions of NLP.

Course Outcomes: The student will learn

- Show sensitivity to linguistic phenomena and an ability to model them with formal grammars.
- Able to manipulate probabilities, construct statistical models over strings and trees, and estimate parameters using supervised and unsupervised training methods.
- Able to design, implement, and analyze NLP algorithms

List of Experiments

Implement the following using Python

1. Tokenization
2. Stemming
3. Stop word removal (a,the,are)
4. Word Analysis
5. Word Generation
6. Pos tagging
7. Morphology
8. chunking
9. N-Grams
- 10.N-Grams Smoothing

Text Books:

1. Multi lingual natural Language Processing Applications: From Theory to Practice – Daniel M. Bikel and Imed Zitouni, Pearson Publication.
2. Natural Language Processing and Information Retrieval: Tanvier Siddiqui, U.S. Tiwary.

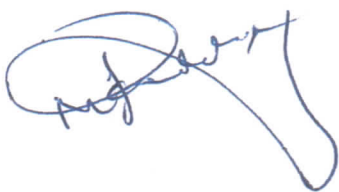
Reference Books:

1. Speech and Natural Language Processing- Daniel Jurafsky & James H Martin, Pearson Publications

1. Tamine

2. Hand

3. all

4. 

5. Rameth.

6. Lasya

7. Shimar

8. 

9. 

10. 

11. Shah

12. 

13. 

14. 

15. B. Gauth

16. Rachin

17. 

M.Tech (CSE)
I Year - I Semester

L	T	P	C
2	0	0	2

Research Methodology and IPR

Course Objectives:

- To understand there search problem.
- To know the literature studies, plagiarism and ethics.
- To get the knowledge about technical writing.
- To analyze the nature of intellectual property rights and new developments.
- To know the patent rights.

Course Outcomes: The student will learn

- Understand research problem formulation.
- Analyze research related information
- Follow research ethics
- Understand that today's world is controlled by Computer, Information Technology, but tomorrow world will be ruled by ideas, concept, and creativity.
- Understanding that when IPR would take such important place in growth of individuals & nation, it is needless to emphasis the need of information about Intellectual Property Right to be promoted among students in general & engineering in particular.
- Understand that IPR protection provides an incentive to inventors for further research work and investment in R & D, which leads to creation of new and better products, and in turn brings about, economic growth and social benefits.

UNIT-I:

Meaning of research problem, Sources of research problem, Criteria Characteristics of a good research problem, Errors in selecting a research problem, Scope and objectives of research problem, Approaches of investigation of solutions for research problem, data collection, analysis, interpretation, Necessary instrumentations.

UNIT- II:

Effective literature studies approaches, analysis, Plagiarism, Research ethics.

UNIT-III:

Effective technical writing, how to write report, Paper Developing a Research Proposal, Format of research proposal, a presentation and assessment by a review committee.

UNIT- IV:

Nature of Intellectual Property: Patents, Designs, Trade and Copyright, Process of Patenting and Development: technological research, innovation, patenting, development, International Scenario: International cooperation on Intellectual Property, Procedure for grants of patents, Patenting under PCT.

UNIT- V:

Patent Rights: Scope of Patent Rights, Licensing and transfer of technology, Patent information and databases, Geographical Indications, New Developments in IPR: Administration of Patent System, New developments in IPR; IPR of Biological Systems, Computer Software etc, Traditional knowledge Case Studies, IPR and IITs.

2) 

3) 

4) 

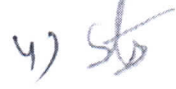
5) Grishar

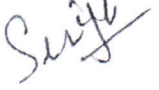
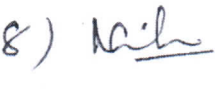
Text Books:

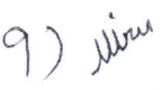
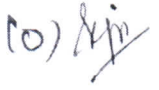
1. Stuart Melville and Wayne Goddard, "Research methodology: an introduction for science & engineering students"
2. Wayne Goddard and Stuart Melville, "Research Methodology: An Introduction"

Reference Books:

1. Ranjit Kumar, 2nd Edition, "Research Methodology: A Step by Step Guide for beginners"
2. Halbert, "Resisting Intellectual Property", Taylor & Francis Ltd, 2007.
3. Mayall, "Industrial Design", McGraw Hill, 1992.
4. Niebel, "Product Design", McGraw Hill, 1974.
5. Asimov, "Introduction to Design", Prentice Hall, 1962.
6. Robert P. Merges, Peter S. Menell, Mark A. Lemley, "Intellectual Property in New Technological Age", 2016.
7. T. Ramappa, "Intellectual Property Rights Under WTO", S. Chand, 2008.

2)  3)  4)  5) Sridhar

1)  6) Sridhar  7)  8) 

9)  10)  11) 

M.Tech. CSE

L T P C

I Year - I Semester

2 0 0 0

VALUE EDUCATION

Course Objectives:

- Aim to cultivate a strong moral compass in individuals by developing key ethical values like integrity, empathy, respect, and responsibility, enabling them to make positive choices and contribute positively to society, while the outcomes would be demonstrated through responsible behavior, critical thinking about ethical dilemmas, and the ability to apply values in real-life situations.

Course Outcomes: The student will learn

- **Demonstrate ethical decision-making skills:** Ability to identify ethical dilemmas and make responsible choices in real-life situations
- **Articulate ethical principles:** Clearly explain the reasoning behind moral values and their application.
- **Engage in constructive dialogue on ethical issues:** Actively participate in discussions about complex ethical problems, considering multiple perspectives.
- **Show empathy and compassion towards others:** Demonstrate understanding and concern for the well-being of others.

UNIT-I

Values and self-development Social values and individual attitudes, Work ethics, Indian vision of humanism, Moral and non- moral valuation. Standards and principles, Value judgments

UNIT-II

Importance of cultivation of values Sense of duty, Devotion, Self-reliance, Confidence, Concentration, Truthfulness, Cleanliness, Honesty, Humanity Power of faith, National Unity, Patriotism, Love for nature, Discipline

UNIT-III

Personality and Behavior Development Soul and Scientific attitude, Positive Thinking, Integrity and discipline, Punctuality, Love and Kindness . Avoid fault Thinking, Free from anger, Dignity of labor, Universal brotherhood and religious tolerance, True friendship, Happiness Vs suffering, love for truth, Aware of self-destructive habits, Association and Cooperation, doing best for saving nature

UNIT-IV

Character and Competence Holy books vs Blind faith, Self-management and Good health, Science of reincarnation, Equality, Nonviolence, Humility, Role of Women, all religions and same message, mind your Mind, Self control, Honesty, Studying effectively

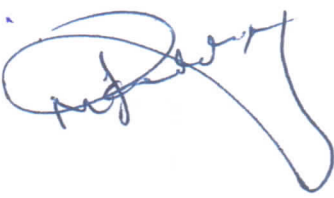
Text Book

1. Chakraborty, S.K. "Values and Ethics for organizations Theory and practice", Oxford University Press, New Delhi

1. Taximela

2. Effend

3. Will

4. 

5. Ramelm.

6. Lanya

7. Kumar

8. 

9. 

10. raj

11. G. Shakti

12. My

13. 

14. 

15. P. G. K.

16. Rachin

17. 

M.Tech. CSE

L T P C

I Year - II Semester

3 0 0 3

ADVANCED ALGORITHMS (PC-III)

Course Objectives:

- Introduce students to the advanced methods of designing and analyzing algorithms.
- The student should be able to choose appropriate algorithms and use it for a specific problem.
- To familiarize students with basic paradigms and data structures used to solve advanced algorithmic problems.
- Students should be able to understand different classes of problems concerning their computation difficulties.
- To introduce the students to recent developments in the area of algorithmic design.

Course Outcomes: The student will learn

- Analyze the complexity / performance of different algorithms.
- Determine the appropriate data structure for solving a particular set of problems.
- Categorize the different problems in various classes according to their complexity.

UNIT-I-Sorting

Review of various sorting algorithms, topological sorting Graph: Definitions and Elementary Algorithms: Shortest path by BFS, shortest path in edge weighted case (Dijkstra's), depth-first search and computation of strongly connected components, emphasis on correctness proof of the algorithm and time/space analysis, example of amortized analysis.

UNIT-II-Matroids

Introduction to greedy paradigm, algorithm to compute a maximum weight maximal independent set. Application to MST. Graph Matching: Algorithm to compute maximum matching. Characterization of maximum matching by augmenting paths, Edmond's Blossom algorithm to compute augmenting path.

UNIT-III-Flow Networks

Max flow-min cut theorem, Ford-Fulkerson Method to compute maximum flow, Edmond-Karp maximum-flow algorithm. Matrix Computations: Strassen's algorithm and introduction to divide and conquer paradigm, inverse of a triangular matrix, relation between the time complexities of basic matrix operations, LUP- decomposition.

UNIT-IV-Shortest Path in Graphs

Floyd-Warshall algorithm and introduction to dynamic programming paradigm. More examples of dynamic programming. Modulo Representation of integers/polynomials: Chinese Remainder Theorem, Conversion between base-representation and modulo-representation. Extension to polynomials. Application: Interpolation problem. Discrete Fourier Transform (DFT): In complex field, DFT in modulo ring. Fast Fourier Transform algorithm. Schönhage-Strassen Integer Multiplication algorithm.

1. Paomele

2. Harsh

3. all

UNIT-V-Linear Programming

Geometry of the feasibility region and Simplex algorithm NP-completeness: Examples, proof of NP-hardness and NP-completeness. Recent Trends in problem solving paradigms using recent searching and sorting techniques by applying recently proposed data structures.

Reference Books:

1. Cormen, Leiserson, Rivest, Stein, "Introduction to Algorithms".
2. Aho, Hopcroft, Ullman "The Design and Analysis of Computer Algorithms".
3. Kleinberg and Tardos. "Algorithm Design".

1. Farmer

2. Harsh

3. Mall

4. Rajesh

5. Ramesh

6. Lasya

7. Kumar

8. Shruti

9. Raj

10. Shruti

11. Shah

12. M

13. P

14. P

15. P. Gupta

16. Bachan

17. Shy

M.Tech. CSE

L T P C

I Year - II Semester

3 0 0 3

ADVANCED COMPUTER ARCHITECTURE (PC-III)

Course Objectives:

- To impart the concepts and principles of parallel and advanced computer architectures.
- To develop the design techniques of Scalable and multi-threaded Architectures.
- To Apply the concepts and techniques of parallel and advanced computer architectures to design modern computer systems

Course Outcomes: The student will learn

- Computational models and Computer Architectures.
- Concepts of parallel computer models.
- Scalable Architectures, Pipe lining, Super scalar processors

UNIT - I: Theory of Parallelism, Parallel computer models, The State of Computing, Multiprocessors and Multi computers, Multi vector and SIMD Computers, PRAM and VLSI models, Architectural development tracks, Program and network properties, Conditions of parallelism, Program partitioning and Scheduling, Program flow Mechanisms, System interconnect Architectures.

UNIT - II: Principles of Scalable performance, Performance metrics and measures, Parallel Processing applications, Speed up performance laws, Scalability Analysis and Approaches, Hardware Technologies, Processes and Memory Hierarchy, Advanced Processor Technology, Superscalar and Vector Processors

UNIT - III: Shared-Memory Organizations, Sequential and weak consistency models, Pipelining and superscalar techniques, Linear Pipeline Processors, Non-Linear Pipeline Processors, Instruction Pipeline design, Arithmetic pipeline design, superscalar pipeline design.

UNIT - IV: Parallel and Scalable Architectures, Multi processors and Multi computers, Multi processor system inter connects, cache coherence and synchronization mechanism, Three Generations of Multi computers, Message-passing Mechanisms, Multi vector and SIMD computers.

UNIT - V: Vector Processing Principles, Multi vector Multiprocessors, Compound Vector processing, SIMD computer Organizations, The connection machine CM-5.

TEXTBOOK:

1. Advanced Computer Architecture, KaiHwang, 2 ndEdition, Tata Mc Graw Hill Publishers.

Reference Books:

1. Computer Architecture, J.L. Hennessy and D.A. Patterson, 4 thEdition, ELSEVIER
2. Advanced Computer Architectures, S.G.Shiva, Special Indian edition, CRC, Taylor & Francis.

1. Taximeh

2. Harsh

3. Mell

3. Introduction to High Performance Computing for Scientists and Engineers, G. Hager and G. Well in, CRC Press, Taylor & Francis Group.
4. Advanced Computer Architecture, D.Sima, T.Fountain, P.Kacsuk, Pearson education.
5. Computer Architecture, B.Parhami, Oxford Univ.Press.

1. Taximale

2. Hank

3. Well.

4. Parhami

5. Romeln.

6. Lasya

7. Sumas

8. Sum

9. Lat

10. ges

11. Ghah

12. M

13. D

14. R

15. B. Getha

16. Parhami

17. Lat

M.Tech. CSE

L T P C

I Year - II Semester

3 0 0 3

ENTERPRISE CLOUD CONCEPTS (Professional Elective-III)**Course Objectives:**

- Knowledge of the significance of cloud computing and its fundamental concepts and models.

Course Outcomes: The student will learn

- Understand the importance of cloud architecture
- Illustrating the fundamental concepts of cloud security
- Analyze various cloud computing mechanisms
- Understanding the architecture and working of cloud computing.

UNIT – I

Understanding Cloud Computing: Origins and influences. Basic Concepts and Terminology. Goals and Benefits, Risks and Challenges. Fundamental Concepts and Models: Roles and Boundaries, Cloud Characteristics, Cloud Delivery Models, Cloud Deployment Models.

UNIT – II

Cloud-Enabling Technology: Broad and Networks and Internet Architecture, Data Center Technology, Virtualization Technology. Cloud Computing Mechanisms: Cloud Infrastructure Mechanisms: Logical Network Perimeter, Virtual Server, Cloud Storage Device, Cloud Usage Monitor, Resource Replication.

UNIT – III

Cloud Management Mechanisms: Remote Administration System, Resource Management System, SLA Management System, Billing Management System, Case Study Example Cloud Computing Architecture Fundamental Cloud Architectures: Workload Distribution Architecture, Resource Pooling Architecture, Dynamic Scalability Architecture, Elastic Resource Capacity Architecture, Service Load Balancing Architecture, Cloud Bursting Architecture, Elastic Disk Provisioning Architecture, Redundant Storage Architecture, Case Study Example

UNIT – IV

Cloud-Enabled Smart Enterprises: Introduction, Revisiting the Enterprise Journey, Service-Oriented Enterprises, Cloud Enterprises, Smart Enterprises, The Enabling Mechanisms of Smart Enterprises Cloud-Inspired Enterprise Transformations: Introduction, The Cloud Scheme for Enterprise Success, Elucidating the Evolving Cloud Idea, Implications of the Cloud on Enterprise Strategy, Establishing a Cloud-Incorporated Business Strategy

UNIT – V

Transitioning to Cloud-Centric Enterprises: The Tuning Methodology, Contract Management in the Cloud Cloud-Instigated IT Transformations Introduction, Explaining

1. Timeline2. Hand3. Well

Cloud Infrastructures, A Briefing on Next-Generation Services, Service Infrastructures, Cloud Infrastructures, Cloud Infrastructure Solutions, Clouds for Business Continuity, The Relevance of Private Clouds, The Emergence of Enterprise Clouds

TEXTBOOK:

1. Erl Thomas, Put tini Ricardo, Mahmood Zaigham, Cloud Computing: Concepts, Technology & Architecture 1st Edition,
2. Pethuru Raj, Cloud Enterprise Architecture, CRC Press

Reference Books:

1. James Bond, The Enterprise Cloud, O'Reilly Media, Inc

1. Tasimale
2. Mark
3. Will
4. Raj
5. Ramesh
6. Lasya
7. Sumar
8. Sum
9. Raf
10. Shi
11. C. Shale
12. Wf
13. A
14. A
15. B. Gee the
16. Rachna
17. Shaf

M.Tech. CSE

L T P C

I Year - II Semester

3 0 0 3

ADVANCED COMPUTER NETWORKS (Professional Elective-III)

Course Objectives:

- This course aims to provide advanced background on relevant computer networking topics to have a comprehensive and deep knowledge in computer networks.

Course Outcomes: The student will learn

- Understanding of holistic approach to computer networking
- Ability to understand the computer network protocols and their applications
- Ability to design simulation concepts related to packet forwarding in networks.

UNIT-I

Data-link protocols: Ethernet, Token Ring and Wireless (802.11). Wireless Networks and Mobile IP: Infrastructure of Wireless Networks, Wireless LAN Technologies, IEEE 802.11 Wireless Standard, Cellular Networks, Mobile IP, Wireless Mesh Networks (WMNs), Multiple access schemes Routing and internet working: Network-Layer Routing, Least-Cost Path algorithms, Non-Least-Cost-Path algorithms, Intra-domain Routing Protocols, Interdomain Routing Protocols, Congestion Control at Network Layer.

UNIT-II

Transport and Application Layer Protocols: Client-Server and Peer-To-Peer Application Communication, Protocols on the transport layer, reliable communication. Routing packets through a LAN and WAN. Transport Layer, Transmission Control Protocol (TCP), User Datagram Protocol (UDP), Mobile Transport Protocols, TCP Congestion Control. Principles of Network Applications

UNIT- III

The Web and HTTP, File Transfer: FTP, Electronic Mail in the Internet, Domain Name System (DNS), P2P File Sharing, Socket Programming with TCP and UDP, building a Simple Web Server Creating simulated networks and passing packets through them using different routing techniques. Installing and using network monitoring tools.

UNITIV

Wireless and Mobile Networks: Introduction, Wireless links and Network Characteristics - CDMA, Wifi: 802.11 Wireless LANS, Cellular internet access, Mobility management: Principles

UNIT-V

Multimedia networking: Multimedia networking applications, streaming stored video, Voice-over-IP, Protocols for real-time conversational applications.

TEXTBOOK:

1. Computer Networking: A Top-Down Approach, James F. Kurosu and Keith W. Ross, Pearson, 6th Edition, 2012.
2. Computer Networks and Internets, Douglas E. Comer, 6th Edition, Pearson.

1. Passimelo

2. Amal

3. all

Reference Books:

1. A Practical Guide to Advanced Networking, Jeffrey S. Beasley and Piyasat Nilkaew, Pearson, 3rd Edition, 2012
 2. Computer Networks, Andrew S. Tanenbaum, David J. Wetherall, Prentice Hall.
-

1. Taxime

2. Hand

3. Will.

4. Refert

5. Renneth.

6. Lasyle

7. Kumar

8. Sum

9. Ref

10. Jim

11. Ghaliz

12. W

13. A

14. A

15. B. Gether

16. Bachus

17. Sty

M.Tech. CSE	L	T	P	C
I Year - II Semester	3	0	0	3

EDGE ANALYTICS (Professional Elective-III)

Course Objectives:

- The aim of the course is to introduce the fundamentals of Edge Analytics.
- The course gives an overview of –Architectures, Components, Communication Protocols and tools used for Edge Analytics.

Course Outcomes: The student will learn

- Understand the concepts of Edge Analytics, both in theory and in practical application.
- Demonstrate a comprehensive understanding of different tools used at edge analytics.
- Formulate, Design and Implement the solutions for real world edge analytics.

UNIT-I

Introduction to Edge Analytics What is edge analytics, Applying and comparing architectures, Key benefits of edge analytics, Edge analytics architectures, Using edge analytics in the real world.

UNIT-II

Basic edge analytics components, Connecting a sensor to the ESP-12F microcontroller, KOM-MICS smart factory platform, Communications protocols used in edge analytics, Wi-Fi communication for edge analytics, Bluetooth for edge analytics communication, Cellular technologies for edge analytics communication, Long-distance communication using LoRa and Sign fox for edge analytics.

UNIT-III

Working with Microsoft Azure IoT Hub, Cloud Service providers, Microsoft Azure, Exploring the Azure portal, Azureio THub, Using the Raspberry Pi with Azure IoT edge, Connecting our Raspberry Pledge device, adding a simulated temperature sensor to our edge device.

UNIT-IV

Using Micro python for Edge Analytics, Understanding Micro python, Exploring the hardware that runs Micro Python, Using Micro Python for an edge analytics application, Using edge intelligence with micro controllers, Azure Machine Learning designer, Azure IoT edge custom vision.

UNIT-V

Designing a Smart Door bell with Visual Recognition setting up the environment, Writing the edge code, creating the Node-RED dashboard, Types of attacks against our edge analytics applications, Protecting our edge analytics applications

TEXTBOOK:

1.Hands-On Edge Analytics with Azure IoT: Design and develop IoT applications with edge analytical solutions including Azure IoT Edge by Colin Dowl

1. Tavimela

2. Harsh

3. Will

Reference Books:

1. Learn Edge Analytics-Fundamentals of Edge Analytics: Automated analytics at source using Microsoft Azure by Ashish Mahajan

1. Taimela

2. Hand

3. Wiley

4. Hand

5. Romesh

6. Laxya

7. Kumar

8. Hand

9. Hand

10. Hand

11. Hand

12. Hand

13. Hand

14. Hand

15. B. G. G. G.

16. Hand

17. Hand

M.Tech. CSE L T P C
I Year - II Semester 3 0 0 3

BIO INFORMATICS (Professional Elective-IV)

Course Objectives:

- Knowledge on concepts of bio informatics and biological motivations of sequence analysis

Course Outcomes: The student will learn

- Understand the Central Dogma & XML (Bio XML) for Bio informatics
- Analyze Perl (Bioperl) for Bio informatics
- Illustrate Data bases technology, architecture and its interfaces
- Understand Sequence Alignment Algorithms, Phylogenetic Analysis.

UNIT- I

The Central Dogma & XML (Bio XML) for Bio informatics: Watson's definition, information flow, from data to knowledge, Convergence, the organization of DNA, the organization of Proteins, Introduction, Differences between HTML and XML, fundamentals of XML, fundamentals of XML namespaces. Introduction to DTDs, Document type Declarations, Declaring elements, declaring attributes, working with entities XML Schemas, Essential Concepts, working with simple types, working with complex types, Basic name spaces issues.

UNIT- II

Perl (Bio perl) for Bio informatics: Representing sequence data, program to store a DNA sequence, concatenating DNA fragments, Transcription, Calculating the reverse complement in Perl, Proteins, files, reading proteins in files, Arrays, Flow control, finding motifs, counting Nucleotides, exploding strings into arrays, operating on strings, writing to files, subroutines and bugs.

UNIT- III

Databases: Flat file, Relational, object-oriented databases, object Relational and Hypertext, Data life cycle, Database Technology, Database Architecture, Database Management Systems and Interfaces.

UNIT-IV

Sequence Alignment Algorithms: Biological motivations of sequence analysis, the models for sequence analysis and their biological motivation, global alignment, local alignment, End free-space alignment and gap penalty, Sequence Analysis tools and techniques.

UNIT-V

Phylogenetic Analysis: Introduction, methods of Phylogenetic analysis, distance methods, the neighbor- Joining (NJ) method, The Fitch/ Margoliash method, character-based methods, Other methods, Tree evaluation and problems in phylogenetic analysis,

1. Tarimele

2. Amal

3. Welf

Clustering, Protein structure visualization and Protein structure prediction.

TEXTBOOK:

1. S.C. Rastogi, N. Mendiratta, "Bioinformatics Methods and Applications", CBS Publications, 2004

2. James D. Tisdall, "Beginning Perl for Bioinformatics" O'Reilly Media, 1st Edition, 2001

Reference Books:

1. D.R. Westhead, J.H. Parish, "Bioinformatics" Viva books private limited, New Delhi (2003)
2. Att Wood, "Bio informatics" Pearson Education, 2004
3. Bryan Bergeron, M.D, "Bio informatics Computing" Pearson Education, 2003

1. Rastogi

2. Wood

3. Mell

4. Rastogi

5. Ramam

6. Lange

7. Kumar

8. Wu

9. Ray

10. Wu

11. Shah

12. Wu

13. A

14. A

15. B. Gauth

16. Rastogi

17. Wu

M.Tech. CSE

L T P C

I Year - II Semester

3 0 0 3

NATURE INSPIRED COMPUTING (Professional Elective-IV)**Course Objectives:**

- Knowledge on significance of intelligence, genetic algorithms Ant Colony algorithms

Course Outcomes: The student will learn

- Familiar with Genetic algorithm and its applications.
- Compare different Ant Colony Optimization algorithmic models.
- Compare different Artificial Bee Colony Optimization algorithmic models.
- Illustrate Particles swarm optimization algorithm with an example.

UNIT - I

Models of Life and Intelligence - Fundamentals of bio-inspired models and bio-inspired computing. Evolutionary models and techniques. Swarm models and its self-organization, swarm and evolutionary algorithms. Optimisation problems – single and multi-objective optimisation, heuristic, meta-heuristic and hyper heuristic functions.

UNIT – II

Genetic algorithms - Mathematical foundation, Genetic problem solving, crossover and mutation. genetic algorithms and Markov process, applications of genetic algorithms

UNIT – III

Ant Colony Algorithms - Ant colony basics, hybrid ant system, ACO in combinatorial optimisation, variations of ACO, case studies.

UNIT – IV

Particle Swarm algorithms - particles moves, particle swarm optimisation, variable length PSO, applications of PSO, case studies. Artificial Bee Colony algorithms-ABC basics, ABC in optimisation, multi-dimensional bee colony algorithms, applications of bee algorithms, case studies.

UNIT – V

Selected nature inspired techniques-Hill climbing, simulated annealing, Gaussian adaptation, Cuckoo search, Firey algorithm, SDA algorithm, bat algorithm, case studies. Other nature inspired techniques- Social spider algorithm, Cultural algorithms, Harmony search algorithm, Intelligent water drops algorithm, Artificial immune system, Flower pollination algorithm, case studies.

TEXTBOOK:

- 1 Albert Y. Zomaya-"Hand book of Nature-Inspired and Innovative Computing", Springer, 2006

1. Taimel2. Hand3. all.

2. Floreano, D. and C. Mattiussi - "Bio-Inspired Artificial Intelligence: Theories, methods, and Technologies" IT Press, 2008

Reference Books:

1. Leandro Nunes de Castro - "Fundamentals of Natural Computing, Basic Concepts, Algorithms and Applications", Chapman & Hall/ CRC, Taylor and Francis Group, 2007
2. Marco Dorigo, Thomas Stutzle - "Ant Colony Optimization", Prentice Hall of India, New Delhi, 2005
3. Vinod Chandra SS, An and HS - "Machine Learning: A Practitioner's Approach", Prentice Hall of India, New Delhi, 2020

1. Farimela

2. Harsh

3. Mall

4. Raj

5. Ramesh

6. Laxya

7. Suman

8. Divya

9. Raf

10. Yash

11. J. Shakti

12. M

13. A

14. A

15. B. Geetha

16. Radhika

17. Shruti

M.Tech. CSE

L T P C

I Year - II Semester

3 0 0 3

ROBOTIC PROCESS AUTOMATION (Professional Elective-IV)**Course Objectives:**

- Aim of the course is to make learners familiar with the concepts of Robotic Process Automation

Course Outcomes: The student will learn

- Describe RPA, where it can be applied and how it's implemented.
- Identify and understand Web Control Room and Client Introduction
- Understand how to handle various devices and the workload
- Understand Bot creators, Web recorders and task editors

UNIT - I:

Introduction to Robotic Process Automation & Bot Creation Introduction to RPA and Use cases– Automation Any where Enterprise Platform–Advanced features and capabilities– Ways to create Bots

UNIT – II

Web Control Room and Client Introduction- Features Panel-Dash board (Home, Bots, Devices, Audit, Workload, Insights) - Features Panel – Activity (View Tasks in Progress and Scheduled Tasks) - Bots (View Bots Uploaded and Credentials)

UNIT – III

Devices (View Development and Runtime Clients and Device Pools) - Workload (Queues and SLA Calculator) - Audit Log (View Activities Logged which are associated with Web CR) - Administration (Configure Settings, Users, Roles, License and Migration) - Demo of Exposed API's – Conclusion – Client introduction and Conclusion.

UNIT – IV

Bot Creator Introduction – Recorders – Smart Recorders – Web Recorders – Screen Recorders – Task Editor–Variables–Command Library–Loop Command–Excel Command–Database Command–String Operation Command- XML Command

UNIT – V

Terminal Emulator Command- PDF Integration Command-FTP Command-PGP Command-Object Cloning Command - Error Handling Command - Manage Windows Control Command - Workflow Designer - Report Designer

TEXTBOOK:

- 1 Learning Robotic Process Automation: Create Software robots and automate business processes with the leading RPA tool-Ui Path: Create Software robots. With the leading RPA tool – Ui Path Kindle Edition.

1. Tasmeb2. Harsh3. Ull

Reference Books:

1. Robotic Process Automation A Complete Guide-2020 Edition Kindle Edition

1. Taimel

2. Hand

3. Will

4. Ref

5. Romesh

6. Lasya

7. Sumar

8. Sum

9. Pat

10. gus

11. Shah

12. W

13. A

14. A

15. B. Geetha

16. Radhika

17. SP

M.Tech. CSE

L T P C

I Year - II Semester

0 0 4 2

ADVANCED ALGORITHMS LAB(Lab-III)**Course Objectives:**

- The student can able to attain knowledge in advanced algorithms..

Course Outcomes: The student will learn

- The student can able to attain knowledge in advanced algorithms.

List of Experiments

1. Implement assignment problem using Brute Force method
2. Perform multiplication of long integers using divide and conquer method.
3. Implement a solution for the knap sack problem using the Greedy method.
4. Implement Gaussian elimination method.
5. Implement LU decomposition
6. Implement War shall algorithm
7. Implement the Rabin Karp algorithm.
8. Implement the KMP algorithm.
9. Implement Har spool algorithm
10. Implement max-flow problem.

Text book

1. Design and Analysis of Algorithms, S.Sridhar, OXFORD University Press

Reference Books:

1. Introduction to Algorithms, second edition, T.H. Cormen, C.E. Leiserson, R.L. Rivest and C. Stein, PHI Pvt. Ltd./ Pearson Education.
2. Fundamentals of Computer Algorithms, Ellis Horowitz, Satraj Sahni and Rajasekharam, Universities Press.
3. Design and Analysis of algorithms, Aho, Ullman and Hopcroft, Pearson education

1. Taximala2. Hand3. Will4. Hand5. Ramella6. Lanya7. Sumar8. Hand9. Hand10. Hand11. Hand12. Hand13. Hand14. Hand15. Hand16. Hand17. Hand

M.Tech. CSE

L T P C

I Year - II Semester

0 0 4 2

ENTERPRISE CLOUD CONCEPTS LAB (Professional Elective-III Lab)**Course Objectives:**

- Knowledge on significance of cloud computing and its fundamental concepts and models.

Course Outcomes: The student will learn

- Understand importance of cloud architecture
- Illustrating the fundamental concepts of cloud security
- Analyze various cloud computing mechanisms
- Understanding the architecture and working of cloud computing.

List of Experiments

1. Install Virtual box/V M ware Work station with different flavors of linux or windows O S on top of windows7 or 8.
2. Install a C compiler in the virtual machine created using virtual box and execute Simple Programs
3. Install Google App Engine. Create a hello world app and other simple web applications using python/java..
4. Find a procedure to transfer the files from one virtual machine to another virtual machine.
5. Find a procedure to launch virtual machine using try stack (Online Open stack DemoVersion)
6. Install Hadoops in glenode cluster and run simple applications like word count.

E-Resources:

1. <https://www.iitk.ac.in/nt/faq/vbox.htm>
2. <https://www.google.com/urlsa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjqrNG0za73AhXZt1YBHZ21DWEQFnoECAMQAAQ&url=http%3A%2F%2Fwww.cs.columbia.edu%2F~sedwards%2Fclasses%2F2015%2F1102-fall%2Flinuxvm.pdf&usg=AOvVaw3xZPuF5xVgk-AQnBRsTtHz>
3. <https://www.cloudsimtutorials.online/cloudsim/>
4. <https://edwardsamuel.wordpress.com/2014/10/25/tutorial-creating-openstack-instance-intrystack/>
5. <https://www.edureka.co/blog/install-hadoop-single-node-hadoop-cluster>

1. Taxime
 2. Harsh
 3. Well
 4. Prasanna
 5. Ramesh
 6. hasya
 7. Suman
 8. Pranav
 9. Adarsh
 10. Arjun
 11. G. Shakti
 12. M. V. S.
 13. Pranav
 14. A
 15. B. Geetha
 16. R. D. S.
 17. Pranav

M.Tech. CSE

L T P C

I Year - II Semester

0 0 4 2

ADVANCED COMPUTER NETWORKS LAB (Professional Elective-III Lab)

Course Objectives:

- Understand and analyze the existing protocols
- Understand the use of network packet capturing tools

Course Outcomes: The student will learn

- Ability of acquiring the practical exposure to existing protocols.

List of Experiments

1. Implement the IP fragmentation and reassembly algorithm.
2. Implement the IP forwarding algorithm.
3. Implement the simplest sliding window protocol of TCP.
4. Connect two systems using a switch and configure private IP addresses to the systems and ping them from each other. Using Wire shark, capture packets and analyze all the header information in the packets captured.
5. Install Telnet on one of the systems connected by a switch and telnet to it from the other system. Using Wires hark, capture the packets and analyze the TCP 3-way Handshake for connection establishment and tear down.
6. Start packet capture in wire shark application and then open your web browser and type in an URL of the website of your choice. How long did it take from when the HTTP GET message was sent until the HTTP OK reply was received for the web page you visited in your web browser.

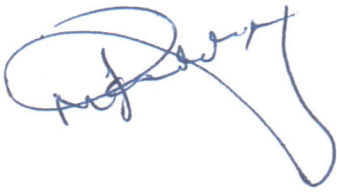
E-Resources:

1. <https://www.iitk.ac.in/nt/faq/vbox.htm>
2. <https://www.google.com/urlsa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKewjqrNG0za73AhXZt1YBHZ21DWEQFnoECAMQAAQ&url=http%3A%2F%2Fwww.cs.columbia.edu%2F~sedwards%2Fclasses%2F2015%2F1102-fall%2Flinuxvm.pdf&usg=AOvVaw3xZPuF5xVgk-AQnBRsTtHz>
3. <https://www.cloudsimtutorials.online/cloudsim/>
4. <https://edwardsamuel.wordpress.com/2014/10/25/tutorial-creating-openstack-instance-intrystack/>
5. <https://www.edureka.co/blog/install-hadoop-single-node-hadoop-cluster>

1. Taximelo

2. Amal

3. all

4. 

5. Romesh.

6. Laksh

7. Kumar

8. Sur

9. Das

10. giri

11. ghata

12. My

13. A

14. A

15. B. Goch

16.

17. By

EDGE ANALYTICS LAB (Professional Elective-III Lab)

Course Objectives:

- Understand the concept of edge computing
- Understand the Edge computing Architecture
- Implement the edge computing in IOT
- Understand the concept of multi-accessed computing 5. Implement edge computing in MEC

Course Outcomes: The student will learn

- Identify the benefits of edge computing
- Develop the micro services in io fog
- Develop user defined services in the edge
- Create use cases in IOT with edge computing
- Develop services in MEC
- Implement use cases in MEC

List of Experiments

1. Set up the Arduino IDE for ESP8266-12 module and program it to blink a LED light
2. Install at ion tools to create and manage ECN's
3. Deploy micro services and writing your own micro services
4. Set up the Communication Parameters
5. Implement any two Communications protocols
6. Deploy modules to a Windows IoT Edge device
7. Create an IoT hub.
8. Register an IoT Edge device to your IoT hub.
9. Install and start the IoT Edge for Linux on Windows run time on your device.
10. Remotely deploy a module to an IoT Edged and send telemetry.
11. Python based basic programs using Raspberry Pi.
12. Deploy a module Manage your Azure IoT Edge device from the cloud to deploy a module that sends telemetry data to IoT Hub.
13. Publishing Data using HTTP.
14. Sensor Interfacing and Logging using MQTT.
15. File IO Example- #Example code to demonstrate writing and reading data to/ from files
16. Write code to turn on one of the LEDs on the board (Bread board)

1. Taimel

2. Harsh

3. all.

Additional Exercises on IOT Edge Analytics Applications

17. Temperature Logger

18. Home Automation.

Text BOOK:

1. Hands-On Edge Analytics with Azure IoT: Design and develop IoT applications with edge analytical solutions including Azure IoT Edge by Colin Dow
2. Micro Python for the Internet of Things A Beginner's Guide to Programming with Python on Microcontroller, Charles Bell, A Press.

Reference books:

1. Learn Edge Analytics-Fundamentals of Edge Analytics: Automated analytics at source using Microsoft Azure by Ashish Mahajan
2. Peter Waher, "Mastering Internet of Things: Design and create your own IoT applications using Raspberry Pi 3", First Edition, Packt Publishing, 2018
3. John C. Shovic, "Raspberry Pi IoT Projects: Prototyping Experiments for Makers", Packt Publishing, 2016
4. Python for Microcontrollers: Getting Started with MicroPython Paperback - 16 December 2016, by Donald Norris, McGraw-Hill Education TAB
5. Programming with Micro Python: Embedded Programming with Micro controllers and Python, by Nicholas H. Tollervey, O'Reilly
6. R. Buyya, S.N. Srirama (2019), Fog and Edge Computing: Principles and Paradigms, Wiley- Blackwell, 2019.

1. Parimela

2. Amal

3. Mell

4. Raj

5. Ramesh

6. Laksh

7. Arjun

8. Divu

9. Raf

10. ji

11. G. Shah

12. M

13. A

14. R

15. B. G. G. G.

16. Rachin

17. Sty

M.Tech.
4th Year - II Semester

L	T	P	C
3	0	0	0

CONSTITUTION OF INDIA
(COMMON TO CSE, VLSI System Design)

Course Objectives: Students will be able to:

- Understand the premises informing the twin themes of liberty and freedom from a civil rights perspective.
- To address the growth of Indian opinion regarding modern Indian intellectuals' constitutional role and entitlement to civil and economic rights as well as the emergence of nationhood in the early years of Indian nationalism.
- To address the role of socialism in India after the commencement of the Bolshevik Revolution in 1917 and its impact on the initial drafting of the Indian Constitution.

Course Outcomes: Students will be able to:

- Discuss the growth of the demand for civil rights in India for the bulk of Indians before the arrival of Gandhi in Indian politics.
- Discuss the intellectual origins of the framework of argument that informed the conceptualization of social reforms leading to revolution in India.
- Discuss the circumstances surrounding the foundation of the Congress Socialist Party [CSP] under the leadership of Jawaharlal Nehru and the eventual failure of the proposal of direct elections through adult suffrage in the Indian Constitution.
- Discuss the passage of the Hindu Code Bill of 1956.

UNIT-I:

History of Making of the Indian Constitution: History Drafting Committee, (Composition & Working), Philosophy of the Indian Constitution: Preamble, Salient Features.

UNIT-II:

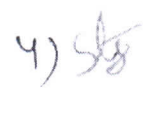
Contours of Constitutional Rights & Duties: Fundamental Rights Right to Equality, Right to Freedom, Right against Exploitation, Right to Freedom of Religion, Cultural and Educational Rights, Right to Constitutional Remedies, Directive Principles of State Policy, Fundamental Duties.

UNIT-III:

Organs of Governance: Parliament, Composition, Qualifications and Disqualifications, Powers and Functions, Executive, President, Governor, Council of Ministers, Judiciary, Appointment and Transfer of Judges, Qualification, Powers and Functions.

UNIT-IV:

Local Administration: District's Administration head: Role and Importance, Municipalities: Introduction, Mayor and role of Elected Representative, CEO of Municipal Corporation, Panchayati raj: Introduction, PRI: Zila Panchayat, Elected officials and their roles, CEO Zila Panchayat: Position and role, Block level: Organizational Hierarchy (Different departments), Village level: Role of Elected and Appointed officials, Importance of grass root democracy.

2)  3)  4)  5) Sridhar

UNIT-V:

Election Commission: Election Commission: Role and Functioning. Chief Election Commissioner and Election Commissioners. State Election Commission: Role and Functioning. Institute and Bodies for the welfare of SC/ST/OBC and women.

TEXT BOOKS/ REFERENCES:

1. The Constitution of India, 1950 (Bare Act), Government Publication.
2. Dr. S. N. Busi, Dr. B. R. Ambedkar framing of Indian Constitution, 1st Edition, 2015.
3. M. P. Jain, Indian Constitution Law, 7th Edn., Lexis Nexis, 2014.
4. D.D. Basu, Introduction to the Constitution of India, Lexis Nexis, 2015.

2)

~~Q~~ 3) S.H.

4)

st

5) Sridhar

1) A.S.

6)

Singh

7)

Shankar

8)

Neha

9)

Mur

10)

Shr

11)

Shr

Annexure

VIII

M.Tech. CSE	L	T	P	C
II Year - I Semester	3	0	0	3

DIGITAL FORENSICS (Professional Elective - V)

Course Objectives:

1. provides an in-depth study of the rapidly changing and fascinating field of computer forensics.
2. Combines both the technical expertise and the knowledge required to investigate, detect and prevent digital crimes.
3. Knowledge on digital forensics legislations, digital crime, forensics processes and procedures, data acquisition and validation, e-discovery
4. E-evidence collection and preservation, investigating operating systems and file systems, network forensics, art of steganography and mobile device forensics

Course Outcomes: The student will learn

1. Understand relevant legislation and codes of ethics.
2. Computer forensics and digital detective and various processes, policies and procedures.
3. E-discovery, guidelines and standards, E-evidence, tools and environment.
4. Email and web forensics and network forensics.

UNIT-I:

Digital Forensics Science: Forensics science, computer forensics, and digital forensics.

Computer Crime: Criminalistics as it relates to the investigative process, analysis of cyber criminalistics area, holistic approach to cyber-forensics

UNIT – II:

Cyber Crime Scene Analysis: Discuss the various court orders etc., methods to search and seizure electronic evidence, retrieved and un-retrieved communications, Discuss the importance of understanding what court documents would be required for a criminal investigation.

UNIT – III:

Evidence Management & Presentation: Create and manage shared folders using operating system, importance of the forensic mindset, define the workload of law enforcement, Explain what the normal case would look like, Define who should be notified of a crime, parts of gathering evidence, Define and apply probable cause.

UNIT – IV:

Computer Forensics: Prepare a case, Begin an investigation, Understand computer forensics workstations and software, Conduct an investigation, Complete a case, Critique a case, **Network Forensics:** open-source security tools for network forensic analysis, requirements for preservation of network data.

1. Farinelo

2. Farinelo

3. Farinelo

UNIT- V:

Mobile Forensics: mobile forensics techniques, mobile forensics tools.

Legal Aspects of Digital Forensics: IT Act 2000, amendment of IT Act 2008.

Recent trends in mobile forensic technique and methods to search and seizure electronic evidence

TEXTBOOK:

1. John Sammons, The Basics of Digital Forensics, Elsevier
2. John Vacca, Computer Forensics: Computer Crime Scene Investigation, Laxmi Publications

Reference Books:

1. William Oettinger, Learn Computer Forensics: A beginner's guide to searching, analyzing, and securing digital evidence, Packt Publishing; 1st edition (30 April 2020), ISBN: 1838648178.
2. Thomas J. Holt, Adam M. Bossler, Kathryn C. Seigfried-Spellar, Cybercrime and Digital Forensics: An Introduction, Routledge.

1. Taximale

2. Harsh

3. Mell

4. Prasanna

5. Ramath

6. Laxmi

7. Kumar

8. Sum

9. Raj

10. gins

11. Ghalib

12. W

13. A

14. A

15. B. G. G. G.

17. Tal

M.Tech. CSE

L T P C

II Year - I Semester

3 0 0 3

HIGH PERFORMANCE COMPUTING (Professional Elective - V)**Course Objectives:**

1. To Improve the system performance
2. To learn various distributed and parallel computing architecture
3. To learn different computing technologies

Course Outcomes: The student will learn

1. Understanding the concepts in grid computing
2. Ability to set up cluster and run parallel applications
3. Ability to understand the cluster projects and cluster OS
4. Understanding the concepts of pervasive computing & quantum computing.

UNIT-I:

Grid Computing: Data & Computational Grids, Grid Architectures And Its Relations To Various Distributed Technologies. Autonomic Computing, Examples Of The Grid Computing Efforts (IBM).

UNIT – II:

Cluster Computing at a Glance: Introduction, A Cluster Computer and its Architecture, Cluster Classifications, Commodity Components for clusters, Network Services/Communication SW, Cluster Middleware and SSI, RMS, Programming Environments and Tools, Cluster Applications.

Lightweight Messaging Systems: Introduction, Latency Bandwidth Evaluation of Communication performance, Traditional Communication Mechanisms for clusters, Lightweight Communication Mechanisms.

UNIT – III:

Job and Resource Management Systems: Need of Job management, Components and Architecture.

Scheduling Parallel Jobs on Clusters: Introduction, Rigid Jobs with process migration, Malleable Jobs with Dynamic Parallelism, Communication-Based Coscheduling, Batch Scheduling.

Cluster Operating Systems: COMPaS.

UNIT – IV:

Pervasive Computing Concepts & Scenarios: Hardware & Software; Human – Machine Interface.

Device Connectivity: Java For Pervasive Devices; Application Examples.

1. Parimal2. Harsh3. Mallik

UNIT- V:

Classical Vs Quantum Logic Gates: One, Two & Three Qubit Quantum Gates; Fredkin & Toffoli Gates; Quantum Circuits; Quantum Algorithms.

TEXTBOOK:

1. Grid Computing, J. Joseph & C. Fellenstien, Pearson Education
2. High Performance Cluster Computing, Raj kumar Buyya, pearson Education.
3. Pervasive Computing, J. Burkhardt et.al, Pearson Education
4. Approaching Quantum Computing Marivesar, Pearson Education.

Reference Books:

1. The Grid 2: Blue Print for a New Computing Infrastructure, Ian Foster and Carl Kesselman, 2nd Edition, The Elsevier Series.
2. Quantum computing and Quantum Information, Neilsen & Chung L, Cambridge University Press.
3. A networking approach to Grid Computing, Minoli, Wiley

1. Tannale

2. Harsh

3. Will

4. Prasanna

5. Rameth

6. Laxya

7. Kumar

8. Shruti

9. Raj

10. Shruti

11. G. Shalika

12. Shruti

13. A

14. A

15. B. Gupta

17. Shruti

M.Tech. CSE

L T P C

II Year - I Semester

3 0 0 3

QUANTUM COMPUTING (Professional Elective - V)**Course Objectives:**

1. To introduce the fundamentals of quantum computing
2. The problem-solving approach using finite dimensional mathematics

Course Outcomes: The student will learn

1. Understand basics of quantum computing
2. Understand physical implementation of Qubit
3. Understand Quantum algorithms and their implementation
4. Understand The Impact of Quantum Computing on Cryptography

UNIT-I:

Introduction to Essential Linear Algebra: Some Basic Algebra, Matrix Math, Vectors and Vector Spaces, Set Theory.

Complex Numbers: Definition of Complex Numbers, Algebra of Complex Numbers, Complex Numbers Graphically, Vector Representations of Complex Numbers, Pauli Matrices, Transcendental Numbers.

UNIT – II:

Basic Physics for Quantum Computing: The Journey to Quantum, Quantum Physics Essentials, Basic Atomic Structure, Hilbert Spaces, Uncertainty, Quantum States, Entanglement

Basic Quantum Theory: Further with Quantum Mechanics, Quantum Decoherence, Quantum

Electrodynamics, Quantum Chromodynamics, Feynman Diagram Quantum Entanglement and QKD, Quantum Entanglement, Interpretation, QKE

UNIT – III:

Quantum Architecture: Further with Qubits, Quantum Gates, More with Gates, Quantum Circuits, The D-Wave Quantum Architecture.

Quantum Hardware: Qubits, How Many Qubits Are Needed? Addressing Decoherence, Topological Quantum Computing, Quantum Essentials.

UNIT – IV:

Quantum Algorithms: What Is an Algorithm? Deutsch's Algorithm, Deutsch-Jozsa Algorithm, Bernstein-Vazirani Algorithm, Simon's Algorithm, Shor's Algorithm, Grover's Algorithm.

1. Tasimela

2. Hani

3. Melli

UNIT- V:

Current Asymmetric Algorithms: RSA, Diffie-Hellman, Elliptic Curve

The Impact of Quantum Computing on Cryptography: Asymmetric Cryptography, Specific Algorithms, Specific Applications

TEXTBOOK:

1. Nielsen M. A., Quantum Computation and Quantum Information, Cambridge University Press
2. Dr. Chuck Easttom, Quantum Computing Fundamentals, Pearson

Reference Books:

1. Quantum Computing for Computer Scientists by Noson S. Yanofsky and Mirco A. Mannucci
2. Benenti G., Casati G. and Strini G., Principles of Quantum Computation and Information, Vol. Basic Concepts, Vol
3. Basic Tools and Special Topics, World Scientific. Pittenger A. O., An Introduction to Quantum Computing Algorithms

1. Taimel

2.

Hand

3. Mell

4. Ref

5. Renneth

6. Laszlo

7. Sumar

8. Wm

9. Ref

10. Ref

11. Ghalib

12. Ref

13. A

14. A

15. B. G. G. G.

16. Bachus

17. Ref

M.Tech (CSE)

II Year - I Semester

L	T	P	C
3	0	0	3

Intellectual Property Rights (Open Elective)

Course Objectives:

- To explain the art of interpretation and documentation of research work.
- To explain various forms of intellectual property rights.
- To discuss leading international regulations regarding Intellectual Property Rights.

Course Outcomes: Upon the Successful Completion of the Course, the Students would be able to

- Understand types of Intellectual Property.
- Analyze trademarks and its functionality.
- Illustrate law of copyrights and law of patents.

UNIT-I:

Introduction to Intellectual property: Introduction, types of intellectual property, international organizations, agencies and treaties, importance of intellectual property rights.

UNIT-II:

Trademarks: Purpose and function of trademarks, acquisition of trademark rights, protectable matter, selecting, and evaluating trade mark, trade mark registration processes.

UNIT-III:

Law of copyrights: Fundamental of copyright law, originality of material, rights of reproduction, rights to perform the work publicly, copy right ownership issues, copy right registration, notice of copy right, international copy right law.

Law of patents: Foundation of patent law, patent searching process, ownership rights and transfer.

UNIT-IV:

Trade Secrets: Trade secret law, determination of trade secrete status, liability for misappropriations of trade secrets, protection for submission, trade secrete litigation.

Unfair competition: Misappropriation right of publicity, false advertising.

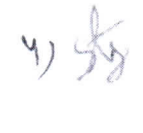
UNIT-V:

New development of intellectual property: new developments in trade mark law; copy right law, patent law, intellectual property audits.

International overview on intellectual property, international – trade mark law, copy right law, international patent law, and international development in trade secrets law.

Text Books & References:

1. Intellectual property right, Deborah. E. Bouchoux, Cengage learning.
2. Intellectual property right - Unleashing the knowledge economy, Prabuddha ganguli, Tata McGraw Hill Publishing company ltd.

2)  3)  4)  5) Sridhar

M.Tech.CSE

L T P C

II Year - I Semester

3 0 0 3

FAULT TOLERANCE SYSTEMS (Open Elective)

Course Objectives:

1. To know the different advantages and limits of fault avoidance and fault tolerance techniques.
2. To impart the knowledge about different types of redundancy and its application for the design of computer system being able to function correctly even under presence of faults and data errors.
3. To understand the relevant factors in evaluating alternative system designs for a specific set of requirements.
4. To understand the subtle failure modes of "fault-tolerant" distributed systems.

Course Outcomes: Upon the Successful Completion of the Course, the Students would be able to:

1. Become familiar with general and state of the art techniques used in design and analysis of fault tolerant digital systems.
2. Be familiar with making system fault tolerant, modeling and testing, and benchmarking to evaluate and compare systems.

UNIT - I

Introduction to Fault Tolerant Computing: Basic concepts and overview of the course; Faults and their manifestations, Fault/error modeling, Reliability, availability and maintainability analysis, System evaluation, performance reliability tradeoffs.

UNIT - II

System level fault diagnosis: Hardware and software redundancy techniques. Fault tolerant system design methods, Mobile computing and Mobile communication environment, Fault injection methods.

UNIT - III

Software fault tolerance: Design and test of defect free integrated circuits, fault modeling, built in self test, data compression, error correcting codes, simulation software/hardware, fault tolerant system design, CAD tools for design for testability..

UNIT - IV

Information Redundancy and Error Correcting Codes: Software Problem. Software Reliability Models and Robust Coding Techniques, Reliability in Computer Networks Time redundancy. Re execution in SMT, CMP Architectures, Fault Tolerant Distributed Systems, Data replication..

UNIT - V

Case Studies in FTC: ROC, HP Non-Stop Server. Case studies of fault tolerant systems and current research issues.

TEXT BOOK:

1. Fault Tolerant Computer System Design by D. K. Pradhan, Prentice Hall.

1. Prasimela

2. Prasimela

3. Prasimela

REFERENCES:

1. Fault Tolerant Systems by I. Koren, Morgan Kauffman.
2. Software Fault Tolerance Techniques and Implementation by L. L. Pullum, Artech House Computer Security Series.
3. Reliability of Computer Systems and Networks: Fault Tolerance Analysis and Design by M. L. Shooman, Wiley.

1. Taxime

2. Hunt

3. Wiley

4. Ref

5. Rometh

6. Lasfer

7. Kumar

8. Winn

9. Ref

10. Ref

11. G. Ghahary

12. Ref

13. A

14. A

15. B. Gauthier

16. Bachus

17. Sty

M.Tech.CSE

L T P C

II Year - I Semester

3 0 0 3

INTRUSION DETECTION SYSTEMS (Open Elective)

Course Objectives:

1. Compare alternative tools and approaches for Intrusion Detection through quantitative analysis to determine the best tool or approach to reduce risk from intrusion.
2. Identify and describe the parts of all intrusion detection systems and characterize new and emerging IDS technologies according to the basic capabilities all intrusion detection systems share.

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

1. Possess a fundamental knowledge of Cyber Security.
2. Understand what vulnerability is and how to address most common vulnerabilities.
3. Know basic and fundamental risk management principles as it relates to Cyber Security and Mobile Computing.
4. Have the knowledge needed to practice safer computing and safeguard your information using Digital Forensics.
5. Understand basic technical controls in use today, such as firewalls and Intrusion Detection systems.
6. Understand legal perspectives of Cyber Crimes and Cyber Security.

UNIT - I

The state of threats against computers, and networked systems-Overview of computer security solutions and why they fail-Vulnerability assessment, firewalls, VPN's -Overview of Intrusion Detection and Intrusion Prevention, Network and Host-based IDS

UNIT - II

Classes of attacks - Network layer: scans, denial of service, penetration Application layer: software exploits, code injection-Human layer: identity theft, root access-Classes of attackers-ids/hackers/sop Hesitated groups-Automated: Drones, Worms, Viruses.

UNIT - III

A General IDS model and taxonomy, Signature-based Solutions, Snort, Snort rules, Evaluation of IDS, Cost sensitive IDS.

UNIT - IV

Anomaly Detection Systems and Algorithms-Network Behavior Based Anomaly Detectors (rate based)-Host-based Anomaly Detectors-Software Vulnerabilities-State transition, Immunology, Payload Anomaly Detection.

UNIT - V

Attack trees and Correlation of alerts- Autopsy of Worms and Botnets-Malware detection -Obfuscation, polymorphism- Document vectors. Email/IM security issues-Viruses/Spam- From signatures to thumbprints to zero-day detection-Insider Threat issues-Taxonomy- Masquerade and Impersonation Traitors, Decoys and Deception-Future: Collaborative Security.

1. Rasimela

2. Hand

3. all

TEXT BOOK:

1. Peter Szor, The Art of Computer Virus Research and Defense, Symantec Press
ISBN 0-321-30545-3.
2. Markus Jakobsson and Zulfikar Ramzan, Crimeware, Understanding New Attacks and Defenses.

REFERENCE BOOKS:

1. Saiful Hasan, Intrusion Detection System, Kindle Edition.
2. Ankit Fadia, Intrusion Alert: An Ethical Hacking Guide to Intrusion Detection..

1. Taximela

2. Amal

3. Will

4. Aditya

5. Remeth

6. Lasyle

7. Kumar

8. Amr

9. Raj

10. gins

11. Ghalib

12. W

13. A

14. A

15. B. G. the

16. Bachus

17. Sty

M.Tech. CSE

L T P C

II Year - I Semester

3 0 0 3

DIGITAL FORENSICS (Professional Elective - V)**Course Objectives:**

1. provides an in-depth study of the rapidly changing and fascinating field of computer forensics.
2. Combines both the technical expertise and the knowledge required to investigate, detect and prevent digital crimes.
3. Knowledge on digital forensics legislations, digital crime, forensics processes and procedures, data acquisition and validation, e-discovery
4. E-evidence collection and preservation, investigating operating systems and file systems, network forensics, art of steganography and mobile device forensics

Course Outcomes: The student will learn

1. Understand relevant legislation and codes of ethics.
2. Computer forensics and digital detective and various processes, policies and procedures.
3. E-discovery, guidelines and standards, E-evidence, tools and environment.
4. Email and web forensics and network forensics.

UNIT-I:**Digital Forensics Science:** Forensics science, computer forensics, and digital forensics.**Computer Crime:** Criminalistics as it relates to the investigative process, analysis of cyber criminalistics area, holistic approach to cyber-forensics**UNIT – II:****Cyber Crime Scene Analysis:** Discuss the various court orders etc., methods to search and seizure electronic evidence, retrieved and un-retrieved communications, Discuss the importance of understanding what court documents would be required for a criminal investigation.**UNIT – III:****Evidence Management & Presentation:** Create and manage shared folders using operating system, importance of the forensic mindset, define the workload of law enforcement, Explain what the normal case would look like, Define who should be notified of a crime, parts of gathering evidence, Define and apply probable cause.**UNIT – IV:****Computer Forensics:** Prepare a case, Begin an investigation, Understand computer forensics workstations and software, Conduct an investigation, Complete a case, Critique a case, **Network Forensics:** open-source security tools for network forensic analysis, requirements for preservation of network data.

1. Traximele

2. H-L

3. M.L.L.

4. Ref

5. Romem

6. Lady

7. Sumar

8. Qun

9. Ref

10. gin

11. Shah

12. W

13. A

14. A

15. B G

16. Bar

17. G

UNIT- V:

Mobile Forensics: mobile forensics techniques, mobile forensics tools.

Legal Aspects of Digital Forensics: IT Act 2000, amendment of IT Act 2008.

Recent trends in mobile forensic technique and methods to search and seizure electronic evidence

TEXTBOOK:

1. John Sammons, The Basics of Digital Forensics, Elsevier
2. John Vacca, Computer Forensics: Computer Crime Scene Investigation, Laxmi Publications

Reference Books:

1. William Oettinger, Learn Computer Forensics: A beginner's guide to searching, analyzing, and securing digital evidence, Packt Publishing; 1st edition (30 April 2020), ISBN: 1838648178.
2. Thomas J. Holt, Adam M. Bossler, Kathryn C. Seigfried-Spellar, Cybercrime and Digital Forensics: An Introduction, Routledge.

1. Taximele

2. WHL

3. WHL

4. WHL

5. WHL

6. WHL

7. WHL

8. WHL

9. WHL

10. WHL

11. WHL

12. WHL

13. WHL

14. WHL

15. WHL

16. WHL

17. WHL

M.Tech (CSE)
II Year - I Semester

L	T	P	C
3	0	0	3

Optimization Techniques (Open Elective)

Course Objectives:

- To introduce various optimization techniques i.e. classical, linear programming, transportation problem, simplex algorithm, dynamic programming
- Constrained and unconstrained optimization techniques for solving and optimizing electrical and electronic engineering circuits design problems in real world situations.
- To explain the concept of Dynamic programming and its applications to project implementation.

Course Outcomes: After completion of this course, the student will be able to

- Explain the need of optimization of engineering systems.
- Understand optimization of electrical and electronics engineering problems.
- Apply classical optimization techniques, linear programming, simplex algorithm, transportation problem.
- Apply unconstrained optimization and constrained non-linear programming and dynamic programming.
- Formulate optimization problems.

UNIT-I:

Introduction and Classical Optimization Techniques: Statement of an Optimization problem – design vector – design constraints – constraint surface – objective function – objective function surface – classification of optimization problems.

Linear Programming: Standard form of a linear programming problem – geometry of linear programming problems – definitions and theorems – solution of a system of linear simultaneous equations – pivotal reduction of a general system of equations – motivation to the simplex method – simplex algorithm.

UNIT-II:

Transportation Problem: Finding initial basic feasible solution by north – west corner rule, least cost method and Vogel's approximation method – testing for optimality of balanced transportation problems. Degeneracy.

Assignment problem – Formulation – Optimal solution – Variants of Assignment Problem; Traveling Salesman problem

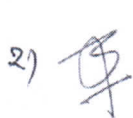
UNIT-III:

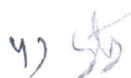
Classical Optimization Techniques: Single variable Optimization – multivariable Optimization without constraints – necessary and sufficient conditions for minimum/maximum – multivariable Optimization with equality constraints: Solution by method of Lagrange multipliers – Multivariable Optimization with inequality constraints: Kuhn – Tucker conditions.

Single Variable Nonlinear Unconstrained Optimization: Elimination methods: Uni Model function – its importance, Fibonacci method & Golden section method.

UNIT-IV:

Multi variable nonlinear unconstrained optimization: Direct search methods – Univariate method, Pattern search methods – Powell's, Hooke-Jeeves, Rosenbrock's search methods, Gradient methods: Gradient of function & its importance, Steepest

2)  3) 

4) 

5) Sridhar

descent method. Conjugate direction methods: Fletcher- Reeves method & variable metric method.

UNIT-V:

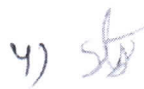
Dynamic Programming: Dynamic programming multistage decision processes – types – concept of sub optimization and the principle of optimality – computational procedure in dynamic programming – examples illustrating the calculus method of solution - examples illustrating the tabular method of solution.

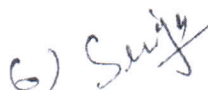
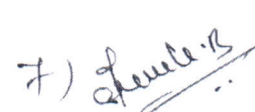
Text Books:

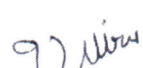
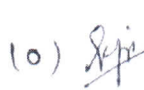
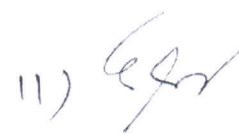
1. Optimization Techniques & Applications by S.S. Rao, New Age International.
2. Optimization for Engineering Design by Kalyanmoy Deb, PHI

Reference Books:

1. George Bernard Dantzig, Mukund Narain Thapa, "Linear programming", Springer series in Operations Research 3rd edition, 2003.
2. H.A.Taha, "Operations Research: An Introduction", 8th Edition, Pearson/Prentice Hall, 2007.
3. Optimization Techniques by Belegundu & Chandrupatla, Pearson Asia.
4. Optimization Techniques Theory and Practice by M. C. Joshi, K. M. Moudgalaya, Narosa Publications.

2)  3)  4)  5) Sridhar

1)  6)  7)  8) 

9)  10)  11) 

M.Tech. CSE

L T P C

II Year - I Semester

3 0 0 3

GRAPH ANALYTICS (Open Elective)

Course Objectives:

1. To explore the concept of Graphs and related algorithms.
2. To learn new ways to model, store, retrieve and analyze graph-structured data.
3. To be aware of advanced concepts in graph analytic techniques and its applications.
1. **Course Outcomes:** Upon the Successful Completion of the Course, the Students would be able to:
 2. Understand Large-scale Graph and its Characteristics
 3. Analyze Breadth-First Search Algorithm
 4. Illustrate Recent Advances in Scalable Network Generation

UNIT - I

Introduction and Application of Large-scale Graph: Characteristics, Complex Data Sources – Social Networks, Simulations, Bioinformatics; Categories- Social, Endorsement, Location, Co-occurrence graphs; Graph Data structures, Parallel, Multicore and Graph Algorithms

UNIT – II Algorithms: Search and Paths

A Work-Efficient Parallel Breadth-First Search Algorithm (or How To Cope With the Non determinism of Reducers), Multi-Objective Shortest Paths

UNIT - III Algorithms: Structure

Multicore Algorithms for Graph Connectivity Problems, Distributed Memory Parallel Algorithms for Massive Graphs, Massive-Scale Distributed Triangle Computation and Applications

UNIT - IV

Models

Recent Advances in Scalable Network Generation, Computational Models for Cascades in Massive Graphs, Executing Dynamic Data-Graph Computations Deterministically Using Chromatic Scheduling.

UNIT - V

Frameworks and Software

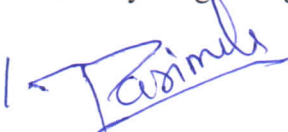
Graph Data Science Using Neo4j, A Cloud-Based Approach to Big Graphs, Interactive Graph Analytics at Scale in Arkouda..

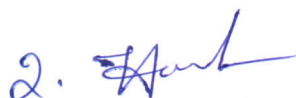
TEXT BOOK:

1. David A. Bader, Massive Graph Analytics, CRC Press

REFERENCES:

- Stanley Wasserman, Katherine Faust, "Social Network Analysis: Methods and Applications", (Structural Analysis in the Social Sciences), Cambridge University Press, 1995.
2. Matthew O. Jackson, "Social and Economic Networks", Princeton University Press, 2010.
3. Tanja Falkowski, "Community Analysis in Dynamic Social Networks", (Dissertation), University Magdeburg, 2009..

1. 

2. 

3. 

4. 

5. Ramesh

6. Lasya

7. Shemar

8. Dnn

9. 

10. jin

11. Shahis

12. 

13. 

14. 

15. B. Gethu

16. Bachu

17. 

M.Tech.CSE

L T P C

II Year - I Semester

3 0 0 3

CYBER PHYSICAL SYSTEMS (Open Elective)

1. **Course Objective:** To learn about design of cyber-physical systems

Course Outcomes: Upon the Successful Completion of the Course, the Students would be able to:

1. Understand the core principles behind CPS
2. Identify Security mechanisms of Cyber physical systems
2. Understand Synchronization in Distributed Cyber-Physical Systems.

UNIT - I

Symbolic Synthesis for Cyber-Physical Systems

Introduction and Motivation, Basic Techniques - Preliminaries, Problem Definition, Solving the Synthesis Problem, Construction of Symbolic Models, Advanced Techniques: Construction of Symbolic Models, Continuous-Time Controllers, Software Tools

UNIT - II

Security of Cyber-Physical Systems

Introduction and Motivation, Basic Techniques - Cyber Security Requirements, Attack Model, Countermeasures, Advanced Techniques: System Theoretic Approaches

UNIT - III

Synchronization in Distributed Cyber-Physical Systems: Challenges in Cyber-Physical Systems, A Complexity-Reducing Technique for Synchronization, Formal Software Engineering, Distributed Consensus Algorithms, Synchronous Lockstep Executions, Time-Triggered Architecture, Related Technology, Advanced Techniques

UNIT - IV

Real-Time Scheduling for Cyber-Physical Systems

Introduction and Motivation, Basic Techniques - Scheduling with Fixed Timing Parameters, Memory Effects, Multiprocessor/Multicore Scheduling, Accommodating Variability and Uncertainty

UNIT - V

Model Integration in Cyber-Physical Systems

Introduction and Motivation, Causality, Semantic Domains for Time, Interaction Models for Computational Processes, Semantics of CPS DSMLs, Advanced Techniques, ForSpec, The Syntax of CyPhyML, Formalization of Semantics, Formalization of Language Integration

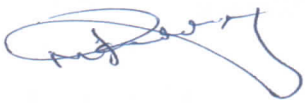
TEXT BOOK:

1. Raj Rajkumar, Dionisio De Niz, and Mark Klein, Cyber-Physical Systems, Addison-Wesley Professional.
2. Rajeev Alur, Principles of Cyber-Physical Systems, MIT Press, 2015

1. Paimeh

2. Hand

3. all

4. 

5. Remem.

6. Lasya

7. Kumar

8. Dur

9. 

10. giri

11.

12. 

13. 

14. 

15. B. Gatha

16. Daksh

17. 

Annexure

IX



VIGNAN'S INSTITUTE OF MANAGEMENT AND TECHNOLOGY FOR WOMEN

(An Autonomous Institution)

[Sponsored by Lavu Educational Society, Affiliated to JNTUH & Approved by AICTE, New Delhi]
Kondapur (V), Ghatkesar (M), Medchal - Malkajgiri (D) - 501 301. Phone: 96529 10002/3



Nominated Faculty List for Paper setting and Evaluation

M.Tech- Year: I

Semester: I

Exam (Reg/Supply):Regular

Name of the Subject : M.Tech(Mathematical Foundations of Computer Science)

S.NO	Name of the Faculty	Designation	College Working In	Total Experience	No of Times taught	Mobile No	e-mail Id
1	Dr G Madhukar	Associate Professor	CMR Technical Campus	12	4	9246456780	madhu.mani536@gmail.com
2	Dr.Ravindra Changala	Associate Professor	Guru Nanak Institutions Technical Campus	18	18	9666205205	changalaravindra@gmail.com
3	Dr.KUMBALA PRADEEP REDDY	Professor	CMR INSTITUTE OF TECHNOLOGY	20	2	9848843987	pradeep529@gmail.com
4	Dr.K. RUBENRAJU	Associate Professor	Malla Reddy University	14	5	9959555554	drkasapaka.rubenraju@mallareddyuniversity.ac.in
5	Dr.UGENDHAR ADDAGATLA	Associate Professor	MVSR ENGINEERING COLLEGE	21	6	9989139690	ugendhar2008@gmail.com
6	Dr.B REBECCA	Associate Professor	Marri Laxman Reddy Institute of Technology and Management	15	5	9393089988	baderebecca@yahoo.co.in
7	Mrs.Etikala Aruna	Assistant Professor	Teegala Krishna Reddy engineering College	12	7	9959362469	aruna.katta06@gmail.com
8	Mr.vazralu Munnangi	Associate Professor	Mallareddy college of engineering and technology	19	3	7337423962	mvazralu1206@gmail.com


Chairman-BOS



VIGNAN'S INSTITUTE OF MANAGEMENT AND TECHNOLOGY FOR WOMEN

(An Autonomous Institution)

[Sponsored by Lavu Educational Society, Affiliated to JNTUH & Approved by AICTE, New Delhi]
Kondapur (V), Ghatkesar (M), Medchal - Malkajgiri (D) - 501 301. Phone: 96529 10002/3



Nominated Faculty List for Paper setting and Evaluation

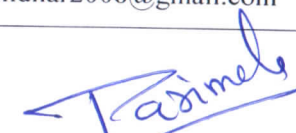
M.Tech- Year: I

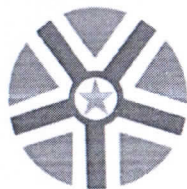
Semester: II

Exam (Reg/Supply):Regular

Name of the Subject : M.Tech(Robotic Process Automation)

S.NO	Name of the Faculty	Designation	College Working In	Total Experience	No of Times taught	Mobile No	e-mail Id
1	Dr.Raghu Kumar Lingamallu	Associate Professor	KG Reddy College of Engineering and Technology	15	2	9490244991	lrgupta528@gmail.com
2	Dr.C.V.P.R.PRASAD	Professor	Malla Reddy Engineering College for Women	25	5	7386200587	prasadcvpr@gmail.com
3	Dr G Madhukar	Associate Professor	CMR Technical Campus	12	4	9246456780	madhukar.cse@cmrtc.ac.in
4	Dr G Madhukar	Associate Professor	CMR Technical Campus	12	4	9246456780	madhu.mani536@gmail.com
5	Mr.Korukonda Manimala	Assistant Professor	CMRIT	11	2	9573891077	Kmanimala226@gmail.com
6	Dr.Ravindra Changala	Associate Professor	Guru Nanak Institutions Technical Campus	18	18	9666205205	changalaravindra@gmail.com
7	Dr.Kumbala Pradeep Reddy	Professor	CMR INSTITUTE OF TECHNOLOGY	20	2	9848843987	pradeep529@gmail.com
8	Dr.K. Rubenraju	Associate Professor	Malla Reddy University	14	5	9959555554	drkasapaka.rubenraju@mallareddyuniversity.ac.in
9	Dr.Ugendhar Addagatla	Associate Professor	MVSR ENGINEERING COLLEGE	21	6	9989139690	ugendhar2008@gmail.com


Chairman-BOS



VIGNAN'S INSTITUTE OF MANAGEMENT AND TECHNOLOGY FOR WOMEN

(An Autonomous Institution)

[Sponsored by Lavu Educational Society, Affiliated to JNTUH & Approved by AICTE, New Delhi]
Kondapur (V), Ghatkesar (M), Medchal - Malkajgiri (D) - 501 301. Phone: 96529 10002/3



Nominated Faculty List for Paper setting and Evaluation

M.Tech- Year: I

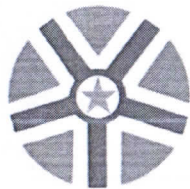
Semester: II

Exam (Reg/Supply):Regular

Name of the Subject : M.Tech(Enterprise Cloud Concepts)

S.NO	Name of the Faculty	Designation	College Working In	Total Experience	No of Times taught	Mobile No	e-mail Id
1	Dr.B Rebecca	Associate Professor	Marri Laxman Reddy Institute of Technology and Management	15	5	9393089988	baderebecca@yahoo.co.in
2	Mrs.Etikala Aruna	Assistant Professor	Teegala Krishna Reddy engineering College	12	7	9959362469	aruna.katta06@gmail.com
3	Mr.vazralu Munnangi	Associate Professor	Mallareddy college of engineering and technology	19	3	7337423962	mvazralu1206@gmail.com
4	Mr.G Krishna Lava Kumar	Associate Professor	Geethanjali College of Engineering and Technology	18	6	8985676607	lavakumar.gopu@gmail.com
5	Mrs.M.Kavitha	Associate Professor	Sridevi Women's Engineering College	18	03	8790392639	kavithareddy2414@gmail.com
6	Dr.Syed Thayyab Hussain	Assistant Professor	Sreenidhi Institution of science and technology	11.1	7	9700180047	thayyab.s@sreenidhi.edu.in
7	Mrs.Arshia Tabassum	Assistant Professor	Sreenidhi Institute Of Science and Technology	11	6	9573935854	arshia.t@sreenidhi.edu.in
8	Dr.Mrutyunjaya S Yalawar	Assistant Professor	CMR ENGINEERING COLLEGE, HYDERABAD	9	5	8884755151	Muttusy@gmail.com
9	Mr.Nageswara Rao Gottipati	Associate Professor	Sasi Institute of Technology & Engineering	24	6	7013658295	rao.nageswara@gmail.com


Chairman-BOS



VIGNAN'S INSTITUTE OF MANAGEMENT AND TECHNOLOGY FOR WOMEN

(An Autonomous Institution)

[Sponsored by Lavu Educational Society, Affiliated to JNTUH & Approved by AICTE, New Delhi]
Kondapur (V), Ghatkesar (M), Medchal - Malkajgiri (D) - 501 301. Phone: 96529 10002/3



Nominated Faculty List for Paper setting and Evaluation

B.Tech- Year: I

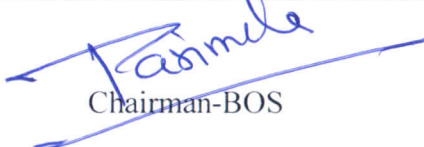
Semester: I

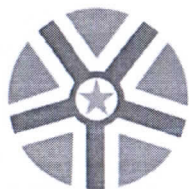
Exam (Reg/Supply):

Name of the Subject : Programming and Problems Solving

S.NO	Name of the Faculty	Designation	College Working In	Total Experience	No of Times taught	Mobile No	e-mail Id
1	Mrs.Manjusha kalekuri	Assistant Professor	Muffakham Jah College of Engineering and Technology	24	20	8885771333	manjusha@mjcollege.ac.in
2	Dr.Naresh Madavarapu	Associate Professor	St. Peter's Engineering College	14	6	9030986383	nareshcho234@stpetershys.com
3	Dr.C Veena	Professor	PVKK Institute of technology	14	5	8125233081	cveena3077@gmail.com
4	Mr.UMMADISETTY NARASIMHULU	Assistant Professor	Bharat Institute of Engineering and Technology	15	3	9573010850	ummady.narasimha@gmail.com
5	Mr.LAKKAMPELLI RAKESH	Assistant Professor	Vasavi college of Engineering	10	10	8179514502	rakeshlakkampelli@gmail.com
6	Mrs.M.NagaTriveni	Assistant Professor	St.Martin's engineering college	14	14	7358083897	3venipoluri@gmail.com
7	Mrs.CH SRILAKSHMI	Assistant Professor	CBIT	10	5	9492863363	srilakshmich_cet@cbit.ac.in
8	Mr.Dr.N.SRIKANTH	Assistant Professor	BRILLIANT INSTITUTE OF ENGINEERING AND TECHNOLOGY	11	08	9989104079	srikanth.nangineni@gmail.com
9	Dr.VENKATESWARULU	Professor	NARASIMHA REDDY ENGINEERING COLLEGE	17	10	8106046839	dr.venkateswarulucse21@gmail.com
10	Mr.Sreedhar Boya	Assistant Professor	G.Pulla Reddy Engineering College(Autonomous): Kurnool	14	15	9494939743	sreedhar731@gmail.com
11	Dr.V SRIDHAR REDDY	Associate Professor	VIGNANA BHARATHI INSTITUTE OF TECHNOLOGY	17	8	9966237981	vsridharreddy@vbit hyd.ac.in

12	Dr.B.Vasavi	Associate Professor	Maturi Venkata Subbarao Engineering College	19	5	7702531643	Vasavi.bande@gmail.com
13	Dr.Kavitha Soppari	Associate Professor	ACE ENGINEERING COLLEGE	26	12	8328674760	kavithasoppari8@gmail.com
14	Mrs.Swapna Rani G	Assistant Professor	Geetanjali college of engineering and technology	16	5	8500057958	mswapnarani.cse@gcet.edu.in
15	Ms.Vaddithandra Vijaya	Assistant Professor	CMR Institute of technology, Hyderabad	13	7	9491336847	vitcsevijaya@gmail.com
16	Mr.U VEERESH	Assistant Professor	CMR institute of technology Hyderabad	14	4	9989458748	veeresh20@cmritonline.ac.in
17	Dr.Gudla Balakrishna	Associate Professor	Malla Reddy University	14	5	9916214978	drgudla.balakrishna@mallareddyuniversity.ac.in
18	Dr.S.Alagumuthukrishnan	Associate Professor	CMR Institute of Technology Hyderabad	21	3	9865634060	alagumuthukrishnan@gmail.com
19	Mr.I.RAVI KUMAR	Associate Professor	Aurora's Scientific and Technological Institute	24	6	9951911679	himaja.ravikumar1919@gmail.com
20	Mrs.Prisilla Jayanthi Gandam	Assistant Professor	CMR Institute of Technology, Hyderabad	16	4	6309628840	prisillaj28@gmail.com
21	Mr.Aluri Gopi	Associate Professor	CMR Engineering College	12	3	9949035519	nitgoaphdgopi@gmail.com
22	Dr.Raghu Kumar Lingamallu	Associate Professor	KG Reddy College of Engineering and Technology	15	2	9490244991	lrgupta528@gmail.com
23	Dr.C.V.P.R.PRASAD	Professor	Malla Reddy Engineering College for Women	25	5	7386200587	prasadcpr@gmail.com
24	Dr G Madhukar	Associate Professor	CMR Technical Campus	12	4	9246456780	madhukar.cse@cmrtc.ac.in
25	Dr G Madhukar	Associate Professor	CMR Technical Campus	12	4	9246456780	madhu.mani536@gmail.com


Chairman-BOS



VIGNAN'S INSTITUTE OF MANAGEMENT AND TECHNOLOGY FOR WOMEN

(An Autonomous Institution)

[Sponsored by Lavu Educational Society, Affiliated to JNTUH & Approved by AICTE, New Delhi]

Kondapur (V), Ghatkesar (M), Medchal - Malkajgiri (D) - 501 301. Phone: 96529 10002/3



Nominated Faculty List for Paper setting and Evaluation

B.Tech- Year: I

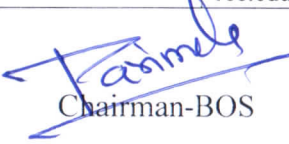
Semester: I

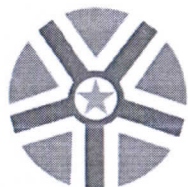
Exam (Reg/Supply):Regular

Name of the Subject : OOPS-Through JAVA

S.NO	Name of the Faculty	Designation	College Working In	Total Experience	No of Times taught	Mobile No	e-mail Id
1	Mr.U VEERESH	Assistant Professor	CMR institute of technology Hyderabad	14	4	9989458748	veeresh20@cmritonline.ac.in
2	Dr.Gudla Balakrishna	Associate Professor	Malla Reddy University	14	5	9916214978	dr.gudla.balakrishna@mallareddyuniversity.ac.in
3	Dr.S.Alagumuthukrishnan	Associate Professor	CMR Institute of Technology Hyderabad	21	3	9865634060	alagumuthukrishnan@gmail.com
4	Mr.I.RAVI KUMAR	Associate Professor	Aurora's Scientific and Technological Institute	24	6	9951911679	himaja.ravikumar1919@gmail.com
5	Mrs.Prisilla Jayanthi Gandam	Assistant Professor	CMR Institute of Technology, Hyderabad	16	4	6309628840	prisillaj28@gmail.com
6	Mr.Aluri Gopi	Associate Professor	CMR Engineering College	12	3	9949035519	nitgoaphdgopi@gmail.com
7	Dr.Raghu Kumar Lingamallu	Associate Professor	KG Reddy College of Engineering and Technology	15	2	9490244991	lrgupta528@gmail.com
8	Dr.C.V.P.R.PRASAD	Professor	Malla Reddy Engineering College for Women	25	5	7386200587	prasadcpr@gmail.com
9	Dr G Madhukar	Associate Professor	CMR Technical Campus	12	4	9246456780	madhukar.cse@cmrtc.ac.in
10	Dr G Madhukar	Associate Professor	CMR Technical Campus	12	4	9246456780	madhu.mani536@gmail.com
11	Dr.V SRIDHAR REDDY	Associate Professor	VIGNANA BHARATHI INSTITUTE OF TECHNOLOGY	17	8	9966237981	vsridharreddy@vbit.ac.in

12	Dr.B.Vasavi	Associate Professor	Maturi Venkata Subbarao Engineering College	19	5	7702531643	Vasavi.bande@gmail.com
13	Dr.Kavitha Soppari	Associate Professor	ACE ENGINEERING COLLEGE	26	12	8328674760	kavithasoppari8@gmail.com
14	Mrs.Swapna Rani G	Assistant Professor	Geethanjali college of engineering and technology	16	5	8500057958	mswapnarani.cse@gcet.edu.in
15	Ms.Vaddithandra Vijaya	Assistant Professor	CMR Institute of technology, Hyderabad	13	7	9491336847	vitcsevijaya@gmail.com
16	Mr.Santosh Telukuntla	Assistant Professor	BHOJ REDDY ENGINEERING COLLEGE FOR WOMEN	16	10	9949445102	santosh0125@gmail.com
17	Mrs.Thatikonda Radhika	Assistant Professor	CVR COLLEGE OF ENGINEERING	13	8	9492886960	radhikathatikonda08@gmail.com
18	Mr.H V RAMANA RAO	Assistant Professor	Geethanjali College of Engineering and Technology	17	5	9440220021	ramanah.rao@gmail.com
19	Dr.Angotu Nageswara Rao	Associate Professor	CMR Institute of Technology, Hyderabad	25	4	9642995525	naguanr.rao@gmail.com
20	Mrs.Swetha G	Assistant Professor	Teegala krishna reddy engineering college	10	4	9705368600	Swethareddy630@gmail.com
21	Dr.T.Pratyusha	Associate Professor	CMR INSTITUTE of technology	12	8	9959135333	pratyusha2208@cmritonline.ac.in
22	Mrs.N SUJATA GUPTA	Assistant Professor	Cbit	14	4	9963028231	gsuji29@gmail.com
23	Mr.N VENKATA SIVA REDDY	Assistant Professor	CMR institute of technology	14	10	9985841600	venkatasiva.cme@gmail.com
24	Mrs.Swarna Kamalam Vaddi	Assistant Professor	MvSREC	14	6	9492525810	swarna.vaddi@gmail.com
25	Mrs.M Prathyusha	Assistant Professor	MVSR Engineering College	7	5	7569195437	prathyusha_it@mvsrec.edu.in


Chairman-BOS



VIGNAN'S INSTITUTE OF MANAGEMENT AND TECHNOLOGY FOR WOMEN

(An Autonomous Institution)

[Sponsored by Lavu Educational Society, Affiliated to JNTUH & Approved by AICTE, New Delhi]
Kondapur (V), Ghatkesar (M), Medchal - Malkajgiri (D) - 501 301. Phone: 96529 10002/3



Nominated Faculty List for Paper setting and Evaluation

B.Tech- Year: II

Semester: I

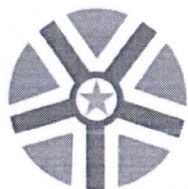
Exam (Reg/Supply):Regular

Name of the Subject : Computer Organization and Architecture

S.NO	Name of the Faculty	Designation	College Working In	Total Experience	No of Times taught	Mobile No	e-mail Id
1	Dr.I Sundara Siva Rao	Professor	Andhra University	21	4	9490107574	isro75@gmail.com
2	Dr.T.Srinivasarao	Professor	GITAM Deemed To Be University	21	6	9397051837	sthamada@gitam.edu
3	Dr.DVSS Subrahmanyam	Associate Professor	Keshav Memorial Engineering college	20	5	8143346799	subrahmanyam.dvss@gmail.com
4	Dr.Birru Devender	Assistant Professor	Keshav Memorial Engineering college	12	3	9010321570	bsdvarma2020@gmail.com
5	Dr.KV Ranga Rao	Professor	Neil Geogte institute of technology Hyderabad	20	4	9885144473	kvrrao@ngit.edu.in
6	Mrs.M Vineela	Associate Professor	Bhoj Reddy Engineering College for Women,	16	5	9948295301	vineela.munnangi@slv-edu.in
7	Mr.Kandukuri Seshagiri Rao	Assistant Professor	Mall Reddy Engineering College For Women	11	7	9848560028	kseshu545@gmail.com
8	Mr.Subba Rao Peyyala	Assistant Professor	Keshav Memorial Institute of Technology	14	5	9949111827	psubbarao1406@gmail.com
9	Dr.B.Madhava Rao	Associate Professor	MGIT	17	12	9441527944	bommineni6170@gmail.com
10	Mr.A. Veerender	Associate Professor	CMR Technical Campus	13	7	9949881295	veerender.ds@cmrtc.ac.in
11	Mr.Krishna Reddy Seelam	Assistant Professor	Sree Dattha Institute of Engineering and Science(E4)	13	5	9985162506	krishnareddy.seelam99@gmail.com

12	Mr.Azmeera Ramesh	Assistant Professor	CMR TECHNICAL CAMPUS	9	5	9010755991	ramesh.aiml@cmrtc.ac.in
13	Mr.Satish Garigipati	Assistant Professor	Gokaraju Rangaraju institute of Engineering and technology	12	7	8309643696	satishkumar.garigipati@gmail.com
14	Dr.Deepika	Assistant Professor	Anurag University	14	8	8464881370	deepikasirmoria9963@gmail.com
15	Dr Shaik Jumlesha	Professor	AITS Tirupati	20	10	9951747705	ahmedsadhiq@gmail.com
16	Mr.Ramala Ashok	Assistant Professor	Narasimha Reddy Engineering College	10	6	9666336474	ashokramala@nrcmec.org
17	MrsAnnapurna	Assistant Professor	MLRITM	6	5	9573819194	Purnareddybogala1991@gmail.com


Chairman-BOS



VIGNAN'S INSTITUTE OF MANAGEMENT AND TECHNOLOGY FOR WOMEN

(An Autonomous Institution)

[Sponsored by Lavu Educational Society, Affiliated to JNTUH & Approved by AICTE, New Delhi]
Kondapur (V), Ghatkesar (M), Medchal - Malkajgiri (D) - 501 301. Phone: 96529 10002/3



Nominated Faculty List for Paper setting and Evaluation

B.Tech- Year: II

Semester: I

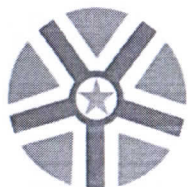
Exam (Reg/Supply): Regular.

Name of the Subject :Data Structures

S.NO	Name of the Faculty	Designation	College Working In	Total Experience	No of Times taught	Mobile No	e-mail Id
1	Mr.Santosh Telukuntla	Assistant Professor	BHOJ REDDY ENGINEERING COLLEGE FOR WOMEN	16	10	9949445102	santosh0125@gmail.com
2	Mrs.Thatikonda Radhika	Assistant Professor	CVR COLLEGE OF ENGINEERING	13	8	9492886960	radhikathatikonda08@gmail.com
3	Mr.H V RAMANA RAO	Assistant Professor	Geethanjali College of Engineering and Technology	17	5	9440220021	ramanah.rao@gmail.com
4	Dr.Angotu Nageswara Rao	Associate Professor	CMR Institute of Technology, Hyderabad	25	4	9642995525	naguanr.rao@gmail.com
5	Mrs.Swetha G	Assistant Professor	Teegala krishna reddy engineering college	10	4	9705368600	Swethareddy630@gmail.com
6	Dr.T.Pratyusha	Associate Professor	CMR INSTITUTE of technology	12	8	9959135333	pratyusha2208@cmritonline.ac.in
7	Mrs.N SUJATA GUPTA	Assistant Professor	Cbit	14	4	9963028231	gsuji29@gmail.com
8	Mr.N VENKATA SIVA REDDY	Assistant Professor	CMR institute of technology	14	10	9985841600	venkatasiva.cme@gmail.com
9	Mrs.Swarna Kamalam Vaddi	Assistant Professor	MvSREC	14	6	9492525810	swarna.vaddi@gmail.com
10	Mrs.M Prathyusha	Assistant Professor	MVSR Engineering College	7	5	7569195437	prathyusha_it@mvsrec.edu.in
11	Mrs.Ch.saritha	Assistant Professor	CMRIT,Medchal	8	4	8885345045	sarithadaripalli@cmritonline.ac.in
12	Dr.B KISHOR	Associate Professor	CMR ENGINEERING COLLEGE -8R	21	10	9866228432	trml.kishore@gmail.com

13	Dr.kanigiri bharathi	Assistant Professor	Mietw	10	8	9848068934	kanigiribharathi@gmail.com
14	Mrs.M Vineela	Associate Professor	Bhoj Reddy Engineering College for Women	23	10	9948295301	vineela.munnangi@slv-edu.in
15	Dr.N SRIHARI RAO	Professor	GNITC	17	6	9985618565	Raon2006@gmail.com
16	Mr.D SRINIVAS GOUD	Assistant Professor	VBIT	15	10	9963679969	goud@vbithyd.ac.in
17	Mr.BURLA SRINIVAS	Associate Professor	Mother Theresa college of engineering and technology	18	15	9866086248	cnumay25@gmail.com
18	Mr.Bhukya Venkanna	Assistant Professor	Vignana Bharathi Institute of Technology	13	6	9704102305	bhukya.venkanna@vbithyd.ac.in
19	Mrs.Medishetty Swapna	Assistant Professor	MVSREC	16	4	9703133689	swapnashetty33@gmail.com
20	Mrs.Annavarapu Mahalakshmi	Assistant Professor	R V.R&J C College of Engineering	12	7	8886362889	mahalakshmi.rvrjc1985@gmail.com
21	Dr.G Anil Kumar	Professor	Scient institute of technology	22	6	9849306460	anildeva@gmail.com
22	Dr.M VENKAT REDDY	Assistant Professor	SREE DATTHA INSTITUTE OF ENGINEERING AND SCIENCE	15	5	9542003511	mvreddy78@gmail.com
23	Mrs.M.Lavanya	Associate Professor	Vignana Bharathi Institute of Technology	18	14	9951141962	lavanyareddy.1982@gmail.com
24	Dr.Pradeep Venuthurumilli	Associate Professor	MallaReddy Engineering College for Women	15	10	9849250840	pradeepvenuthuru@gmail.com
25	Mr.M SRAVAN KUMAR BABU	Assistant Professor	Malla Reddy Engineering College for Women	8	6	9700028227	mokkapati.mokkapati@gmail.com

Farimle



VIGNAN'S INSTITUTE OF MANAGEMENT AND TECHNOLOGY FOR WOMEN

(An Autonomous Institution)

[Sponsored by Lavu Educational Society, Affiliated to JNTUH & Approved by AICTE, New Delhi]
Kondapur (V), Ghatkesar (M), Medchal - Malkajgiri (D) - 501 301. Phone: 96529 10002/3



Nominated Faculty List for Paper setting and Evaluation

B.Tech- Year: II

Semester: II

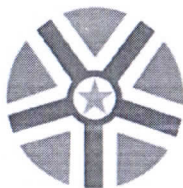
Exam (Reg/Supply):Regular

Name of the Subject : Operating Systems

S.NO	Name of the Faculty	Designation	College Working In	Total Experience	No of Times taught	Mobile No	e-mail Id
1	Dr.E.Madhusudhana Reddy	Professor & Principal	Sree Dattha Group of Institutions , Sheriguda, Telangana, India	22	8	9440799939	e_mreddy@yahoo.com
2	Dr.G. Narasimha Rao	Associate Professor	Andhra University	17	5	7396294243	prof.narasimha@andhrauniversity.edu.in
3	Dr.G Suvarna Kumar	Associate Professor	Andhra University	23	3	9885000708	Prof.gsuvarnakumar@andhrauniversity.edu.in
4	Dr.Om Prakash Samantray	Associate Professor	Raghu Engineering College	16	6	9705172290	om.prakash02420@gmail.com
5	Dr.Peluru Janardhana Rao	Assistant Professor	Baba Institute of Technology and Sciences(A)	9	4	9989680890	peluru.janardhanarao@gmail.com
6	Dr.P. Sreekanth	Assistant Professor	GITAM Deemed To Be University	12	6	9959591880	spuli@gitam.edu
7	Dr.K. Srinivasa Rao	Associate Professor	YVU, Kadapa	18	4	9618712660	kanususrinivas@gmail.com
8	Dr.Ratna Kumari Challa	Assistant Professor	RGUKTRKV	16	4	9492046274	ratnamala3784@gmail.com
9	Mrs.M.Meenakshi	Assistant Professor	Neil Geogte institute of technology Hyderabad	16	5	9440001354	meenabhaskar12@gmail.com
10	Dr.BVV Siva Prasad	Associate Professor	Anurag University	15	6	8555070798	sivaprasad.cse@anurag.edu.in
11	Mr.K Vijay Krupa Vatsal	Assistant Professor	Malla reddy university	14	8	9885690840	kvijay.krupavatsal@mallareddyuniversity.ac.in

12	Dr.Ch.Vengaiiah	Assistant Professor	B V Raju Instute Of Technology	10	5	9603854491	vengaiiah.ch@bvr.it.ac.in
13	Mr.K Sreekanth	Assistant Professor	BVRIT	15	12	8886733772	sreekanth@bvr.it.ac.in
14	Mrs.Munugapati Bhavana	Assistant Professor	MLR Institute Of Technology	16	5	9849157312	bhavana@mlrinstitutions.ac.in
15	Mrs.K.bhargavi	Assistant Professor	Sent martins engineering college	06	7	6281236622	Kbhargavicse@smec.ac.in


Chairman-BOS



VIGNAN'S INSTITUTE OF MANAGEMENT AND TECHNOLOGY FOR WOMEN

(An Autonomous Institution)

[Sponsored by Lavu Educational Society, Affiliated to JNTUH & Approved by AICTE, New Delhi]
Kondapur (V), Ghatkesar (M), Medchal - Malkajgiri (D) - 501 301. Phone: 96529 10002/3



Nominated Faculty List for Paper setting and Evaluation

B.Tech- Year: II

Semester: II

Exam (Reg/Supply):Regular

Name of the Subject : Discrete Mathematics

S.NO	Name of the Faculty	Designation	College Working In	Total Experience	No of Times taught	Mobile No	e-mail Id
1	M.Kavitha	Associate Professor	Sridevi Women's Engineering College	18	03	8790392639	kavithareddy2414@gmail.com
2	NVN. Sowjanya	Assistant Professor	Teegala Krishna reddy engineering college	14	4	9951462424	sowjanya.nvn@gmail.com
3	Syed Thayyab Hussain	Assistant Professor	Sreenidhi Institution of science and technology	11.1	7	9700180047	thayyab.s@sreenidhi.edu.in
4	Varkala Satheesh Kumar	Assistant Professor	Sreenidhi Institute of Science and Technology	16	10	9553205451	satheesh.v@sreenidhi.edu.in
5	Arshia Tabassum	Assistant Professor	Sreenidhi Institute Of Science and Technology	11	6	9573935854	arshia.t@sreenidhi.edu.in
6	Mrutyunjaya S Yalawar	Assistant Professor	CMR Engineering College, Hyderabad	9	5	8884755151	Muttusy@gmail.com
7	B.Swetha	Assistant Professor	GNIT	9.5	6	7207809508	swethabheemreddy@gmail.com
8	Mrutyunjaya S Yalawar	Assistant Professor	CMREC,Hyderabad	9	5	8884755151	Mrutyunjaya.cmrec20@cmrec.ac.in
9	Shaik Maheboob	Associate Professor	Marri Laxman Reddy Institute of Technology and Management	12	15	7416643394	shaikmaheboob@mlritm.ac.in
10	Y.Sucharitha	Assistant Professor	VNR VJIET	17	5	8121846399	suchi.yadala@gmail.com
11	K Triveni	Assistant Professor	Marri Laxman Reddy Institute of Technology and Management	14	10	9440385958	triveni.bussa@gmail.com

12	Dr. K Subhash Bhagavan	Professor	Sasi Institute of Technology & Engineering	16	10	7659893339	subhash@sasi.ac.in
13	Kudumula Navatha	Assistant Professor	Teegala Krishna Reddy Engineering College	6	4	9177287140	Kudumulanavatha@tkrec.ac.in
14	Nageswara Rao Gottipati	Associate Professor	Sasi Institute of Technology & Engineering	24	6	7013658295	rao.nageswara@gmail.com
15	Srinadh Unnava	Associate Professor	Sasi Institute of Technology & Engineering	18	20	9985762875	srinadh@sasi.ac.in


 Chairman-BOS



VIGNAN'S INSTITUTE OF MANAGEMENT AND TECHNOLOGY FOR WOMEN

(An Autonomous Institution)

[Sponsored by Lavu Educational Society, Affiliated to JNTUH & Approved by AICTE, New Delhi]
Kondapur (V), Ghatkesar (M), Medchal - Malkajgiri (D) - 501 301. Phone: 96529 10002/3



Nominated Faculty List for Paper setting and Evaluation

B.Tech- Year: II

Semester: II

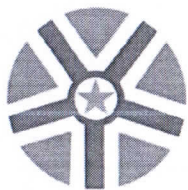
Exam (Reg/Supply):Regular

Name of the Subject : Database Management Systems

S.NO	Name of the Faculty	Designation	College Working In	Total Experience	No of Times taught	Mobile No	e-mail Id
1	Dr.P. Dileep Kumar Reddy	Professor	Narsimha Reddy Engineering College Hyderabad	15	6	9959845657	dileepreddy503@gmail.com
2	Mrs.SWAROOPA RANI B	Assistant Professor	CMR TECHNICAL CAMPUS	10	8	9985565707	roopa.kk15@gmail.com
3	Dr.KISHORE KUMAR M	Associate Professor	CMR TECHNICAL CAMPUS	17	3	9666699000	kishore.mamidala@gmail.com
4	Mr.V BABU RAO	Assistant Professor	MRCET	10	6	9618274545	vbabu2379@gmail.com
5	Mr.Jalampelli Thirupathi	Assistant Professor	Institute Of Aeronautical Engineering	16	4	7416282592	jalampelli.thirupathi@gmail.com
6	Mrs.Anushaa Putta	Assistant Professor	Vignan's Institute of engineering for women	5.8	3	8688336770	anushaaputta.view@gmail.com
7	Mr.Parumanchala Bhaskar	Assistant Professor	Santhiram Engineering College Nandyal	13	2	9908830718	bhaskar5cse@gmail.com
8	Mr.B CH V Ramana	Assistant Professor	Vignan institute of engineering for women	8	5	9000261976	bvrviits@gmail.com
9	Dr.Sesha Bhargavi Velagaleti	Assistant Professor	GNITS	20	8	9441418775	b.velagaleti@gmail.com
10	Mr.Netaji Gandhi	Assistant Professor	Vignan's Institute of Engineering for Women	13	5	8985887641	netaji.gandi@view.edu.in
11	Mr.K Vijay Krupa Vatsal	Assistant Professor	Malla reddy university	14	8	9885690840	kvijay.krupavatsal@mallareddyuniversity.ac.in

12	Dr.Ch.Vengaiah	Assistant Professor	B V RAJU INSTUTE OF TECHNOLOGY	10	5	9603854491	vengaiah.ch@bvr.it.ac.in
13	Mr.K Sreekanth	Assistant Professor	BVRIT	15	12	8886733772	sreekanth@bvr.it.ac.in
14	Mrs.Munugapati Bhavana	Assistant Professor	MLR INSTITUTE OF TECHNOLOGY	16	5	9849157312	bhavana@mlrinstitutions.ac.in
15	Mrs.K.bhargavi	Assistant Professor	Sent martins engineering college	06	7	6281236622	Kbhargavicse@smec.ac.in


Chairman-BOS



VIGNAN'S INSTITUTE OF MANAGEMENT AND TECHNOLOGY FOR WOMEN

(An Autonomous Institution)

[Sponsored by Lavu Educational Society, Affiliated to JNTUH & Approved by AICTE, New Delhi]
Kondapur (V), Ghatkesar (M), Medchal - Malkajgiri (D) - 501 301. Phone: 96529 10002/3



Nominated Faculty List for Paper setting and Evaluation

B.Tech- Year: II

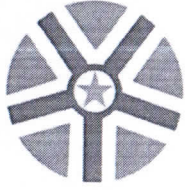
Semester: II

Exam (Reg/Supply):Regular

Name of the Subject : Software Engineering

S.NO	Name of the Faculty	Designation	College Working In	Total Experience	No of Times taught	Mobile No	e-mail Id
1	MrSyed Mazharuddin	Assistant Professor	Sreenidhi Institute of Science and Technology	14	6	9985096961	mazhar.syed83@gmail.com
2	Dr.Patnala S. R. Chandra Murty	Professor	Malla Reddy Engineering College (Autonomous)	17	8	9247426508	srirampatnala@gmail.com
3	Dr.N.Anusha	Associate Professor	Vidya Jyothi Institute of Technology	16	4	9940290725	Anusha.Nallapareddy@gmail.com
4	Dr.Anuradha chinta	Assistant Professor	Siddhartha Academy of Higher Education	10	5	9494640752	anuradha.chinta@vrsiddhartha.ac.in
5	Mr.Veera Kishore Kadam	Assistant Professor	Sri Indu Institute Of Engineering And Technology	14	6	8099928263	kvk.rvreit@gmail.com
6	Dr.Hussain Syed	Associate Professor	VIT-AP UNIVERSITY	12	5	9394252266	hussain.syed@vitap.ac.in
7	Mr.D shivaramakrishna	Associate Professor	Telangana University	13	6	9492673201	shivaramakrishna.devalla@gmail.com
8	Dr Kuna Naresh	Associate Professor	Tkr college of engineering and technology	16	8	8328239144	Kuna48@gmail.com
9	Mr.Kiran Kumar	Assistant Professor	St.martin's engineering College	8	5	9912439547	skzr507@gmail.com
10	Mr.SVSV Prasad Sanaboina	Associate Professor	CMR Technical Campus	10	7	8019200202	prasadsanaboina@gmail.com

(Signature)
Chairman-BOS



VIGNAN'S INSTITUTE OF MANAGEMENT AND TECHNOLOGY FOR WOMEN

(An Autonomous Institution)

[Sponsored by Lavu Educational Society, Affiliated to JNTUH & Approved by AICTE, New Delhi]
Kondapur (V), Ghatkesar (M), Medchal - Malkajgiri (D) - 501 301. Phone: 96529 10002/3



Nominated Faculty List for Paper setting and Evaluation

M.Tech- Year: I

Semester: I

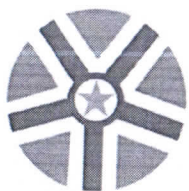
Exam (Reg/Supply):

Name of the Subject : M.Tech(Advanced Algorithms)

S.NO	Name of the Faculty	Designation	College Working In	Total Experience	No of Times taught	Mobile No	e-mail Id
1	Mrs.Annapurna	Assistant Professor	MLRITM	6	5	9573819194	Purnareddybogala1991@gmail.com
2	Mrs.G Anitha	Associate Professor	MLRITM	13	8	8886557032	anitha@mlritm.ac.in
3	Dr.N Raghava Rao	Associate Professor	Institute of Aeronautical Engineering	17	8	9000318027	raghavarao.n@gmail.com
4	Dr.Sana Pavan Kumar Reddy	Assistant Professor	B V Raju institute of technology	11	5	8008167655	Pavankumar.s@bvr.it.ac.in
5	Dr.P. Dileep Kumar Reddy	Professor	Narsimha Reddy Engineering College Hyderabad	15	5	9959845657	dileepreddy503@gmail.com
6	Mrs.Swaroop Rani B	Assistant Professor	CMR Technical Campus	10	5	9985565707	roopa.kk15@gmail.com
7	Dr.Kishore Kumar M	Associate Professor	CMR Technical Campus	17	5	9666699000	kishore.mamidala@gmail.com
8	Mrs.Anusha Putta	Assistant Professor	Vignan's Institute of engineering for women	5.8	5	8688336770	anushaaputta.view@gmail.com
9	Mr.Parumanchala Bhaskar	Assistant Professor	Santhiram Engineering College Nandyal	13	4	9908830718	bhaskar5cse@gmail.com
10	Dr.Sesha Bhargavi Velagaleti	Assistant Professor	GNITS	20	5	9441418775	b.velagaleti@gmail.com

11	Dr.Ch.Vengaiiah	Assistant Professor	B V Raju Institute Of Technology	10	4	9603854491	vengaiiah.ch@bvr.it.ac.in
12	Mr.K Sreekanth	Assistant Professor	BVRIT	15	3	8886733772	sreekanth@bvr.it.ac.in
13	Mrs.Munugapati Bhavana	Assistant Professor	MLR INSTITUTE OF TECHNOLOGY	16	2	9849157312	bhavana@mlrinstitutions.ac.in
14	Mrs.K.Bhargavi	Assistant Professor	Sent martins engineering college	06	6	6281236622	Kbhargavicse@smec.ac.in
15	Dr.P.Pavankumar	Associate Professor	Chaitanya Bharathi Institute of Technology	18	6	8341338794	pavankumar.palla@gmail.com


Chairman-BOS



VIGNAN'S INSTITUTE OF MANAGEMENT AND TECHNOLOGY FOR WOMEN

(An Autonomous Institution)

[Sponsored by Lavu Educational Society. Affiliated to JNTUH & Approved by AICTE, New Delhi]
Kondapur (V), Ghatkesar (M), Medchal - Malkajgiri (D) - 501 301. Phone: 96529 10002/3



Nominated Faculty List for Paper setting and Evaluation

M.Tech- Year: I

Semester: I

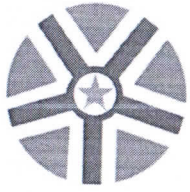
Exam (Reg/Supply):

Name of the Subject : M.Tech(Advanced Algorithms)

S.NO	Name of the Faculty	Designation	College Working In	Total Experience	No of Times taught	Mobile No	e-mail Id
1	Mrs.Annapurna	Assistant Professor	MLRITM	6	5	9573819194	Purnareddybogala1991@gmail.com
2	Mrs.G Anitha	Associate Professor	MLRITM	13	8	8886557032	anitha@mlritm.ac.in
3	Dr.N Raghava Rao	Associate Professor	Institute of Aeronautical Engineering	17	8	9000318027	raghavarao.n@gmail.com
4	Dr.Sana Pavan Kumar Reddy	Assistant Professor	B V Raju institute of technology	11	5	8008167655	Pavankumar.s@bvrut.ac.in
5	Dr.P. Dileep Kumar Reddy	Professor	Narsimha Reddy Engineering College Hyderabad	15	5	9959845657	dileepreddy503@gmail.com
6	Mrs.Swaroop Rani B	Assistant Professor	CMR Technical Campus	10	5	9985565707	roopa.kk15@gmail.com
7	Dr.Kishore Kumar M	Associate Professor	CMR Technical Campus	17	5	9666699000	kishore.mamidala@gmail.com
8	Mrs.Anushaa Putta	Assistant Professor	Vignans Institute of engineering for women	5.8	5	8688336770	anushaaputta.view@gmail.com
9	Mr.Parumanchala Bhaskar	Assistant Professor	Santhiram Engineering College Nandyal	13	4	9908830718	bhaskar5cse@gmail.com
10	Dr.Sesha Bhargavi Velagaleti	Assistant Professor	GNITS	20	5	9441418775	b.velagaleti@gmail.com

11	Dr.Ch.Vengaiiah	Assistant Professor	B V Raju Instute Of Technology	10	4	9603854491	vengaiiah.ch@bvr.it.ac.in
12	Mr.K Sreekanth	Assistant Professor	BVRIT	15	3	8886733772	sreekanth@bvr.it.ac.in
13	Mrs.Munugapati Bhavana	Assistant Professor	MLR INSTITUTE OF TECHNOLOGY	16	2	9849157312	bhavana@mlrinstitutions.ac.in
14	Mrs.K.Bhargavi	Assistant Professor	Sent martins engineering college	06	6	6281236622	Kbhargavicse@smec.ac.in
15	Dr.P.Pavankumar	Associate Professor	Chaitanya Bharathi Institute of Technology	18	6	8341338794	pavankumar.palla@gmail.com


Chairman-BOS



VIGNAN'S INSTITUTE OF MANAGEMENT AND TECHNOLOGY FOR WOMEN

(An Autonomous Institution)

[Sponsored by Lavu Educational Society, Affiliated to JNTUH & Approved by AICTE, New Delhi]
Kondapur (V), Ghatkesar (M), Medchal - Malkajgiri (D) - 501 301. Phone: 96529 10002/3



Nominated Faculty List for Paper setting and Evaluation

M.Tech- Year: I

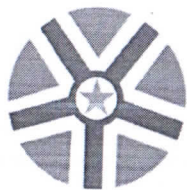
Semester: I

Exam (Reg/Supply):Reg

Name of the Subject : M.Tech(Software Quality Engineering)

S.NO	Name of the Faculty	Designation	College Working In	Total Experience	No of Times taught	Mobile No	e-mail Id
1	Dr.Gudla Balakrishna	Associate Professor	Malla Reddy University	14	5	9916214978	drudla.balakrishna@mallareddy university.ac.in
2	Dr.S.Alagumuthukrishnan	Associate Professor	CMR Institute of Technology Hyderabad	21	3	9865634060	alagumuthukrishnan @gmail.com
3	Mr.I.RAVI KUMAR	Associate Professor	Aurora's Scientific and Technological Institute	24	6	9951911679	himaja.ravikumar1919@gmail.co m
4	Mrs.Prisilla Jayanthi Gandam	Assistant Professor	CMR Institute of Technology, Hyderabad	16	4	6309628840	prisillaj28@gmail.com
5	Mr.Aluri Gopi	Associate Professor	CMR Engineering College	12	3	9949035519	nitgoaphdgopi@gmail.com
6	Dr.Raghu Kumar Lingamallu	Associate Professor	KG Reddy College of Engineering and Technology	15	2	9490244991	lrgupta528@gmail.com
7	Dr.C.V.P.R.PRASAD	Professor	Malla Reddy Engineering College for Women	25	5	7386200587	prasadcvpr@gmail.com
8	Dr G Madhukar	Associate Professor	CMR Technical Campus	12	4	9246456780	madhukar.cse@cmrtc.ac.in


Chairman-BOS



VIGNAN'S INSTITUTE OF MANAGEMENT AND TECHNOLOGY FOR WOMEN

(An Autonomous Institution)

[Sponsored by Lavu Educational Society, Affiliated to JNTUH & Approved by AICTE, New Delhi]
Kondapur (V), Ghatkesar (M), Medchal - Malkajgiri (D) - 501 301. Phone: 96529 10002/3



Nominated Faculty List for Paper setting and Evaluation

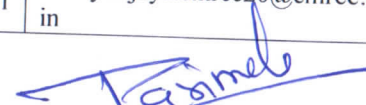
M.Tech- Year: I

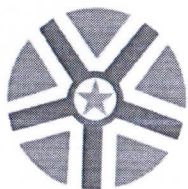
Semester: I

Exam (Reg/Supply):Regular

Name of the Subject : M.Tech(Natural Language Processing)

S.NO	Name of the Faculty	Designation	College Working In	Total Experience	No of Times taught	Mobile No	e-mail Id
1	Y.Sucharitha	Assistant Professor	VNR VJIET	17	5	8121846399	sucharitha_y@vnrvjiet.in
2	K TRIVENI	Assistant Professor	MARRILAXMANREDDY INSTITUTE OF TECHNOLOGY & MANAGEMENT	14	10	9440385958	triveni.bussa@gmail.com
3	Dr. K Subhash Bhagavan	Professor	Sasi Institute of Technology & Engineering	16	10	7659893339	subhash@sasi.ac.in
4	KUDUMULA NAVATHA	Assistant Professor	TEEGALA KRISHNA REDDY ENGINEERING COLLEGE	6	4	9177287140	kudumulanavatha@tkrec.ac.in
5	Nageswara Rao Gottipati	Associate Professor	Sasi Institute of Technology & Engineering	24	6	7013658295	nageswara@sasi.ac.in
6	Srinadh Unnava	Associate Professor	Sasi Institute of Technology & Engineering	18	20	9985762875	srinadh.unnava@gmail.com
7	M. THANGAMANI	Assistant Professor	SASI INSTITUTE OF TECHNOLOGY AND ENGINEERING	14	3	9311290728	thangamanim@sasi.ac.in
8	Y.Sucharitha	Assistant Professor	VNR VJIET	17	5	8121846399	sucharitha_y@vnrvjiet.in
9	B.Swetha	Assistant Professor	GNIT	9.5	6	7207809508	swethabheemreddy@gmail.com
10	Mrutyunjaya S Yalawar	Assistant Professor	CMREC, Hyderabad	9	5	8884755151	mrutyunjaya.cmrec20@cmrec.ac.in


Chairman-BOS



VIGNAN'S INSTITUTE OF MANAGEMENT AND TECHNOLOGY FOR WOMEN

(An Autonomous Institution)

[Sponsored by Lavu Educational Society, Affiliated to JNTUH & Approved by AICTE, New Delhi]
Kondapur (V), Ghatkesar (M), Medchal - Malkajgiri (D) - 501 301. Phone: 96529 10002/3



Nominated Faculty List for Paper setting and Evaluation

M.Tech- Year: I

Semester: I

Exam (Reg/Supply):Regular

Name of the Subject : M.Tech(Advanced Data Structures)

S.NO	Name of the Faculty	Designation	College Working In	Total Experience	No of Times taught	Mobile No	e-mail Id
1	Korukonda Manimala	Assistant Professor	CMRIT	11	2	8142119853	kmanimala226@gmail.com
2	G Krishna Lava Kumar	Associate Professor	Geethanjali College of Engineering and Technology	18	6	8985676607	lavakumar.gopu@gmail.com
3	M.Kavitha	Associate Professor	Sridevi Women's Engineering College	18	03	8790392639	kavithareddy2414@gmail.com
4	NVN. Sowjanya	Assistant Professor	Teegala Krishna reddy engineering college	14	4	9951462424	sowjanya.nvn@gmail.com
5	Syed Thayyab Hussain	Assistant Professor	Sreenidhi Institution of science and technology	11.1	7	9700180047	thayyab.s@sreenidhi.edu.in
6	VARKALA SATHEESH KUMAR	Assistant Professor	Sreenidhi Institute of Science and Technology	16	10	9553205451	satheesh.v@sreenidhi.edu.in
7	Arshia Tabassum	Assistant Professor	Sreenidhi Institute Of Science and Technology	11	6	9573935854	arshia.t@sreenidhi.edu.in
8	Mrutyunjaya S Yalawar	Assistant Professor	CMR ENGINEERING COLLEGE, HYDERABAD	9	5	8884755151	muttususy@gmail.com
9	B.Swetha	Assistant Professor	GNIT	9.5	6	7207809508	swethabheemreddy@gmail.com
10	Mrutyunjaya S Yalawar	Assistant Professor	CMREC,Hyderabad	9	5	8884755151	mrutyunjaya.cmrec20@cmrec.ac.in
11	Shaik Maheboob	Associate Professor	Marri Laxman Reddy Institute of Technology and Management	12	15	7416643394	shaikmaheboob@mlritm.ac.in

12	Y.Sucharitha	Assistant Professor	VNR VJiet	17	5	8121846399	sucharitha_y@vnrvjiet.in
13	K TRIVENI	Assistant Professor	MARRILAXMANREDDY INSTITUTE OF TECHNOLOGY &MANAGEMENT	14	10	9440385958	triveni.bussa@gmail.com
14	Dr. K Subhash Bhagavan	Professor	Sasi Institute of Technology & Engineering	16	10	7659893339	subhash@sasi.ac.in
15	KUDUMULA NAVATHA	Assistant Professor	TEEGALA KRISHNA REDDY ENGINEERING COLLEGE	6	4	9177287140	kudumulanavatha@tkrec.ac.in
16	Nageswara Rao Gottipati	Associate Professor	Sasi Institute of Technology & Engineering	24	6	7013658295	nageswara@sasi.ac.in
17	Srinadh Unnava	Associate Professor	Sasi Institute of Technology & Engineering	18	20	9985762875	srinadh.unnava@gmail.com
18	M. THANGAMANI	Assistant Professor	SASI INSTITUTE OF TECHNOLOGY AND ENGINEERING	14	3	9311290728	thangamanim@sasi.ac.in


Chairman-BOS

Annexure

X



VIGNAN'S INSTITUTE OF MANAGEMENT AND TECHNOLOGY FOR WOMEN

(An Autonomous Institution)

[Sponsored by Lavu Educational Society, Affiliated to JNTUH & Approved by AICTE, New Delhi]
Kondapur (V), Ghatkesar (M), Medchal - Malkajgiri (D) - 501 301. Phone: 96529 10002/3



COMPUTER SCIENCE AND ENGINEERING

List of Subjects with Changed Course Outcomes

II B.Tech.-I Semester

S.No.	Course Code	Course	Existing COs	Modified COs
1	EC301ES	Digital Electronics	Nil	1. Know the characteristics of various components. Know about the logic families and realization of logic Gates. 2. Understand the utilization of components. 3. Design and analyze small signal amplifier circuits. 4. Learn Postulates of Boolean algebra and to minimize Combinational functions. 5. Design and analyze combinational and sequential circuits.
2	CS302PC	Data Structures	1. Ability to select the data structures that efficiently model the information in a problem. 2. Ability to assess efficiency trade-offs among different data structure implementations or combinations. 3. Implement and know the application of algorithms for sorting and pattern matching. 4. Design programs using a variety of data structures, including hash tables, binary and general tree structures, search trees, tries, heaps, graphs, and AVL-trees.	1. Develop a program using linear data structures such as array and circular queue. 2. Develop a program for basic operations of Stack and its applications. 3. Construct a program using Non-linear data structures and their applications such as trees and graphs. 4. Construct a program using linear data structures for Linked Lists. 5. Ability to assess the applications of pattern matching and different types of Tries.

II B.Tech.-II Semester

S.No.	Course Code	Course	Existing COs	Modified COs
1.	SM402MS	Business Economics & Financial Analysis	The students will understand the various Forms of Business and the impact of economic variables on the Business. The Demand, Supply, Production, Cost, Market Structure, Pricing aspects are learnt. The Students can study the firm's financial position by analysing the Financial Statements of a Company.	- Various Forms of Business and the impact of economic variables on the Business. - Problem-solving skills by applying demand and supply theories to real-world situations. - How production, costs and market structures influence pricing decisions and business profitability. - To prepare, analyze, and interpret financial statements. - To analyse financial position by analysing the Financial Statements of a Company.
2.	*MC410	Constitution of India	- Discuss the growth of the demand for civil rights in India for the bulk of Indians before the arrival of Gandhi in Indian politics. - Discuss the intellectual origins of the framework of argument that informed the conceptualization of social reforms leading to revolution in India. - Discuss the circumstances surrounding the foundation of the Congress Socialist Party [CSP] under the leadership of Jawaharlal Nehru and the eventual failure of the proposal of direct elections through adult suffrage in the Indian Constitution - Discuss the passage of the Hindu Code Bill of 1956.	- Understand the basics of instruction sets and their impact on processor design. - Demonstrate an understanding of the design of the functional units of a digital computer system. - Evaluate cost performance and design trade-offs in designing and constructing a computer processor including memory. - Design a pipeline for consistent execution of instructions with minimum hazards. - Recognize and manipulate representations of numbers stored in digital computers



VASAVI COLLEGE OF ENGINEERING

IBRAHIMBAGH, HYDERABAD - 500 031

PH : 23146097 / 23146003

Website : www.vce.ac.in

STAFF IDENTITY CARD



NAME : **M JITHENDER REDDY**

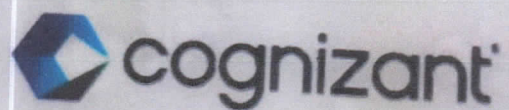
DESIGNATION : **ASSISTANT PROFESSOR**

DEPARTMENT : **CSE**

Principal



RAMESH BABU MEENIGI
879575



879575

879575

Emergency Contact
+91 9573988829

If found please inform 1800 258 2345

Cognizant Technology Solutions India
Pvt. Ltd.
#5/535, Old Mahabalipuram Road,
Okkiam-Thoraipakkam, Chennai -
600096