



MALINENI LAKSHMAIAH WOMEN'S ENGINEERING COLLEGE

(Approved by AICTE, Affiliated to JNTUK)

(An ISO9001:2008 Certified Institution)

Pulladigunta (Village), Vatticherukuru (Mandal),

Guntur-522017, Andhra Pradesh, India

Department of Science and Humanities

LESSON PLAN

| | |
|-------------------------|----------------------|
| COURSE: MATHEMATICS-II | DEGREE: B.Tech(ECE) |
| COURSE CODE: C109 | YEAR: I SEMESTER: II |
| REGULATION: R20 | COURSE TYPE: REGULAR |
| ACADEMIC YEAR : 2022-23 | CREDITS: 3 |

| S.No | Topic | Teaching Aid | Books |
|---|--|--------------|-------|
| UNIT1:Solving System of linear equations, Eigen values and Eigen vectors | | | |
| 1 | Rank of matrix by Echelon form and Normal form | Chalk & Talk | T1,T2 |
| 2 | Problems on rank of a matrix | Chalk & Talk | T1,T2 |
| 3 | Problems on rank of a matrix by normal form | Chalk & Talk | T1,T2 |
| 4 | Solving system of linear homogeneous equations | Chalk & Talk | T1,T2 |
| 5 | Problems on homogeneous linear equations | Chalk & Talk | T1,T2 |
| 6 | Working rule to solve the non homogeneous linear system of equations | Chalk & Talk | T1,T2 |
| 7 | Problems on non homogeneous linear equations | Chalk & Talk | T1,T2 |
| 8 | Gauss Elimination method | Chalk & Talk | T1,T2 |
| 9 | Problems on Gauss –Elimination method | Chalk & Talk | T1,T2 |
| 10 | Introduction Eigen values and Eigen vectors of a matrix | Chalk & Talk | T1,T2 |
| 11 | Problems on Eigenvalues and Eigen vectors | Chalk & Talk | T1,T2 |
| 12 | Properties of Eigen values and Eigen vectors | Chalk & Talk | T1,T2 |
| UNIT-2:Cayley-Hamilton theorem and Quadratic forms | | | |
| 13 | Introduction of Cayley-Hamilton theorem | Chalk & Talk | T1,T2 |
| 14 | Problems on Cayley-Hamilton theorem | Chalk & Talk | T1,T2 |
| 15 | Finding inverse of a matrix by Cayley-Hamilton theorem | Chalk & Talk | T1,T2 |
| 16 | Finding powers of a matrix by Cayley-Hamilton theorem | Chalk & Talk | T1,T2 |

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|----|--|--------------|-------|
| 17 | Introduction of Diagonalisation of a matrix | Chalk & Talk | T1,T |
| 18 | Problems on Diagonalisation of a matrix | Chalk & Talk | T1,T |
| 19 | Introduction of Quadratic forms | Chalk & Talk | T1,T |
| 20 | Reduction of quadratic form to canonical form by orthogonal transformation method. | Chalk & Talk | T1,T |
| 21 | Problems on orthogonal transformation method. | Chalk & Talk | T1,T2 |
| 22 | Singular vaues of a matrix and singular value decomposition. | Chalk & Talk | T1,T |
| 23 | problems | Chalk & Talk | T1,T |

UNIT-III: ITERATIVE METHODS

| | | | |
|----|---|--------------|------|
| 24 | Introduction of iterative methods | Chalk & Talk | T1,T |
| 25 | Introduction of Bisection method | Chalk & Talk | T1,T |
| 26 | Problems on Bisection method | Chalk & Talk | T1,T |
| 27 | Introduction of Secant method | Chalk & Talk | T1,T |
| 28 | Problems on Secant method | Chalk & Talk | T1,T |
| 29 | Introduction of Regula-Falsi method | Chalk & Talk | T1,T |
| 30 | Problems on Regula-Falsi method | Chalk & Talk | T1,T |
| 31 | Introduction of Method of False position method | Chalk & Talk | T1,T |
| 32 | Problems on Method of False position method | Chalk & Talk | T1,T |
| 33 | Introduction of Iteration method | Chalk & Talk | T1,T |
| 34 | Introduction of Newton-Raphson method | Chalk & Talk | T1,T |
| 35 | Problems on Newton -Raphson method | Chalk & Talk | T1,T |
| 36 | Jacobbi method | Chalk & Talk | T1,T |
| 37 | Gauss- Siedial method | Chalk & Talk | T1,T |

UNIT-IV :INTERPOLATION

| | | | |
|----|--|--------------|-------|
| 37 | Introduction of Interpolation and finite differences | Chalk & Talk | T1,T2 |
| 38 | Forward , backward and central difference tables | Chalk & Talk | T1,T2 |
| 39 | Relation between the operators | Chalk & Talk | T1,T2 |
| 40 | Problems on Newton's forward interpolation formula | Chalk & Talk | T1,T2 |
| 41 | Problems on Newton's backward interpolation formula | Chalk & Talk | T1,T2 |
| 42 | Interpolation with unequal intervlas | Chalk & Talk | T1,T2 |
| 43 | Problems on Lagranges method | Chalk & Talk | T1,T2 |
| 44 | Newton's divided difference formula | Chalk & Talk | T1,T2 |
| 45 | Problems on Newton's divided difference formula | Chalk & Talk | T1,T2 |

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|----------------|--|--------------|-------|
| 46 | Problems on Newton's divided difference formula | Chalk & Talk | T1,T2 |
| UNIT -V | | | |
| 47 | Introduction of Numerical Integration | Chalk & Talk | T1,T2 |
| 48 | Trapezoidal rule | Chalk & Talk | T1,T2 |
| 49 | Problems on Trapezoidal rule | Chalk & Talk | T1,T2 |
| 50 | Simpson's 1/3 rule | Chalk & Talk | T1,T2 |
| 51 | Problems on Simpson's 1/3 rule | Chalk & Talk | T1,T2 |
| 52 | Simpson's 3/8 rule | Chalk & Talk | T1,T2 |
| 53 | Problems on Simpson's 3/8 rule | Chalk & Talk | T1,T2 |
| 54 | Introduction of Numerical Solutions of Ordinary differential equations | Chalk & Talk | T1,T2 |
| 55 | Problems on Taylor series method | Chalk & Talk | T1,T2 |
| 56 | Picard,s method | Chalk & Talk | T1,T2 |
| 57 | Eulers method | Chalk & Talk | T1,T2 |
| 58 | Problems on modified Euler's method | Chalk & Talk | T1,T2 |
| 59 | Runge-kutta method of second order | Chalk & Talk | T1,T2 |
| 60 | Runge-kutta method of third order | Chalk & Talk | T1,T2 |
| 61 | Runge-kutta method of fourth order | Chalk & Talk | T1,T2 |
| 62 | Problems on R-K method of 4 th order | Chalk & Talk | T1,T2 |


Text Books:

- 1) B.S.Grewal , Higher Engineering Mathematics , 43rd Edition , Khanna Publishers.
- 2) B.V.Ramana , Higher Engineering Mathematics, 2007 Edition, Tata Mc.Graw Hill Education.

Refernce Books:

- 1) David Poole, Linear Algebra – A modern introduction, 4th Edition, Cengage.
- 2) Steven C. Chapra, Applied Numerical Methods with MATLAB for Engineering and Science, Tata Mc.Graw Hill Education.
- 3) M.K.Jain, S.R.K. Iyengar and R.K.Jain, Numerical Methods for Scientific and Engineering Computation, New Age International Publications.
- 4) Lawrence Turyn, Advanced Engineering Mathematics, CRC Press.


Faculty In-charge


HOD



Malineni Lakshmaiah Women's Engineering College :: Guntur
Department of Computer Science & Engineering



LESSON PLAN

Faculty Name : P.Arun kumar
Course Name : IT
Academic Year : 2022-2023 II Semester
Degree & Branch : I B.Tech IT

| S. No | Topic | Teaching Aid | Books |
|--|--|---------------------|-----------------|
| UNIT I – POLYMER TECHNOLOGY | | | |
| 1 | Polymers introduction | Chalk & Talk | T1, A1 |
| 2 | Polymerization-Mechanism of polymerization | Chalk & Talk | T1,T2,A1 |
| 3 | Methods of Polymerization | Chalk & Talk PPT | A1,T1 |
| 4 | Physical and mechanical properties of polymers, Advantages and limitations of plastics | Chalk & Talk | R2,T1,T2, A1 |
| 5 | Thermoplastics and Thermosetting plastics, Compounding of plastics | Chalk & Talk | R1,T1,T2 |
| 6 | Fabrication of plastics | Chalk & Talk | T1,T2,R1 |
| 7 | Preparation, properties and applications of PE and PVC | Chalk & Talk | R3,R1,A1 |
| 8 | Preparation, properties and applications of Bakelite | Chalk & Talk | T1,T2 |
| 9 | Preparation, properties and applications Poly carbonates. | | |
| 10 | Elastomers-Natural rubber-compounding, Vulcanization. | | |
| 11 | Synthetic rubbers-Buna-S, Thiokol and polyurethanes. | | |
| 12 | Applications of elastomers, Composite materials, Fiber reinforced plastics | | |
| 13 | Biodegradable polymers, Biopolymer, Biomedical polymers. | | |
| 14 | Conducting polymers. | | |
| UNIT-II ELECTROCHEMICAL CELLS AND CORROSION | | | |
| 1 | Electrochemistry introduction-Galvanic cells | Chalk & Talk | T2,R1 |
| 2 | Reversible and irreversible cells and single electrode potential | Chalk & Talk | T1,A1 |
| 3 | Electrochemical series and use of this series | Chalk & Talk | T2,R2 |
| 4 | Standard electrodes- Hydrogen and calomel electrode | Chalk & Talk | T2,R3 |
| 5 | Concentration cells | Chalk & Talk | T2,R3 |

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|----|--|--------------|-------|
| 6 | Batteries-Dry cell-Ni-Cd cells | Chalk & Talk | T1,T2 |
| 7 | Ni-Metal hydride cells-Li cells-Zinc-air cells | | |
| 8 | Corrosion introduction –Definition-Theories of corrosion | | |
| 9 | Formation of galvanic cells by different metals by conc.cells. | | |
| 10 | Differential aeration and waterline corrosion, Passivity of metals – pitting corrosion-galvanic series | | |
| 11 | Factors which influence the rate of corrosion-protection from corrosion | | |
| 12 | Design and material selection-cathodic protection | | |
| 13 | Protective coatings-surface preparation-cathodic and anodic coatings | | |
| 14 | Methods of application on metals-Galvanizing, Tinning, Electroplating and Electroless plating | | |
| 15 | Paints -constituents, functions and special paints. | | |

UNIT-III MATERIAL CHEMISTRY

| | | | |
|----|---|--------------|----------|
| 1 | Non-elemental semiconducting materials- Stoichiometric . | Chalk & Talk | T1,T2 |
| 2 | Controlled valency & chalcogen photo/semiconductors. | Chalk & Talk | A1,T2 |
| 3 | Preparation of semiconductors -distillation ,zone refining. | Chalk & Talk | W2 |
| 4 | Czochralski crystal pulling, epitaxy, diffusion, ion implantation) | Chalk & Talk | T1,A1 |
| 5 | Semiconductor devices -p-n junction diode as rectifier, | Chalk & Talk | T1,T2,A1 |
| 6 | Junction transistor. | Chalk & Talk | T1,T2,A1 |
| 7 | Insulators & magnetic materials: electrical insulators-ferro and ferri magnetism-Hall effect and its application. | Chalk & Talk | W3 |
| 8 | Nano materials-introduction-sol-gel method and chemical reduction, BET and TEM methods | Chalk & Talk | T2,R3 |
| 9 | Types, properties, preparation and applications of carbon nanotubes and fullerenes | Chalk & Talk | T2,R1,A1 |
| 10 | Liquid crystals-introduction – Types, Applications | Chalk & Talk | T1,A1 |
| 11 | Super conductors-Type-I and Type-II ,Properties and applications of super conductors | Chalk & Talk | T2,R3 |

UNIT-IV SPECTROSCOPIC TECHNIQUES & NON-CONVENTIONAL ENERGY SOURCES

| | | | |
|---|---|--------------|----------|
| 1 | Introduction of Electromagnetic spectrum | Chalk & Talk | A1,T1,T2 |
| 2 | UV (laws of absorption, instrumentation, theory of electronic spectroscopy, Frank-condon principle, | | |
| 3 | chromophores and auxochromes, intensity shifts, applications | Chalk & Talk | T1,T2 |
| 4 | FT-IR instrumentation and differentiation of sp, sp ² . | | |
| 5 | IR stretching of functional groups (alcohols, carbonyls, amines) applications], | Chalk & Talk | R1,R2,T2 |
| 6 | magnetic resonance imaging and CT scan (procedure & applications). \ | Chalk & Talk | T1,R2,R3 |
| 7 | Design, working, schematic diagram, advantages and disadvantages of photovoltaic cell | Chalk & Talk | T2,A1 |
| 8 | hydropower, | | |


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|---|---|--------------|-----------|
| 9 | geothermal power | Chalk & Talk | T1,R2,R3 |
| 10 | tidal and wave power | Chalk & Talk | TT1,R2,R3 |
| 11 | ocean thermal energy conversion | Chalk & Talk | W7 |
| UNIT –V ADVANCED CONCEPTS IN CHEMISTRY | | | |
| 1 | : Introduction to computational chemistry | Chalk & Talk | W4 |
| 2 | molecular modelling and docking studies | Chalk & Talk | TT |
| 3 | Molecular switches: characteristics of molecular motors. | Chalk & Talk | T2,R3,A1 |
| 4 | Rotaxanes and Catenanes as artificial molecular machines | | W7 |
| 5 | , prototypes – linear motions in rotaxanes. | Chalk & Talk | T1,R3 |
| 6 | , an acid-base controlled molecular shuttle, a molecular elevator, an autonomous light-powered molecular. | Chalk & Talk | A1,T1,R1 |


Text Books:

1. P.C. Jain and M. Jain “Engineering Chemistry”, 15/e, Dhanpat Rai & Sons, Delhi, (Latest **edition**).
2. Shikha Agarwal, “Engineering Chemistry”, Cambridge University Press, New Delhi, (2019).
3. S.S. Dara, “A Textbook of Engineering Chemistry”, S.Chand & Co, (2010).
4. Shashi Chawla, “Engineering Chemistry”, Dhanpat Rai Publishing Co. (Latest edition).

Reference Books:

1. Y.BHARATHI KUMARI, PROFESSOR JNTUH


Signature of the Faculty


Signature of the HOD
HOD
Dept. of Science & Humanities
Malineni Lakshmaiah Women's Engineering College
Pulladigunta, GUNTUR-522017



Malineni Lakshmaiah Women's Engineering College :: Guntur
Department of Science and Humanities

LESSON PLAN

Faculty Name : M.PRASAD
Course Name : APPLIED PHYSICS
Academic Year : 2022-23 II Semester
Degree & Branch : I B. Tech, AI&DS, ECE

| S.No | Topic | Teaching Aid | Books |
|-----------------------------|--|--------------|-------------|
| UNIT I – WAVE OPTICS | | | |
| 1 | Introduction, Principle of superposition, Coherent sources. | Chalk & Talk | T1,T3 R1 |
| 2 | Interference in thin films by reflection. | Chalk & Talk | T1,T3 R1 |
| 3 | Newton's rings construction. | PPT | T1,T3 R1 |
| 4 | Applications of Newton's rings, Problems. | Chalk & Talk | T1,T3 R1 |
| 5 | Fraunhofer diffraction at single slit, Maxima & Minima conditions. | Chalk & Talk | T1,T3 R1 |
| 6 | Intensity distribution in Single slit diffraction. | Chalk & Talk | T1,T3 R1 |
| 7 | Fraunhofer diffraction due to double slit | Chalk & Talk | T1,T3 R1 |
| 8 | N-slits & circular aperture (Qualitative treatment only), Grating equation | Chalk & Talk | T1,T3 R1 |
| 9 | Resolving power of a grating, Problems | Chalk & Talk | T1,T3 R1 |
| 10 | Telescopes and microscopes | Chalk & Talk | T1,T3 R1 |
| 11 | Introduction of Polarization, Types of Polarization | Chalk & Talk | T1,T3 |

| UNIT-III Quantum Mechanics ,Free Electron Theory and Band theory | | | |
|---|---|--------------|-------------|
| 1 | Introduction to matter waves. | Chalk & Talk | T1,T3 R1 |
| 2 | Properties of matter waves, de-Broglie hypothesis. | Chalk & Talk | T1,T3 R1 |
| 3 | Schrodinger Time dependent & Independent wave equation. | Chalk & Talk | T1,T3 R1 |
| 4 | Particle in a Potential well, Problems. | Chalk & Talk | T1,T3 R1 |
| 5 | Difference between C.F.T& Q.F.T. | Chalk & Talk | T1,T3 R1 |
| 6 | Bloch's theorem (qualitative). | Chalk & Talk | T1,T3 R1 |
| 7 | Kronig penney model energy bands in crystalline solids. | Chalk & Talk | T1,T3 R1 |
| 8 | Classification of crystalline solids, K-V graph. | Chalk &Talk | T1,T3 R1 |
| 9 | Concept of effective mass of an electron - Concept of hole. | Chalk & Talk | T1,T3 R1 |

UNIT-IV Dielectric and Magnetic Materials.

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|---|---|--------------|-------------|
| 1 | Basic definitions, Origin of the magnetic moment. | Chalk & Talk | T1,T3 R1 |
| 2 | Classification of magnetic materials, Dia, Para, Ferro materials. | Chalk & Talk | T1,T3 R1 |
| 3 | Domain theory of Ferromagnetic materials. | Chalk & Talk | T1,T3 R1 |
| 4 | Weiss field theory of Ferro magnetic materials. | Chalk & Talk | T1,T3 R1 |
| 5 | Hysteresis Loop. Soft & Hard magnetic materials | PPT | T1,T3 |

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|------------------------------------|--|--------------|-------------|
| 10 | Type I&II superconductors on the basis of Meissner effect. | Chalk & Talk | T1,T3 R5 |
| 11 | BCS theory-Cooper pair. | Chalk & Talk | T1,T3 R5 |
| 12 | Problems. | Chalk & Talk | T1,T3 R5 |
| Total Number Of Periods: 54 | | | |

M. Prasad
Faculty Signature

A. S. Kalyan
H.O.D
HOD
Dept. of Science & Humanities
Malineni Lakshmaiah Women's Engineering College
Pulladigunta, GUNTUR-522017



MALINENI LAKSHMAIAH WOMEN'S ENGINEERING COLLEGE
(Approved by AICTE, Affiliated to JNTUK)

LESSON PLAN
COMMUNICATIVE ENGLISH

Name of the Faculty : P. Jahedunnisa
 Department : S&H
 Academic Year : 2022-23, I Semester
 Subject code : C101
 Branch : CSE

| S.NO. | Contents | No. of Periods | Cumulative Periods | Teaching aid | Reference book |
|--|---|----------------|--------------------|--------------------------|----------------|
| UNIT-I | | | | | |
| A DRAWER FULL OF HAPPINESS | | | | | |
| 1 | A Drawer Full Of Happiness Text Reading and Lesson Explanation | 1 | 1 | | |
| 2 | A Drawer Full Of Happiness Text Reading and vocabulary practice | 1 | 2 | Textbook ,chalk and talk | Text book1 |
| 3 | Text Based Questions & GRE Vocabulary | 1 | 3 | Textbook ,chalk and talk | Text book1 |
| 4 | Sentence construction, Different word forms, Basic sentence structures and word order | 1 | 4 | Textbook ,chalk and talk | Text book1 |
| 5 | Content words and function words (writing) | 1 | 5 | Textbook ,chalk and talk | Text book1 |
| 6 | Asking and Answering questions(Speaking) | 1 | 6 | Textbook ,chalk and talk | Text book1 |
| 7 | Skimming, Scanning, Mechanics of Writing | 1 | 7 | Textbook | Text book1 |
| DELIVERANCE | | | | | |
| 8 | Lesson reading and explanation | 1 | 8 | Textbook ,chalk and talk | Text book-2 |
| 9 | Lesson reading and explanation | 1 | 9 | Textbook ,chalk and talk | Text book-2 |
| 10 | Discussing the question from the text book | 1 | 10 | Textbook ,chalk and talk | Text book-2 |
| | Total-10 | | | | |
| UNIT-II | | | | | |
| NEHRU'S LETTER TO HIS DAUGHTER INDIRA ON HER BIRTHDAY | | | | | |
| 11 | Lesson reading and Explanation | 1 | 11 | Textbook ,chalk and talk | Text book1 |
| 12 | Lesson reading and Explanation | 1 | 12 | Textbook ,chalk and talk | Text book1 |
| 13 | Text Based Questions & GRE Vocabulary, verbal competence & Analogy | 1 | 13 | Textbook ,chalk and talk | Text book1 |
| 14 | Articles and Prepositions | 1 | 14 | Textbook ,chalk and talk | Text book1 |

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|---------------------|---|---|----|--------------------------|------------|
| 15 | Speaking in pairs on specific topics, Recognizing Verbal Techniques | 1 | 15 | Textbook ,chalk and talk | Text book1 |
| 16 | Summarising & Paraphrasing | 1 | 16 | Textbook | Text book1 |
| BOSOM FRIEND | | | | | |
| 17 | Reciting Poem and Explanation | 1 | 17 | Textbook | Text book2 |
| 18 | Discussing the questions from the text book | 1 | 18 | Textbook | Text book2 |
| Total-8 | | | | | |

UNIT-III

STEPHEN HAWKING-POSITIVITY 'BENCHMARK'

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|----|--|---|----|--------------------------|------------|
| 19 | Lesson reading and Explanation | 1 | 19 | Textbook ,chalk and talk | Text book1 |
| 20 | Lesson reading and Explanation | 1 | 20 | Textbook ,chalk and talk | Text book1 |
| 21 | Glossary, Text -Based Questions Language Competence | 1 | 21 | Textbook ,chalk and talk | Text book1 |
| 22 | Vocabulary (GRE, Technical) Using Equivalents | 1 | 22 | Textbook ,chalk and talk | Text book1 |
| 23 | Associations, Verbs | 1 | 23 | Textbook ,chalk and talk | Text book1 |
| 24 | Tenses, Concord | 1 | 24 | Textbook ,chalk and talk | Text book1 |
| 25 | Reading(Reading between the lines), Dialogues(Speaking in pairs),Letter Writing | 1 | 25 | Textbook ,chalk and talk | Text book1 |
| 26 | E-Mail Etiquette, Resume Writing | 1 | 26 | Textbook ,chalk and talk | Text book1 |

SHAKESPEARE'S SISTER

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|-----------------|---|---|----|--------------------------|------------|
| 27 | Lesson reading and Explanation | 1 | 27 | Textbook ,chalk and talk | Text book2 |
| 28 | Lesson reading and Explanation | 1 | 28 | Textbook ,chalk and talk | Text book2 |
| 29 | Discussing the questions from the text book | 1 | 29 | Textbook ,chalk and talk | Text book2 |
| Total-10 | | | | | |

UNIT-IV

LIKE A TREE, UNBOWED: WANGARI MAATHAI-BIOGRAPHY

| | | | | | |
|----|--|---|----|--------------------------|------------|
| 30 | Lesson reading and Explanation | 1 | 29 | Textbook ,chalk and talk | Text book1 |
| 31 | Lesson reading and Explanation | 1 | 30 | Textbook ,chalk and talk | Text book1 |
| 32 | Language Competence, Vocabulary (GRE, Technical) | 1 | 31 | Textbook ,chalk and talk | Text book1 |

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|----------------------------------|--|---|----|--------------------------|------------|
| 33 | Grammar (Quantifying Expressions, Adjectives, Adverbs, Degree of Comparison) | 1 | 33 | Textbook ,chalk and talk | Text book1 |
| 34 | Reading (Studying the Graphic elements in Text Book) | 1 | 34 | Textbook ,chalk and talk | Text book1 |
| 35 | Speaking (Role Plays Formal and Informal) | 1 | 35 | Textbook ,chalk and talk | Text book1 |
| 36 | Writing (Interpreting Visual Information) | 1 | 36 | Textbook ,chalk and talk | Text book1 |
| TELEPHONIC CONVERSATION | | | | | |
| 37 | Reciting Poem and Explanation | 1 | 37 | Textbook ,chalk and talk | Text book2 |
| 38 | Reciting Poem and Explanation | 1 | 38 | Textbook ,chalk and talk | Text book2 |
| | Total-9 | | | | |
| UNIT-V | | | | | |
| STAY HUNGRY- STAY FOOLISH | | | | | |
| 39 | Lesson reading and Explanation | 1 | 39 | Textbook ,chalk and talk | Text book1 |
| 40 | Lesson reading and Explanation | 1 | 40 | Textbook ,chalk and talk | Text book1 |
| 41 | Language Competence , Phrasal Verbs, Vocabulary(GRE, Technical) | 1 | 41 | Textbook ,chalk and talk | Text book1 |
| 42 | Grammar (Reported Speech) | 1 | 42 | Textbook ,chalk and talk | Text book1 |
| 43 | Direct and Indirect Speech, Correction of Sentences | 1 | 43 | Textbook ,chalk and talk | Text book1 |
| 44 | Listening (Identifying Key Terms) | | 44 | Textbook ,chalk and talk | Text book1 |
| 45 | Speaking (Formal Oral Presentations) | 1 | 45 | Textbook ,chalk and talk | Text book1 |
| 46 | Reading (Reading Comprehension) | 1 | 46 | Textbook ,chalk and talk | Text book1 |
| 47 | Writing (Academic Proposals), Poster Presentation | 1 | 47 | Textbook ,chalk and talk | Text book1 |
| STILL I RISE | | | | | |
| 48 | Reciting Poem and Explanation | 1 | 48 | Textbook ,chalk and talk | Text book2 |
| 49 | Reciting Poem and Explanation | 1 | 49 | Textbook ,chalk and talk | Text book2 |

Total no. of classes : 49

TEXT BOOKS:

REFERENCE BOOKS:

Text books:

- 1) "Infotech English", Maruthi Publications. (Detailed)
- 2) "The Individual Society", Pearson Publications. (Non-detailed)

Reference books:

- 1) Bailey, Stephen. Academic writing: A handbook for international students. Routledge, 2014.
- 2) Chase, Becky Tarver. Pathways: Listening, Speaking and Critical Thinking. Heinley ELT;

2nd Edition, 2018.

- 3) Skillful Level 2 Reading & Writing Student's Book Pack (B1) Macmillan Educational.
- 4) Hewings, Martin. Cambridge Academic English (B2). CUP, 2012.

P. Anhedunnin
Signature of faculty

Arshad Khan
H.O.D

HOD
Dept. of Science & Humanities
Malleni Lakshmaiah Women's Engineering College
Pulladigunta, GUNTUR-522017



M ALINENI LAKSHMAIAH WOMEN'S ENGINEERING COLLEGE (KE)

(Approved by AICTE, Affiliated to JNTUK)
 Pulladigunta (Village), Vatticherukuru (Mandal),
 Guntur-522017, Andhra Pradesh, India

Course File

| | |
|--------------------------------|-----------------------------|
| COURSE : COMMUNICATIVE ENGLISH | PROGRAM : B.TECH (CSE-AIML) |
| COURSE CODE : C101 | YEAR : I SEMESTER: I |
| REGULATION : R20 | COURSE TYPE : REGULAR |
| ACADEMIC YEAR : 2022-23 | CREDITS : 3 |

LESSON PLAN

Name of the Faculty : J.SRILAKSHMI
 Department : S&H
 Subject code : C101

| S.NO. | Contents | No. of Periods | Cumulative Periods | Teaching aid | Reference book |
|--|---|----------------|--------------------|--------------------------|----------------|
| UNIT-I | | | | | |
| A DRAWER FULL OF HAPPINESS | | | | | |
| 1 | Introduction class | 1 | 1 | | |
| 2 | A Drawer Full Of Happiness Text Reading and Lesson Explanation | 1 | 2 | Textbook ,chalk and talk | Text book 1 |
| 3 | A Drawer Full Of Happiness Text Reading and vocabulary practice | 1 | 3 | Textbook ,chalk and talk | Text book 1 |
| 4 | Text Based Questions & GRE Vocabulary | 1 | 4 | Textbook ,chalk and talk | Text book 1 |
| 5 | Sentence construction, Different word forms, Basic sentence structures and word order | 1 | 5 | Textbook ,chalk and talk | Text book 1 |
| 6 | Content words and function words (writing) | 1 | 6 | Textbook ,chalk and talk | Text book 1 |
| 7 | Asking and Answering questions(Speaking) | 1 | 7 | Textbook | Text book 1 |
| 8 | Skimming, Scanning, Mechanics of Writing | 1 | 8 | Textbook ,chalk and talk | Text book-1 |
| DELIVERANCE | | | | | |
| 9 | Lesson reading and explanation | 1 | 9 | Textbook ,chalk and talk | Text book-2 |
| 10 | Lesson reading and explanation | 1 | 10 | Textbook ,chalk and talk | Text book-2 |
| Total-10 | | | | | |
| UNIT-II | | | | | |
| NEHRU'S LETTER TO HIS DAUGHTER INDIRA ON HER BIRTHDAY | | | | | |

| | | | | | |
|--|---|---|----|--------------------------|------------|
| 11 | Lesson reading and Explanation | 1 | 11 | Textbook ,chalk and talk | Text book1 |
| 12 | Lesson reading and Explanation | 1 | 12 | Textbook ,chalk and talk | Text book1 |
| 13 | Text Based Questions & GRE Vocabulary, verbal competence & Analogy | 1 | 13 | Textbook ,chalk and talk | Text book1 |
| 14 | Articles and Prepositions | 1 | 14 | Textbook ,chalk and talk | Text book1 |
| 15 | Speaking in pairs on specific topics, Recognizing Verbal Techniques | 1 | 15 | Textbook ,chalk and talk | Text book1 |
| 16 | Summarising & Paraphrasing | 1 | 16 | Textbook | Text book1 |
| BOSOM FRIEND | | | | | |
| 17 | Reciting Poem and Explanation | 1 | 17 | Textbook | Text book2 |
| 18 | Reciting Poem and Explanation | 1 | 18 | Textbook | Text book2 |
| Total-8 | | | | | |
| UNIT-III | | | | | |
| STEPHEN HAWKING-POSITIVITY 'BENCHMARK' | | | | | |
| 19 | Lesson reading and Explanation | 1 | 19 | Textbook ,chalk and talk | Text book1 |
| 20 | Lesson reading and Explanation | 1 | 20 | Textbook ,chalk and talk | Text book1 |
| 21 | Glossary, Text -Based Questions Language Competence | 1 | 21 | Textbook ,chalk and talk | Text book1 |
| 22 | Vocabulary (GRE, Technical) Using Equivalent | 1 | 22 | Textbook ,chalk and talk | Text book1 |
| 23 | Associations, Verbs | 1 | 23 | Textbook ,chalk and talk | Text book1 |
| 24 | Tenses, Concord | 1 | 24 | Textbook ,chalk and talk | Text book1 |
| 25 | Reading(Reading between the lines), Dialogues(Speaking in pairs),Letter Writing | 1 | 25 | Textbook ,chalk and talk | Text book1 |
| 26 | E-Mail Etiquette, Resume Writing | 1 | 26 | Textbook ,chalk and talk | Text book1 |
| SHAKESPEARE'S SISTER | | | | | |
| 27 | Lesson reading and Explanation | 1 | 27 | Textbook ,chalk and talk | Text book2 |
| 28 | Lesson reading and Explanation | 1 | 28 | Textbook ,chalk and talk | Text book2 |
| Total-10 | | | | | |
| UNIT-IV | | | | | |
| LIKE A TREE, UNBOWED: WANGARI MAATHAI-BIOGRAPHY | | | | | |
| 29 | Lesson reading and Explanation | 1 | 29 | Textbook ,chalk and talk | Text book1 |
| 30 | Lesson reading and Explanation | 1 | 30 | Textbook ,chalk and talk | Text book1 |

| | | | | | |
|----------------------------------|--|---|----|--------------------------|------------|
| 31 | Language Competence, Vocabulary (GRE, Technical) | 1 | 31 | Textbook ,chalk and talk | Text book1 |
| 32 | Grammar (Quantifying Expressions, Adjectives, Adverbs, Degree of Comparison) | 1 | 32 | Textbook ,chalk and talk | Text book1 |
| 33 | Reading (Studying the Graphic elements in Text Book) | 1 | 33 | Textbook ,chalk and talk | Text book1 |
| 34 | Speaking (Role Plays Formal and Informal) | 1 | 34 | Textbook ,chalk and talk | Text book1 |
| 35 | Writing (Interpreting Visual Information) | 1 | 35 | Textbook ,chalk and talk | Text book1 |
| TELEPHONIC CONVERSATION | | | | | |
| 36 | Reciting Poem and Explanation | 1 | 36 | Textbook ,chalk and talk | Text book2 |
| 37 | Reciting Poem and Explanation | 1 | 37 | Textbook ,chalk and talk | Text book2 |
| | Total-9 | | | | |
| UNIT-V | | | | | |
| STAY HUNGRY- STAY FOOLISH | | | | | |
| 38 | Lesson reading and Explanation | 1 | 38 | Textbook ,chalk and talk | Text book1 |
| 39 | Lesson reading and Explanation | 1 | 39 | Textbook ,chalk and talk | Text book1 |
| 40 | Language Competence , Phrasal Verbs, Vocabulary(GRE, Technical) | 1 | 40 | Textbook ,chalk and talk | Text book1 |
| 41 | Grammar (Reported Speech) | 1 | 41 | Textbook ,chalk and talk | Text book1 |
| 42 | Direct and Indirect Speech, Correction of Sentences | 1 | 42 | Textbook ,chalk and talk | Text book1 |
| 43 | Listening (Identifying Key Terms) | | 43 | Textbook ,chalk and talk | Text book1 |
| 44 | Speaking (Formal Oral Presentations) | 1 | 44 | Textbook ,chalk and talk | Text book1 |
| 45 | Reading (Reading Comprehension) | 1 | 45 | Textbook ,chalk and talk | Text book1 |
| 46 | Writing (Academic Proposals), Poster Presentation | 1 | 46 | Textbook ,chalk and talk | Text book1 |
| STILL I RISE | | | | | |
| 47 | Reciting Poem and Explanation | 1 | 47 | Textbook ,chalk and talk | Text book2 |
| 48 | Reciting Poem and Explanation | 1 | 48 | Textbook ,chalk and talk | Text book2 |

TOTAL No. Classes: 48

TEXT BOOKS:

REFERENCE BOOKS:

Text books:

- 1) "Infotech English", Maruthi Publications. (Detailed)
- 2) "The Individual Society", Pearson Publications. (Non-detailed)

Reference books:

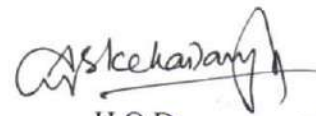
- 1) Bailey, Stephen. Academic writing: A handbook for international students. Routledge, 2014.
- 2) Chase, Becky Tarver. Pathways: Listening, Speaking and Critical Thinking. Heinley ELT;

2nd Edition, 2018.

- 3) Skillful Level 2 Reading & Writing Student's Book Pack (B1) Macmillan Educational.
- 4) Hewings, Martin. Cambridge Academic English (B2). CUP, 2012.



Signature of faculty



H.O.D

Dept. of Science & Humanities
Malineni Lakshmaiah Women's Engineering College
Pulladigunta, GUNTUR-522017



M ALINENI LAKSHMAIAH WOMEN'S ENGINEERING COLLEGE (KE)

(Approved by AICTE, Affiliated to JNTUK)
 Pulladigunta (Village), Vatticherukuru (Mandal),
 Guntur-522017, Andhra Pradesh, India

Course File

| | |
|--------------------------------|---------------------------|
| COURSE : COMMUNICATIVE ENGLISH | PROGRAM : B.TECH (CSE-DS) |
| COURSE CODE : C101 | YEAR : I SEMESTER: I |
| REGULATION : R20 | COURSE TYPE : REGULAR |
| ACADEMIC YEAR : 2022-23 | CREDITS : 3 |

LESSON PLAN

Name of the Faculty : J.SRILAKSHMI
 Department : S&H
 Subject code : C101

| S.NO. | Contents | No. of Periods | Cumulative Periods | Teaching aid | Reference book |
|--|---|----------------|--------------------|--------------------------|----------------|
| UNIT-I | | | | | |
| A DRAWER FULL OF HAPPINESS | | | | | |
| 1 | Introduction class | 1 | 1 | | |
| 2 | A Drawer Full Of Happiness Text Reading and Lesson Explanation | 1 | 2 | Textbook ,chalk and talk | Text book 1 |
| 3 | A Drawer Full Of Happiness Text Reading and vocabulary practice | 1 | 3 | Textbook ,chalk and talk | Text book 1 |
| 4 | Text Based Questions & GRE Vocabulary | 1 | 4 | Textbook ,chalk and talk | Text book 1 |
| 5 | Sentence construction, Different word forms, Basic sentence structures and word order | 1 | 5 | Textbook ,chalk and talk | Text book 1 |
| 6 | Content words and function words (writing) | 1 | 6 | Textbook ,chalk and talk | Text book 1 |
| 7 | Asking and Answering questions(Speaking) | 1 | 7 | Textbook | Text book 1 |
| 8 | Skimming, Scanning, Mechanics of Writing | 1 | 8 | Textbook ,chalk and talk | Text book-1 |
| DELIVERANCE | | | | | |
| 9 | Lesson reading and explanation | 1 | 9 | Textbook ,chalk and talk | Text book-2 |
| 10 | Lesson reading and explanation | 1 | 10 | Textbook ,chalk and talk | Text book-2 |
| | Total-10 | | | | |
| UNIT-II | | | | | |
| NEHRU'S LETTER TO HIS DAUGHTER INDIRA ON HER BIRTHDAY | | | | | |

| | | | | | |
|--|---|---|----|--------------------------|------------|
| 11 | Lesson reading and Explanation | 1 | 11 | Textbook ,chalk and talk | Text book1 |
| 12 | Lesson reading and Explanation | 1 | 12 | Textbook ,chalk and talk | Text book1 |
| 13 | Text Based Questions & GRE Vocabulary, verbal competence & Analogy | 1 | 13 | Textbook ,chalk and talk | Text book1 |
| 14 | Articles and Prepositions | 1 | 14 | Textbook ,chalk and talk | Text book1 |
| 15 | Speaking in pairs on specific topics, Recognizing Verbal Techniques | 1 | 15 | Textbook ,chalk and talk | Text book1 |
| 16 | Summarising & Paraphrasing | 1 | 16 | Textbook | Text book1 |
| BOSOM FRIEND | | | | | |
| 17 | Reciting Poem and Explanation | 1 | 17 | Textbook | Text book2 |
| 18 | Reciting Poem and Explanation | 1 | 18 | Textbook | Text book2 |
| Total-8 | | | | | |
| UNIT-III | | | | | |
| STEPHEN HAWKING-POSITIVITY 'BENCHMARK' | | | | | |
| 19 | Lesson reading and Explanation | 1 | 19 | Textbook ,chalk and talk | Text book1 |
| 20 | Lesson reading and Explanation | 1 | 20 | Textbook ,chalk and talk | Text book1 |
| 21 | Glossary, Text -Based Questions Language Competence | 1 | 21 | Textbook ,chalk and talk | Text book1 |
| 22 | Vocabulary (GRE, Technical) Using Equivalent | 1 | 22 | Textbook ,chalk and talk | Text book1 |
| 23 | Associations, Verbs | 1 | 23 | Textbook ,chalk and talk | Text book1 |
| 24 | Tenses, Concord | 1 | 24 | Textbook ,chalk and talk | Text book1 |
| 25 | Reading(Reading between the lines), Dialogues(Speaking in pairs),Letter Writing | 1 | 25 | Textbook ,chalk and talk | Text book1 |
| 26 | E-Mail Etiquette, Resume Writing | 1 | 26 | Textbook ,chalk and talk | Text book1 |
| SHAKESPEARE'S SISTER | | | | | |
| 27 | Lesson reading and Explanation | 1 | 27 | Textbook ,chalk and talk | Text book2 |
| 28 | Lesson reading and Explanation | 1 | 28 | Textbook ,chalk and talk | Text book2 |
| Total-10 | | | | | |
| UNIT-IV | | | | | |
| LIKE A TREE, UNBOWED: WANGARI MAATHAI-BIOGRAPHY | | | | | |
| 29 | Lesson reading and Explanation | 1 | 29 | Textbook ,chalk and talk | Text book1 |
| 30 | Lesson reading and Explanation | 1 | 30 | Textbook ,chalk and talk | Text book1 |

| | | | | | |
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| 31 | Language Competence, Vocabulary (GRE, Technical) | 1 | 31 | Textbook ,chalk and talk | Text book1 |
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| 33 | Reading (Studying the Graphic elements in Text Book) | 1 | 33 | Textbook ,chalk and talk | Text book1 |
| 34 | Speaking (Role Plays Formal and Informal) | 1 | 34 | Textbook ,chalk and talk | Text book1 |
| 35 | Writing (Interpreting Visual Information) | 1 | 35 | Textbook ,chalk and talk | Text book1 |
| TELEPHONIC CONVERSATION | | | | | |
| 36 | Reciting Poem and Explanation | 1 | 36 | Textbook ,chalk and talk | Text book2 |
| 37 | Reciting Poem and Explanation | 1 | 37 | Textbook ,chalk and talk | Text book2 |
| | Total-9 | | | | |
| UNIT-V | | | | | |
| STAY HUNGRY- STAY FOOLISH | | | | | |
| 38 | Lesson reading and Explanation | 1 | 38 | Textbook ,chalk and talk | Text book1 |
| 39 | Lesson reading and Explanation | 1 | 39 | Textbook ,chalk and talk | Text book1 |
| 40 | Language Competence , Phrasal Verbs, Vocabulary(GRE, Technical) | 1 | 40 | Textbook ,chalk and talk | Text book1 |
| 41 | Grammar (Reported Speech) | 1 | 41 | Textbook ,chalk and talk | Text book1 |
| 42 | Direct and Indirect Speech, Correction of Sentences | 1 | 42 | Textbook ,chalk and talk | Text book1 |
| 43 | Listening (Identifying Key Terms) | | 43 | Textbook ,chalk and talk | Text book1 |
| 44 | Speaking (Formal Oral Presentations) | 1 | 44 | Textbook ,chalk and talk | Text book1 |
| 45 | Reading (Reading Comprehension) | 1 | 45 | Textbook ,chalk and talk | Text book1 |
| 46 | Writing (Academic Proposals), Poster Presentation | 1 | 46 | Textbook ,chalk and talk | Text book1 |
| STILL I RISE | | | | | |
| 47 | Reciting Poem and Explanation | 1 | 47 | Textbook ,chalk and talk | Text book2 |
| 48 | Reciting Poem and Explanation | 1 | 48 | Textbook ,chalk and talk | Text book2 |

TOTAL No. Classes: 48

TEXT BOOKS:

REFERENCE BOOKS:

Text books:

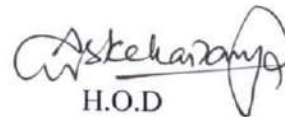
- 1) "Infotech English", Maruthi Publications. (Detailed)
- 2) "The Individual Society", Pearson Publications. (Non-detailed)

Reference books:

- 1) Bailey, Stephen. Academic writing: A handbook for international students. Routledge, 2014.
- 2) Chase, Becky Tarver. Pathways: Listening, Speaking and Critical Thinking. Heinley ELT;
2nd Edition, 2018.
- 3) Skillful Level 2 Reading & Writing Student's Book Pack (B1) Macmillan Educational.
- 4) Hewings, Martin. Cambridge Academic English (B2). CUP, 2012.



Signature of faculty



H.O.D



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Approved by AICTE, New Delhi & Affiliated to JNTUK, Kakinada

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Pulladigunta (Vil), Vatticherukuru (Md), Prathipadu Road, Guntur – 522 017 A.P.



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

A.Y.: 2022-23

Date: 01-12-2022

| | |
|---------------------|--------------------|
| Subject Code | C303 |
| Subject Name | DIGITAL |
| Regulation | R20 |
| Year & | III & I |
| Academic | 2022-23 |

LESSON PLAN

| S.No | Topic | Teaching Aid | Books |
|--|---|---------------------|--------|
| UNIT-I INTRODUCTION TO PULSE DIGITAL MODULATION | | | |
| 1 | Introduction to digital communications | Chalk & Talk | T1 |
| 2 | Elements of digital communication systems | Chalk & Talk, Video | T1 |
| 3 | advantages of digital communication over analog communication systems | Chalk & Talk, PPT | T2 |
| 4 | Elements of PCM block diagram, Concept of Sampling | Chalk & Talk | T1 |
| 5 | Quantization and quantization error , Encoding | Chalk & Talk | R1 |
| 6 | Companding in PCM, Problems on PCM | Chalk & Talk | T2 |
| 7 | Differential PCM, Advantage of DPCM over PCM | Chalk & Talk | R2, T2 |
| 8 | Delta modulation, Granular noise and Slope overload distortion | Chalk & Talk | T1, T1 |
| 9 | Differences between DM and DPCM, Adaptive DM | Chalk & Talk | T2 |
| 10 | Problems on PCM | Chalk & Talk | T1, T1 |
| 11 | Problems on DM | Chalk & Talk, PPT | T2, |
| 12 | Revision classes | Chalk & Talk | T1 |
| II Unit: DIGITAL MODULATION TECHNIQUES | | | |
| 13 | Introduction to digital modulation methods, ASK, FSK | Chalk & Talk | R1, T1 |
| 14 | PSK, DPSK and DEPSK | Chalk & Talk | T2 |

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| | | | |
|------------------------------------|--|-------------------|--------|
| 15 | QPSK and M-ary PSK | Guest Lecture | T1 |
| 16 | M-ary ASK and FSK | Chalk & Talk | T1 |
| 17 | Similarity between BPSK and BFSK | Chalk & Talk | T2 |
| III Unit: DATA TRANSMISSION | | | |
| 18 | Base band signal receiver, probability of error | Chalk & Talk | T2 |
| 19 | Optimum filter, matched filter, | Chalk & Talk, PPT | R2, T1 |
| 20 | Probability of error using matched filter | Chalk & Talk | R3, T2 |
| 21 | Coherent reception, non-coherent detection of FSK | Chalk & Talk | T1 |
| 22 | Calculation of error probability of ASK, BPSK, BFSK, QPSK | Chalk & Talk | R1, T1 |
| 23 | Revision classes | Chalk & Talk | T1 |
| IV Unit: INFORMATION THEORY | | | |
| 24 | Introduction to information theory, Concept of information, Properties | Chalk & Talk | T2 |
| 25 | Average Information, Entropy and its properties | Chalk & Talk | T2 |
| 26 | Types of channel, probability matrix of a channel | Chalk & Talk, PPT | T2 |
| 27 | Problem on channel probability matrix | Chalk & Talk | T1, T1 |
| 28 | Information rate, Mutual information and its properties | Chalk & Talk | T1 |
| 29 | Problems on information, entropy | Chalk & Talk | T2, T1 |
| 30 | Problems on mutual information | Chalk & Talk | T1 |
| 31 | Problems on capacity of channel | Chalk & Talk | R3, T2 |
| 32 | Problems | Chalk & Talk | T1, T1 |
| 33 | Revision classes | Chalk & Talk | T2 |
| V Unit: SOURCE CODING | | | |
| 34 | Introduction to source coding, Prefix coding, Advantages, | Chalk & Talk, PPT | T2 |


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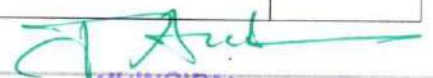
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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

| | | | |
|------------------------------------|---|-------------------|--------|
| | Shannon's theorem | | |
| 35 | Shanon-Fano coding, example | Chalk & Talk | T1 |
| 36 | Shannon-Fano coding- problems | Chalk & Talk | R2, T2 |
| 37 | Huffman coding, efficiency calculations | Chalk & Talk | T2 |
| 38 | Huffman coding problems | Chalk & Talk | T1, T1 |
| 39 | channel capacity of discrete and analog Channels | Chalk & Talk | T2 |
| 40 | Capacity of a Gaussian channel, bandwidth-S/N trade off | Chalk & Talk | T1 |
| 41 | Problems on Huffman coding | Chalk & Talk | R2, T2 |
| 42 | Revision classes | Chalk & Talk | T2 |
| UNIT VI: LINEAR BLOCK CODES | | | |
| 43 | Introduction, Matrix description of Linear Block codes | Chalk & Talk | R2, T1 |
| 44 | Error detection and error correction capabilities of Linear block codes | Chalk & Talk | T2 |
| 45 | Hamming codes – (7,4) linear block code generation | Chalk & Talk | T2 |
| 46 | (7,4) linear block code set - problem | Seminar | T1 |
| 47 | (7,4) linear block code parity check & syndrome generation | Chalk & Talk, PPT | T2 |
| 48 | Problem on linear block codes | Chalk & Talk | T2 |
| 49 | Binary cyclic codes, Algebraic structure, encoding | Chalk & Talk | T1 |
| 50 | Cyclic code generation | Chalk & Talk | T1, T1 |
| 51 | Syndrome calculation | Chalk & Talk | T1 |
| 52 | BCH Codes | Seminar | T1 |
| 53 | Problems on Linear block codes | Seminar | R2, T2 |
| 54 | Problems on Linear block codes | Seminar | R3, T1 |
| 55 | Encoding of convolution codes, time domain approach | Chalk & Talk | T1 |


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Pulladigunta (Vil), Vatticherukuru (Md), Prathipadu Road, Guntur – 522 017 A.P.



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| | | | |
|----|--|-------------------|--------|
| 56 | Time domain approach-Example | Chalk & Talk | T2, T1 |
| 57 | Transform domain approach. Graphical approach | Chalk & Talk | T1 |
| 58 | Transform domain approach-Example | Chalk & Talk | T2, T1 |
| 59 | State, tree and trellis diagram of Convolution codes | Chalk & Talk | T1 |
| 60 | Decoding convolution codes using Viterbi algorithm | Chalk & Talk | R3 |
| 61 | Viterbi algorithm continued | Chalk & Talk | T2,A1 |
| 62 | Problems on Convolution codes | Chalk & Talk, PPT | T1 |
| 63 | Revision classes | Chalk & Talk | T1, T1 |
| 64 | Revision classes | Chalk & Talk | R2, T2 |

TEXT BOOKS:

1. Digital communications - Simon Haykin, John Wiley,2005
2. Digital and Analog Communication Systems - Sam Shanmugam, John Wiley,2005.


REFERENCES:

1. Principles of Communication Systems – H. Taub and D. Schilling, TMH,2003
2. Digital Communications – John Proakis, TMH, 1983. Communication Systems Analog&Digital – Singh & Sapre, TMH,2004.
3. Modern Digital and Analog Communication Systems –B.P.Lathi,Zhi Ding,Hari Mohan Gupta,OxfordUniversity Press,4th Edition,2017

Course Outcomes:

After going through this course the student will be able to

- Analyze the performance of a Digital Communication System for probability of error and are able to design a digital communication


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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

system.

- Analyze various source coding techniques.
- Compute and analyze Block codes, cyclic codes and convolution codes.
- Design a coded communication system.

SIGNATURE OF FACULTY

HOD

Dept. of Electronics and Communication Engineering
SIGNATURE OF HOD
Malineni Lakshmaiah Women's Engineering Col...
Pulladigunta, GUNTUR-522017

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

A.Y.: 2022-23

Date: 04-07-2022

| | |
|--------------|---------------------------------------|
| Subject Code | C404 |
| Subject Name | Communication Standards and Protocols |
| Regulation | R19 |
| Year & Sem | IV-I |
| Academic | 2022-23 |

LESSON PLAN

| S.No. Unit/Topic No. | Topic Name | No. of Classes Required |
|----------------------------|---|-------------------------------|
| Unit 1 | Introduction to Communication and Networking | 9 |
| 1.1 | Communications, Signal Types and its Characteristics(Analog/Digital) | 1 |
| 1.2 | Data Transmission Types (Serial/Parallel) | 1 |
| 1.3 | Communication Techniques (Asynchronous/Synchronous) | 1 |
| 1.4 | Data Transmission Modes (Simplex, Half/Duplex) | 1 |
| 1.5 | Network Topologies- Star, Ring, Mesh | 1 |
| 1.6 | Point to Point, Tree, Bus | 1 |
| 1.7 | Daisy Chain, Multi drop and its applications | 1 |
| 1.8 | Need for Modulation | 1 |
| 1.9 | Modulation Types | 1 |
| Unit 2 | OSI LAYERS | 9 |
| 2.1 | Communication Layers and its applications | 2 |
| 2.2 | Communication Media- Twisted pair | 1 |
| 2.3 | Coaxial, Fiber Optics | 1 |
| 2.4 | Introduction to Errors | 1 |
| 2.5 | Error Types | 1 |
| 2.6 | Detection | 1 |

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

| | | |
|--------|--|----|
| 2.7 | Correction | 1 |
| 2.8 | Flow Control and its Applications | 1 |
| Unit 3 | Wired Communication Protocols | 17 |
| 3.1 | Ethernet- Types | 1 |
| 3.2 | Socket | 1 |
| 3.3 | MAC | 1 |
| 3.4 | IP, ARP | 2 |
| 3.5 | ICMP, TCP | 2 |
| 3.6 | UDP, DHCP | 2 |
| 3.7 | CAN | 1 |
| 3.8 | Mod-bus (RTU,ASCII) | 2 |
| 3.9 | UART (RS485,RS232) | 2 |
| 3.10 | OFC – Advantages, Disadvantages and its Applications | 1 |
| 3.11 | Introduction to Dial up Modems | 1 |
| 3.12 | Leased line Modems | 1 |
| Unit 4 | Wireless Communication Protocols | 8 |
| 4.1 | Zigbee – Advantages, Disadvantages and its Applications | 1 |
| 4.2 | Bluetooth - Advantages, Disadvantages and its Applications | 1 |
| 4.3 | Wi-Fi - Advantages, Disadvantages and its Applications | 1 |
| 4.4 | GPRS - Advantages, Disadvantages and its Applications | 1 |
| 4.5 | GSM - Advantages, Disadvantages and its Applications | 1 |
| 4.6 | NFC - Advantages, Disadvantages and its Applications | 1 |
| 4.7 | IR - Advantages, Disadvantages and its Applications | 1 |
| 4.8 | Satellite Communication - Advantages, Disadvantages and its Applications | 1 |
| Unit 5 | Network Types | 12 |
| 5.1 | Introduction to LAN,WAN,PAN | 2 |


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WOMEN'S ENGINEERING COLLEGE
 GUNTUR - 522 017



MALINENI LAKSHMAIAH WOMEN'S ENGINEERING COLLEGE, GUNTUR
Approved by AICTE, New Delhi & Affiliated to JNTUK, Kakinada
(An ISO9001:2008 Certified Institution)
Pulladigunta (Vil), Vatticherukuru (Md), Prathipadu Road, Guntur – 522 017 A.P.

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

| | | |
|---------------------|---|----|
| 5.2 | Internet and Intranet | 1 |
| 5.3 | Sensor Networks (Wired/Wireless) and its applications | 1 |
| 5.4 | Network Security: Introduction to NAT,PAT,DNS | 3 |
| 5.5 | Network Routing Algorithms | 1 |
| 5.6 | Introduction to Switch, Hub, Bridges and its working | 3 |
| 5.7 | Network Security and Introduction to Firewalls and its applications | 2 |
| Total No. of hours: | | 60 |

TEXT BOOKS:

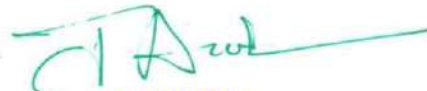
1. Introduction to data communication and networking by Wayne Tomasi, Pearson Prentice Hall, 2005.
2. Introduction to data communication and networking by Behrouz Forouzan, 4thEdition McGraw Hill Education, 2017.
3. Basics of data communications by William Stallings.

REFERENCE BOOKS:

1. Basics of computer networking by Thomas Robertazzi Stony Brook University, 2011.
2. Wireless Networking Absolute Beginner's Guide by Michael Miller.
3. CAN System Engineering from Theory to Practical Applications, 2ndEdition Springer, 2013.


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SIGNATURE OF HOD
Department of Electronics & Communications Engg.
Malineni Lakshmaiah Women's Engg. College
PULLADIGUNTA, GUNTUR-522017


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A.Y.: 2022-23

Date:

| | |
|-----------------|----------|
| Subject Code | C3 |
| Subject Name | MWE |
| Regulation | R20 |
| Year & Semester | III & II |
| Academic Year | 2022-23 |

LESSON PLAN

Pre-Requisites-

| S.No. Unit/Topic No. | Topic Name | No. of Classes Required |
|----------------------------|--|-------------------------------|
| Unit 1 | MICROWAVE TRANSMISSION LINES | |
| 1.1 | Introduction, Microwave Spectrum and Bands, Applications of Microwaves. | 1 |
| 1.2 | Rectangular Waveguides – TE mode analysis, | 1 |
| 1.3 | TE mode analysis | 1 |
| 1.4 | Expressions for Fields | 1 |
| 1.5 | Characteristic Equation and Cut-off Frequencies | 1 |
| 1.6 | Rectangular Waveguides – TM mode analysis | |
| 1.7 | Filter Characteristics, Dominant and Degenerate Modes | 1 |
| 1.8 | Sketches of TE and TM mode fields in the cross-section | 1 |
| 1.9 | Mode Characteristics – Phase and Group Velocities, Wavelengths and Impedance Relations, | 1 |
| 1.10 | Problems | 1 |
| 1.11 | Impossibility of TEM mode. Related Problems | 1 |
| 1.12 | MICROSTRIP LINES – Introduction, Z_0 Relations | 1 |
| 1.13 | Effective Dielectric Constant, | 1 |
| 1.14 | Losses, Q factor | 1 |
| 1.15 | Problems | 1 |
| | | |
| Unit 2 | MICROWAVE TUBES | |
| 2.1 | Limitations and Losses of conventional tubes at microwave frequencies, | 1 |
| 2.2 | Re-entrant Cavities | 1 |
| 2.3 | Microwave tubes – O type and M type classifications | 1 |
| 2.4 | O- type tubes :2 Cavity Klystrons – Structure, Velocity Modulation Process and Applegate Diagram | 2 |

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| | | |
|---------------|--|---|
| 2.5 | Bunching Process and Small Signal Theory – Applications | 1 |
| 2.6 | Reflex Klystrons – Structure, Applegate Diagram and Principle of working | 2 |
| 2.7 | Electronic Admittance; Oscillating Modes and output Characteristics | 1 |
| 2.8 | Electronic and Mechanical Tuning, Applications | 1 |
| | | 1 |
| Unit 3 | HELIX TWTS | |
| 3.1 | Significance, Types and Characteristics of Slow Wave Structures; | 2 |
| 3.2 | Structure of TWT and Suppression of Oscillations | 1 |
| 3.3 | M-type Tubes Introduction, Cross-field effects | 1 |
| 3.4 | Magnetrons – Different Types, 8-Cavity Cylindrical Travelling Wave Magnetron, Hull Cut-off Condition | 2 |
| 3.5 | Modes of Resonance and PI-Mode Operation, | 1 |
| 3.6 | Separation of PI-Mode, o/p characteristics | 1 |
| | | |
| Unit 4 | WAVEGUIDE COMPONENTS AND APPLICATIONS | |
| 4.1 | Coupling Mechanisms – Probe, Loop, Aperture types | 1 |
| 4.2 | Waveguide Discontinuities – Waveguide irises | 1 |
| 4.3 | Tuning Screws and Posts, Matched Loads | 1 |
| 4.4 | Waveguide Attenuators – Resistive Card, Rotary Vane types; | 2 |
| 4.5 | Waveguide Phase Shifters – Dielectric, Rotary Vane types | 1 |
| 4.6 | Scattering Matrix– Significance, Formulation and Properties, | 1 |
| 4.7 | S-Matrix Calculations for – 2 port Junction, E-plane | 1 |
| 4.8 | S-Matrix Calculations for H-plane Tees, Magic Tee, | 1 |
| 4.9 | Hybrid Ring; Directional Couplers – 2Hole, Bethe Hole types | 1 |
| 4.10 | Ferrite Components– Faraday Rotation, S-Matrix Calculations for Gyrator | 2 |
| 4.11 | S-Matrix Calculations for Isolator, Circulator | 1 |
| 4.12 | Related Problems | 1 |
| | | |
| Unit 5 | MICROWAVE SOLID STATE DEVICES | |
| 5.1 | Introduction, Classification, Applications. | 1 |
| 5.2 | TEDs – Introduction, Gunn Diode – Principle | 1 |
| 5.3 | RWH Theory, Characteristics, | 2 |
| 5.4 | Basic Modes of Operation, Oscillation Modes | 2 |
| 5.5 | MICROWAVE MEASUREMENTS | |
| 5.6 | Description of Microwave Bench – Different Blocks and their Features, | 1 |
| 5.7 | Microwave Power Measurement – Bolometer Method. | 1 |
| 5.8 | Frequency Measurement | 1 |
| 5.9 | VSWR Measurement | 1 |
| 5.10 | Q- factor Measurement | 1 |

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

LESSON PLAN

Faculty Name : Mrs. K.Rajitha
Course Name : **ELECTRONIC MEASUREMENTS & INSTRUMENTATION**
Academic Year : 2022-23 I Semester
Degree & Branch : III B.Tech ECE

| S.No | Topic | PERIOD |
|-----------------|---|--------|
| UNIT -I | | |
| 1 | Performance characteristics of instruments | 1 |
| 2 | Static characteristics, Accuracy, Resolution, Precision, Expected value, Error, Sensitivity | 1 |
| 3 | Errors in Measurement | 1 |
| 4 | Dynamic Characteristics-speed of response, Fidelity, Lag and Dynamic error | 1 |
| 5 | Types of Errors in Measurement and their Analysis | 1 |
| 6 | Design of Multi-range DC Voltmeter | 2 |
| 7 | Design of Multi-range AC Voltmeter | 1 |
| 8 | Design of Multi-range DC Ammeter | 2 |
| 9 | Design of Multi-range AC Ammeter | 1 |
| 10 | Ohmmeters series type, shunt type Using D' Arsonval Movement | 2 |
| 11 | True RMS Meter | 1 |
| UNIT -II | | |
| 12 | Specifications and Design Aspects of Signal Generator | 1 |
| 13 | AF sine and square wave signal generators | 1 |
| 14 | Function Generators | 1 |
| 15 | Random noise Generators | 1 |
| 16 | Arbitrary waveform Generators | 1 |
| 17 | Introduction to Wave Analyzers | 1 |
| 18 | Harmonic Distortion Analyzers | 1 |
| 19 | Spectrum Analyzers | 1 |


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| | | |
|----|---|---|
| 20 | Digital Fourier Analyzers | 1 |
| | UNIT -III | |
| 21 | Oscilloscopes-General Purpose CRO's ,Block Diagram | 1 |
| 22 | Function and Implementation of Various blocks-CRT features | 1 |
| 23 | vertical amplifiers, horizontal deflection system | 1 |
| 24 | sweep, trigger pulse Circuit | 1 |
| 25 | Delay line, sync selector circuits | 1 |
| 26 | Various Controls and their Functions | 1 |
| 27 | Types of probes for CRO | 1 |
| 28 | Measurement of frequency and phase difference using Lissajous Pattern | 1 |
| 29 | Dual beam CRO, Dual trace oscilloscope | 1 |
| 30 | Delay Line Oscilloscope, sampling oscilloscope | 1 |
| 31 | Analog storage oscilloscope, digital storage oscilloscope | 1 |
| | UNIT -IV | |
| 32 | DC Bridges – Wheatstone bridge | 1 |
| 33 | Measurement of Very Low Resistance | 2 |
| 34 | Measurement of inductance- Maxwell's bridge | 1 |
| 35 | Anderson bridge | 2 |
| 36 | Measurement of capacitance - Schearing Bridge | 1 |
| 37 | Wien Bridge | 2 |
| 38 | Errors and precautions in using bridges | 1 |
| 39 | Q-meter :Principle of Operation | 2 |
| 40 | Measurement Methods and Sources of errors | 1 |
| 41 | Counters : principle of operation, modes of operation- | 2 |
| 42 | Sources of errors | 1 |
| | UNIT -V | |
| 43 | Transducers- active & passive transducers | 1 |

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| | | |
|----|----------------------------------|---|
| 44 | Resistance transducers, | 1 |
| 44 | Inductance transducers, | 1 |
| 45 | Capacitance transducers | 1 |
| 46 | Strain Gauges | 2 |
| 47 | LVDT ,Piezo Electric transducers | 1 |
| 48 | physical parameters Temperature | 1 |
| 49 | Measurement of Force | 1 |
| 50 | Measurement of Pressure | 1 |
| 51 | Measurement of Velocity | 1 |
| 52 | Measurement of Acceleration | 1 |
| 53 | Measurement of displacement | 1 |

TEXTBOOKS:

1. Electronic instrumentation, second edition - H.S.Kalsi, Tata McGraw Hill, 2004.
2. Modern Electronic Instrumentation and Measurement Techniques – A.D. Helfrick and W.D. Cooper, PHI, 5th Edition, 2002.

REFERENCES:

1. Electronic Instrumentation & Measurements - David A. Bell, PHI, 2nd Edition, 2003.
2. Electronic Test Instruments, Analog and Digital Measurements - Robert A. Witte, Pearson Education, 2nd Ed., 2004.
3. Electronic Measurements & Instrumentations by K. Lal Kishore, Pearson Education - 2005.

WEB REFERENCES:

1. https://www.tutorialspoint.com/electronic_measuring_instruments/index.htm
2. <https://nptel.ac.in/courses/108/105/108105153/#>
3. <https://freevidelectures.com/course/4111/nptel-electrical-measurement-electronic-instruments/19>
4. [www.youtube.com/Ekeeda/Electronic Instrumentation and measurements](http://www.youtube.com/Ekeeda/Electronic%20Instrumentation%20and%20measurements)

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| | | |
|---------------------|----------------------------|----|
| 5.11 | Impedance Measurement | 1 |
| 5.12 | Measurement of Attenuation | 1 |
| 5.13 | Phase shift Measurement | 1 |
| Total No. of hours: | | 62 |

Text Books:

1. Integrated Electronics- J. Millman and C.C. Halkias, Tata McGraw-Hill,1972.
2. Electronic Devices and Circuits Theory – Robert L. Boylestad and Louis Nashelsky, Pearson/Prentice Hall, Tenth Edition,2009.
3. Electronic Devices and Integrated Circuits – B.P. Singh, Rekha , Pearson publications, 2006

References:

1. Electronic Circuit Analysis and Design – Donald A. Neman, McGrawHill,2010.
2. Microelectronic Circuits-Sedra A.S. and K.C. Smith, Oxford University Press,Sixth Edition,2011.
3. Electronic Circuit Analysis-B.V.Rao, K.R.Rajeswari,P.C.R.Pantulu, K.B.R.Murthy, Pearson Publications.

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

NUMB 1 ADV

LESSON PLANS

2022-23

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Guntur-522017, Andhra Pradesh, India

Department of Computer Science and Engineering



| | |
|---------------------------|----------------------|
| COURSE : CLOUD COMPUTING | DEGREE: B.Tech |
| COURSE CODE: R194105D | YEAR: IV SEMESTER: I |
| REGULATION: R19 | COURSE TYPE: REGULAR |
| ACADEMIC YEAR : 2022-2023 | CREDITS: 3 |

Teaching/Instructional Plan

| S.NO | Topic Name | No.of hours | Teaching Aid Methodologies | Books |
|--|--|-------------|----------------------------|-------|
| UNIT- I: System modeling, Clustering and Virtualization | | | | |
| 1. | Scalable Computing over the Internet | 1 | Chalk & Talk | T1 |
| 2. | Scalable Computing over the Internet | 1 | Chalk & Talk | T1 |
| 3 | Technologies for Network based System | 1 | Chalk & Talk | T1 |
| 4 | System model for Distributed and Cloud Computing | 1 | Chalk & Talk | T1 |
| 5 | Software Environment for distributed system and Clouds | 1 | Chalk & Talk | T1 |
| 6 | distributed system and Clouds | 1 | Chalk & Talk | T1 |
| 7 | Performance Security And Energy Efficiency | 1 | Chalk & Talk | T1 |
| 8 | Security And Energy Efficiency | 1 | Chalk & Talk | T1 |
| UNIT-II: Virtual machines and Virtualization of Clusters and Data Centers | | | | |
| 9 | Implementing Levels of Virtualization | 1 | Chalk & Talk | T1 |
| 10 | Virtualization | 1 | Chalk & Talk | T1 |
| 11 | Virtualization Structure Tools and mechanisms | 1 | Chalk & Talk | T2 |
| 12 | Structure Tools and mechanisms | 1 | PPT | T2 |
| 13 | Virtualization of CPU | 1 | PPT | T2 |
| 14 | Memory and I/O Devices | 1 | Chalk & Talk | T2 |
| 15 | Virtual Clusters and Resource Management | 1 | Chalk & Talk | T2 |
| 16 | Resource Management | 1 | Chalk & Talk | T2 |
| 17 | Virtualization for Data Center Automation | 1 | Chalk & Talk | T2 |
| UNIT-III : Cloud Platform Architecture | | | | |
| 18 | Cloud Computing and service Models | 1 | Chalk & Talk | T1 |
| 19 | Architectural Design of Compute and | 1 | Chalk & Talk | T1 |

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| | | | | |
|---|--|---|------------------|----|
| | Storage Clouds | | | |
| 20 | Public Cloud Platforms | 1 | Video | T1 |
| 21 | Inter Cloud Resource Management | 1 | Chalk & Talk | T2 |
| 22 | Cloud Security and Trust Management | 1 | Chalk & Talk | T1 |
| 23 | Service Oriented Architecture | 1 | Chalk & Talk | T1 |
| 24 | Message Oriented Middleware | 1 | Chalk & Talk | T2 |
| 25 | Architectural Design | 1 | Chalk & Talk | T1 |
| 26 | Public Cloud Platforms | 1 | Chalk & Talk | T1 |
| 27 | Inter Cloud Resource Management | 1 | Chalk & Talk | T2 |
| UNIT-IV: Cloud Programming and Software Environments | | | | |
| 28 | Features of Cloud and Grid platforms | 1 | Chalk & Talk | T2 |
| 29 | Parallel & Distributed Programming Paradigms | 1 | GROUP DISCUSSION | T2 |
| 30 | Programming Support of Google App Engine | 1 | Chalk & Talk | T3 |
| 31 | Programming on Amazon AWS and Microsoft Azure | 1 | Chalk & Talk | T2 |
| 32 | Programming on Amazon AWS and Microsoft Azure | 1 | Chalk & Talk | T2 |
| 33 | Programming on Amazon AWS and Microsoft Azure | 1 | Chalk & Talk | T2 |
| 34 | Emerging Cloud Software Environments | 1 | Chalk & Talk | T1 |
| 35 | Emerging Cloud Software Environments | 1 | Chalk & Talk | T1 |
| 36 | Programming on Amazon AWS and Microsoft Azure | 1 | Chalk & Talk | T2 |
| UNIT-V : Cloud Resource Management and Scheduling | | | | |
| 37 | Policies and Mechanisms for Resource Management Applications of Control Theory to Task Scheduling on a Cloud | 1 | Chalk & Talk | T2 |
| 38 | Stability of a Two Level Resource Allocation Architecture | 1 | Chalk & Talk | T2 |
| 39 | Feedback Control Based on Dynamic Thresholds | 1 | Chalk & Talk | T2 |
| 1. 40 | Coordination of Specialized Autonomic Performance Managers | 1 | Chalk & Talk | T2 |
| 2. 41 | Resource Bundling, Scheduling Algorithms for Computing Clouds | 1 | Chalk & Talk | T2 |
| 3. 42 | Fair Queuing, Start Time Fair Queuing | 1 | Chalk & Talk | T2 |
| 4. 43 | Borrowed Virtual Time, Cloud Scheduling Subject to Deadlines | 1 | Chalk & Talk | T2 |
| 5. 44 | Scheduling MapReduce Applications Subject to Deadlines. | 1 | Chalk & Talk | T2 |

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|--------------------------------------|---|---|--------------|----|
| 6. 45 | Borrowed Virtual Time, Cloud Scheduling Subject to Deadlines | 1 | Chalk & Talk | T2 |
| 7. 46 | Fair Queuing, Start Time Fair Queuing | 1 | Chalk & Talk | T2 |
| 8. 47 | Resource Bundling, Scheduling Algorithms for Computing Clouds | 1 | Chalk & Talk | T2 |
| 9. 48 | Coordination of Specialized Autonomic Performance Managers | 1 | Chalk & Talk | T2 |
| i. 46UNIT-VI :Storage Systems | | | | |
| 10. 49 | Evolution of storage technology | 1 | Chalk & Talk | T2 |
| 11. 50 | Storage models | 1 | Chalk & Talk | T2 |
| 12. 51 | file systems and database | 1 | Chalk & Talk | T2 |
| 13. 52 | distributed file systems | 1 | Chalk & Talk | T2 |
| 14. 53 | general parallel file systems | 1 | Chalk & Talk | T2 |
| 15. 54 | Google file system | 1 | Chalk & Talk | T2 |
| 16. 55 | Apache Hadoop | 1 | Chalk & Talk | T1 |
| 17. 56 | Big Table | 1 | Chalk & Talk | T2 |
| 18. 57 | Megastore | 1 | Chalk & Talk | T3 |
| 19. 58 | Amazon Simple Storage Service (S3) | 1 | Chalk & Talk | T3 |
| 20. 59 | Apache Hadoop | 1 | Chalk & Talk | T1 |
| 21. 60 | Big Table | 1 | Chalk & Talk | T2 |
| 22. 61 | Megastore | 1 | Chalk & Talk | T3 |
| 23. 6 2 | Evolution of storage technology | 1 | Chalk & Talk | T2 |

TEXT BOOKS:

| | |
|----|---|
| T1 | Distributed and Cloud Computing, Kai Hwang, Geoffry C. Fox, Jack J. Dongarra MK Elsevier. |
| T2 | Cloud Computing, Theory and Practice, Dan C Marinescu, MK Elsevier. |
| T3 | Cloud Computing, A Hands on approach, ArshadeepBahga, Vijay Madiseti, University Press |

REFERENCE BOOKS:

[R1] Cloud Computing. A Practical Approach. Anthony T Velte. Toby J Velte. Robert

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| | |
|----|---|
| R2 | Mastering Cloud Computing, Foundations and Application Programming, Raj Kumar Buyya, Christen vecctiola, S Tammaraiselvi, TMH |
|----|---|

Instructional Methods and Pedagogies

The following methods are some of the appropriate and efficient methodologies according to the characteristic of the learner.

| S.No. | INSTRUCTIONAL METHODOLOGY | YES/NO |
|-------|------------------------------------|--------|
| 1. | Chalk & Talk | YES |
| 2 | PPT | YES |
| 3 | NPTEL Videos | NO |
| 4 | Guest Lectures & Workshops | YES |
| 5 | Learning from Industrial visits | NO |
| 6 | Student centric Learning: | |
| | i. Seminar Method | YES |
| | ii. Group discussions | YES |
| | iii. Assignment | YES |
| | iv. Quiz | YES |
| | v. Learning from Industrial visits | YES |
| | vi. Brain Storming | YES |
| | vii. Minutes of paper | YES |
| | viii. Puzzles | YES |
| | ix. TPS(Think Pair Share) | YES |

Course Coordinator(s): *GA*

Program Coordinator

T. Anil
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 Malineni Lakshmaiah Women's Engineering College
 Pulladigunta, Guntur-522017



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 Guntur-522017, Andhra Pradesh, India
Department of Computer Science and Engineering

| | |
|---|----------------------|
| COURSE :Cryptography & Network Security | DEGREE: B.Tech |
| COURSE CODE: R1941051 | YEAR: IV SEMESTER: I |
| REGULATION: R19 | COURSE TYPE: REGULAR |
| ACADEMIC YEAR : 2022-2023 | CREDITS: 3 |

Teaching/Instructional Plan

| S.NO | Topic Name | No.of hours | Teaching Aid Methodologies | Books |
|---------------------------------------|---|-------------|----------------------------|-------|
| UNIT- I:Basic Principles | | | | |
| 1. | Introduction to Cryptography | 1 | Chalk & Talk | T1 |
| 2. | Cryptographic Attacks, Security Goals | 1 | Chalk & Talk | T1 |
| 3. | Security Services | 1 | Chalk & Talk | T1 |
| 4. | Security Mechanisms | 1 | Chalk & Talk | T1 |
| 5. | Mathematics of Cryptography | 1 | Chalk & Talk | T1 |
| 6. | Matrices | 1 | Chalk & Talk | T1 |
| UNIT-II Symmetric Encryption | | | | |
| 7. | Mathematics of Symmetric Key Cryptography | 1 | Chalk & Talk | T1 |
| 8. | Introduction to Modern Symmetric Key Ciphers | 1 | Chalk & Talk | T1 |
| 9. | Feistel Cipher Structure | 1 | Chalk & Talk | T2 |
| 10. | Data Encryption Standard | 1 | PPT | T2 |
| 11. | DES details of Single Round | 1 | PPT | T2 |
| 12. | Block Cipher Design Principles | 1 | Chalk & Talk | T2 |
| 13. | Advanced Encryption Standard | 1 | PPT | T2 |
| 14. | AES Key Expansion | 1 | PPT | T2 |
| 15. | BlowFish Algorithm | 1 | PPT | T2 |
| 16. | CAST-128 | 1 | Chalk & Talk | W1 |
| 17. | IDEA | 1 | PPT | T2 |
| 18. | Block Cipher Modes of Operation | 1 | Chalk & Talk | T2 |
| UNIT-III Asymmetric Encryption | | | | |
| 19. | Mathematics of Asymmetric Key Cryptography Modular Arithmetic | 1 | Chalk & Talk | T1 |
| 20. | Fermat's and Euler's theorem | 1 | Chalk & Talk | T1 |
| 21. | Pseudo randomness | 1 | Video | T1 |
| 22. | Asymmetric Key Cryptography | 1 | Chalk & Talk | T2 |



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| | | | | |
|----------------|---|---|------------------|----|
| 23. | CRT, | 1 | Chalk & Talk | T1 |
| 24. | Discrete logarithms | 1 | Chalk & Talk | T1 |
| 25. | The RSA Algorithm | 1 | Chalk & Talk | T2 |
| 26. | Diffie-Hellman Key Exchange | 1 | Chalk & Talk | T2 |
| 27. | Elgamal Algorithm | 1 | Chalk & Talk | T1 |
| 28. | ECC | 1 | Chalk & Talk | T2 |
| UNIT-IV | | | | |
| 29. | Message Integrity, Data Integrity, | 1 | Chalk & Talk | T2 |
| 30. | Applications of cryptographic hash functions | 1 | GROUP DISCUSSION | T2 |
| 31. | Cryptographic Hash Function Criteria | 1 | Chalk & Talk | T3 |
| 32. | Message Authentication | 1 | Chalk & Talk | T2 |
| 33. | Message Authentication Functions | 1 | Chalk & Talk | T1 |
| 34. | HMAC Design Objectives | 1 | Chalk & Talk | W2 |
| 35. | CMAC | 1 | Chalk & Talk | T1 |
| 36. | Secure Hash Algorithm | 1 | Chalk & Talk | T2 |
| 37. | Message Digest | 1 | Chalk & Talk | T2 |
| 38. | Whirlpool | 1 | Chalk & Talk | T1 |
| 39. | Digital Signatures | 1 | Chalk & Talk | T1 |
| 40. | Digital Signature Scheme | 1 | Chalk & Talk | T1 |
| 41. | Key management | 1 | Chalk & Talk | T1 |
| 42. | Digital Signature Standard | 1 | Chalk & Talk | T1 |
| UNIT-V | | | | |
| 43. | Electronic Mail Security | 1 | Chalk & Talk | T2 |
| 44. | Email Compatibility/ Segmentation | 1 | Chalk & Talk | T2 |
| 45. | S/MIME (Secure/Multipurpose Internet Mail Extensions) | 1 | Chalk & Talk | T2 |
| 46. | Multipurpose Internet Mail Extensions | 1 | Chalk & Talk | T2 |
| 47. | S/MIME Certificate Processing | 1 | Chalk & Talk | T2 |
| 48. | SSL Architecture | 1 | Chalk & Talk | T2 |
| 49. | SSL Handshake Protocol | 1 | Chalk & Talk | T2 |
| 50. | SSL Handshake Protocol | 1 | Chalk & Talk | T2 |
| 51. | Transport Layer Security (TLS) Protocol | 1 | Chalk & Talk | W2 |
| UNIT-VI | | | | |
| 52. | IP Security | 1 | Chalk & Talk | T2 |
| 53. | Encapsulating Security Payload | 1 | Chalk & Talk | T2 |
| 54. | IP Security services | 1 | Chalk & Talk | T2 |
| 55. | Security Association Database | 1 | Chalk & Talk | T2 |
| 56. | Malicious Software | 1 | Chalk & Talk | T2 |
| 57. | Viruses | 1 | Chalk & Talk | T2 |



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Department of Computer Science and Engineering

| | | | | |
|-----|------------------------------|---|--------------|----|
| 58. | | | | |
| 59. | Worms | | Chalk & Talk | T1 |
| 60. | Intruders | 1 | Chalk & Talk | T2 |
| 61. | Intrusion Detection Systems | 1 | Chalk & Talk | T3 |
| 62. | Intrusion Prevention Systems | 1 | Chalk & Talk | T3 |
| 63. | Firewall | 1 | Video | T1 |
| 64. | Application-Level Gateway | 1 | Chalk & Talk | T1 |

TEXT BOOKS:

| | |
|----|--|
| T1 | Cryptography and Network Security, Behrouz A Forouzan, DebdeepMukhopadhyay, (3e) Mc Graw Hill. |
| T2 | Cryptography and Network Security, William Stallings, (6e) Pearson. |
| T3 | Everyday Cryptography, Keith M.Martin, Oxford. |

REFERENCE BOOKS:

| | |
|----|---|
| R1 | Network Security and Cryptography, Bernard Meneges, Cengage Learning. |
|----|---|

WEB REFERENCE:

| | |
|----|---|
| W1 | http://www.geeksforgeeks.org › cryptography-and-network-s... |
| W2 | http://www.tutorialspoint.com › cryptography |



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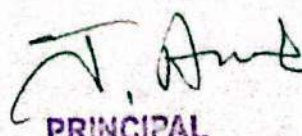
Instructional Methods and Pedagogies

The following methods are some of the appropriate and efficient methodologies according to the characteristic of the learner.

| S.No. | INSTRUCTIONAL METHODOLOGY | YES/NO |
|-------|------------------------------------|--------|
| 1. | Chalk & Talk | YES |
| 2 | PPT | YES |
| 3 | NPTEL Videos | |
| 4 | Guest Lectures & Workshops | YES |
| 5 | Learning from Industrial visits | |
| 6 | Student centric Learning: | |
| | i. Seminar Method | YES |
| | ii. Group discussions | YES |
| | iii. Assignment | YES |
| | iv. Quiz | YES |
| | v. Learning from Industrial visits | YES |
| | vi. Brain Storming | YES |
| | vii. Minutes of paper | |
| | viii. Puzzles | YES |
| | ix. TPS(Think Pair Share) | YES |


Course Instructor

Program Co-Ordinator


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PULLADIGUNTA, GUNTUR-522017


HOD
Dept of Computer Science & Engineering
Pulladigunta, Guntur-522017

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Department of Computer Science and Engineering

| | |
|-------------------------------------|----------------------|
| COURSE :SOFTWARE PROJECT MANAGEMENT | DEGREE: B.Tech |
| COURSE CODE: :R1942052 | YEAR: IV SEMESTER: I |
| REGULATION: R19 | COURSE TYPE: REGULAR |
| ACADEMIC YEAR : 2022-2023 | CREDITS: 3 |

| S.NO | UNITNO | TopicstobeCovered | No.of Periods | Reference Book | Teaching Methodology |
|------|---------|---|---------------|----------------|----------------------|
| 1 | UNIT-I | Project,Management | 1 | T1 | Chalk & talk |
| 2 | | SoftwareProjectManagement activities | 1 | T1 and T2 | PPT1 |
| 3 | | Challengesinsoftwareprojects | 1 | T1 and T2 | Chalk & talk |
| 4 | | Stakeholders,Objectives&goals ProjectPlanning | 2 | T1 | Chalk & talk |
| 5 | | Step-wise planning | 1 | T1 | Chalk & talk |
| 6 | | ProjectScope | 1 | T1 | Chalk & talk |
| 7 | | ProjectProducts&deliverables | 1 | T1 | Chalk & talk |
| 8 | | Projectactivities | 1 | T1 | Chalk & talk |
| 9 | | Effortestimation | 1 | T1 | Chalk & talk |
| 10 | | Infrastructure | 1 | T1 | Chalk & talk |
| | UNIT-II | UNIT-II :: Beyond binary classification | | | |
| 11 | | Lifecyclemodels | 1 | T1 | Chalk & talk |
| 12 | | ChoosingTechnology | 1 | T1 | Chalk & talk |
| 13 | | PrototypingIterative&incremental ProcessFramework | 2 | T1 | Chalk & talk |



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| | | | | Digital Education | |
|----|----------|--|---|-------------------|-------------------|
| 14 | | Lifecyclephases | 1 | T1 | Chalk & talk |
| 15 | | ProcessArtifacts | 2 | T1 | Chalk & talk |
| 16 | | Processworkflows | 2 | T1 and T2 | Chalk & talk |
| | | UNIT-III : Tree models and Rule Models | | | |
| 21 | UNIT-III | Effortestimation&activity Planning | 1 | T1 | Chalk & talk |
| 22 | | Estimationtechniques | 1 | T1 | Chalk & talk |
| 23 | | FunctionPointanalysis | 1 | | Chalk & talk |
| 24 | | SLOC | 1 | | |
| 25 | | COCOMO | 1 | T1 | Chalk & talk |
| 26 | | Usecase-basedestimation | 1 | R1 | Chalk & talk |
| 27 | | ActivityIdentificationApproaches | 2 | T1 | Chalk & talk |
| 28 | | Networkplanningmodels | 1 | T1 | Chalk & talk |
| 29 | | Criticalpathanalysis | 1 | T1 | Chalk & talk |
| | | UNIT-IV: Linear modelsand Distance Based Models | | | |
| 31 | UNIT-IV | RiskManagement | 1 | T1 | Digital Education |
| 32 | | Riskcategories | 1 | T1 | Chalk & talk |
| 33 | | Identification | 1 | T1 | Chalk & talk |
| 34 | | Assessment | 1 | | Chalk & talk |
| 35 | | Planningandmanagement | 2 | | |

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| | | | | | |
|--|--|---|----|--------------|--------------|
| 36 | | PERT technique | 2 | T1 | Chalk & talk |
| 37 | | Monte Carlo approach | 1 | T1 | Chalk & talk |
| UNIT-V: Probabilistic models and Features | | | | | |
| 41 | UNIT-V | Project Monitoring & Control Resource Allocation | 1 | T1 | Chalk & talk |
| 42 | | Creating a framework | 1 | T1 | Chalk & talk |
| 43 | | Progress monitoring | 1 | T1 | Chalk & talk |
| 44 | | Cost monitoring | 1 | T1 | Chalk & talk |
| 45 | | Earned value Analysis | 1 | T1 | Chalk & talk |
| 46 | | Defects Tracking | 1 | T1 | Chalk & talk |
| 47 | | Issues Tracking | 1 | T1 | Chalk & talk |
| 48 | | Status reports | 1 | T1 | Chalk & talk |
| 49 | | Types of Resources | 1 | | Chalk & talk |
| 50 | | Identifying resource requirements | 1 | | |
| | | Resource scheduling | 1 | T1 | |
| 52 | | Planning Quality | 1 | T1 | Chalk & talk |
| 53 | | Defining Quality-ISO9016 | 1 | T1 | Chalk & talk |
| 54 | | Quality Measures | 2 | T1 | Chalk & talk |
| 55 | | Quantitative Quality Management Planning | 1 | T1 | Chalk & talk |
| 56 | Product Quality & Process Quality Metrics | 1 | T1 | Chalk & talk | |
| 57 | Statistical Process Control Capability Maturity Model | 2 | T1 | Chalk & talk | |
| | | | | | |

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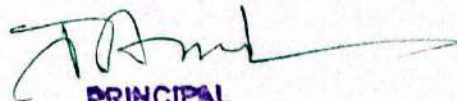


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Course Instructor

Program Co-Ordinator

HOD
Dept. of Computer Science & Engineering
Malineni Lakshmaiah Women's Engineering College
Pulladigunta, GUNTUR-522017
HOD



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Department of Computer Science and Engineering

| | |
|-------------------------------|----------------------|
| COURSE: UML & DESIGN PATTERNS | DEGREE: B. Tech |
| COURSE CODE: R1921052 | YEAR: IV SEMESTER: I |
| REGULATION: R19 | COURSE TYPE: REGULAR |
| ACADEMIC YEAR: 2022-2023 | CREDITS: 3 |

UNIT - 1: INTRODUCTION TO UML

| S. No. | Topics to be covered | No. of Classes Required | Teaching Learning Methods | Text Book followed |
|--|--|-------------------------|------------------------------|--------------------|
| 23. | Why we model: History of UML, The importance of Modeling | 1 | TLM1 | T1 |
| 24. | Principles of Modeling and Object Oriented Modeling | 1 | TLM1 | T1 |
| 25. | Introducing the UML: Overview of the UML | 1 | TLM1 | T1 |
| 26. | Conceptual Model of the UML & Building Blocks: Things - Part 1 | 1 | TLM1, TLM2, TLM8 | T1, R1 |
| 27. | Building Blocks: Things - Part 2 | 1 | TLM1 TLM2 TLM8 | T1, R1 |
| 28. | Relationships and UML Diagrams | 1 | TLM1, TLM2, TLM8 | T1, R1 |
| 29. | Rules of the UML & Common Mechanisms in the UML | 1 | TLM1, TLM2 | T1 |
| 30. | Extensible Mechanisms and UML Architecture | 1 | TLM1, TLM2, TLM8 | T1 |
| 31. | Software Development Life Cycle | 1 | TLM1 | T1 |
| No. of classes required to complete UNIT-I: | | 0 9 | No. of classes taken: | |



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UNIT - 2: STRUCTURAL MODELING

| S. No. | Topics to be covered | No. of Classes Required | Teaching Learning Methods | Text Book followed |
|---|--|-------------------------|---------------------------|--------------------|
| 32. | Basic Structural Modeling: Classes | 1 | TLM1, TLM2 | T1 |
| 33. | Relationships | 1 | TLM1, TLM2 | T1 |
| 34. | Common Mechanisms | 1 | TLM1, TLM2 | T1 |
| 35. | Different Diagrams | 1 | TLM1, TLM2 | T1 |
| 36. | Advanced Structural Modeling: Advanced Classes | 2 | TLM1, TLM2 | T1, R1 |
| 37. | Advanced Relationships | 2 | TLM1, TLM2 | T1, R1 |
| 38. | Interfaces, Types and Roles | 1 | TLM1, TLM2 | T1, R1 |
| 39. | Packages | 1 | TLM1, TLM2, TLM8 | T1, R1 |
| 40. | Class Diagrams | 1 | TLM1, TLM2, TLM8 | T1, R3 |
| 41. | Object Diagrams | 1 | TLM1, TLM2 | T1, R3 |
| No. of classes required to complete UNIT-II: | | 12 | | |

UNIT - 3: BEHAVIORAL MODELING

| S. No. | Topics to be covered | No. of Classes Required | Teaching Learning Methods | Text Book followed |
|--------|---|-------------------------|---------------------------|--------------------|
| 42. | Basic Behavioral Modeling: Interactions | 1 | TLM1, TLM2 | T1 |
| 43. | Interaction Diagrams | 1 | TLM1, TLM2, TLM8 | T1 |
| 44. | Use Cases | 1 | TLM1, TLM2 | T1 |



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| | | | | |
|-----|---|---|--------------------|--------|
| 45. | Use Case Diagrams | 1 | TLM1,TLM2, TLM8 | T1, R3 |
| 46. | Activity Diagrams | 1 | TLM1, TLM2,TLM8 | T1, R3 |
| 47. | Advanced Behavioral Modeling: Events and Signals | 1 | TLM1,TLM2 | T1 |
| 48. | State Machines | 1 | TLM1, TLM2 | T1 |
| 49. | Time and Space | 1 | TLM1, TLM2 | T1 |

UNIT - 4: INTRODUCTION TO DESIGN PATTERNS

| S. No. | Topics to be covered | No. of Classes Required | Teaching Learning Methods | Text Book followed |
|--|--|-------------------------|---------------------------|--------------------|
| 52. | What is Design Pattern? Design Patterns in Smalltalk MVC | 1 | TLM1,TLM2 | T2 |
| 53. | Describing Design Patterns, Catalog of Design Patterns, Organizing the Catalog | 1 | TLM1,TLM2 | T2 |
| 54. | How Design Patterns Solve Design Problems | 2 | TLM1,TLM2 | T2 |
| 55. | How to select a Design Pattern, How to use a Design Pattern | 1 | TLM1,TLM2 | T2 |
| No. of classes required to complete UNIT-IV | | 05 | | |

UNIT - 5: TYPES OF PATTERNS

| S. No. | Topics to be covered | No. of Classes Required | Teaching Learning Methods | Text Book followed |
|--------|--|-------------------------|---------------------------|--------------------|
| 56. | Creational Patterns: Abstract Factory | 1 | TLM1, TLM2 | T2, R4 |
| 57. | Builder and Factory method | 1 | TLM1, TLM2 | T2, R4 |
| 58. | Structural Patterns: Adapter and Decorator | 1 | TLM1,TLM2 | T2, R4 |
| 59. | Façade | 1 | TLM1,TLM2 | T2, R4 |



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| | | | | |
|-----|---|---|-----------|--------|
| 60. | Behavioral Patterns: Chain of Responsibility | 1 | TLM1,TLM2 | T2, R4 |
| 61. | State and Strategy | 1 | TLM1,TLM2 | T2, R4 |

| S. No. | Topics to be covered | No. of Classes Required | Tentative Date of Completion | Actual Date of Completion | Teaching Learning Methods | Learning Outcome COs | Text Book followed | HOD Sign Weekly |
|--|--------------------------|-------------------------|------------------------------|---------------------------|---------------------------|----------------------|--------------------|-----------------|
| 62. | Singleton Design Pattern | 1 | | | | | | |
| 63. | Flyweight Design Pattern | 1 | | | | | | |
| 64. | Visitor Design Pattern | 1 | | | | | | |
| No. of classes required to complete UNIT-V | | | 06 | | | | | |

| Teaching Learning Methods | | | | | |
|---------------------------|----------------|------|--------------------|------|----------------|
| TLM1 | Chalk and Talk | TLM4 | Problem Solving | TLM7 | Seminars or GD |
| TLM2 | PPT | TLM5 | Programming | TLM8 | Lab Demo |
| TLM3 | Tutorial | TLM6 | Assignment or Quiz | TLM9 | Case Study |

BOS APPROVED TEXT BOOKS:

- T1** Grady Booch, James Rumbaugh, Ivar Jacobson "The Unified Modeling Language User Guide, Pearson Education, 2nd edition, ISBN: 0-201-57168-4, 1998 (Unit-1 to Unit-3).
- T2** Erich Gamma, Richard Helm, Ralph Johnson, John Vlissides, "Design Patterns: Elements of Reusable Object-Oriented Software", Addison-Wesley Professional, 1st Edition, ASIN: B000SEIBB8, 1994 (Unit-4 to Unit-5).

BOS APPROVED REFERENCE BOOKS:

- R1** Meilir Page-Jones, "Fundamentals of Object-Oriented Design in UML", Pearson Education, 1st Edition, and ISBN: 9788177586770, 8177586777, and 2007.
- R2** Eric Freeman, Elisabeth Robson, Bert Bates, Kathy Sierra, "Head First Design Patterns: A Brain-Friendly Guide", O'Reilly - SPD, 1st Edition, ISBN:9789352132775, 9352132777, 2014.
- R3** <https://www.tutorialspoint.com/uml/>
- R4** https://sourcemaking.com/design_patterns



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Department of Computer Science and Engineering

Course ~~Coordinator~~ Coordinator(s):

Program Coordinator


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WOMEN'S ENGINEERING COLLEGE
PULLADIGUNTA, GUNTUR-17


HOD, Department of Computer Science & Engineering
Malineni Lakshmaiah Women's Engineering College
Pulladigunta, GUNTUR-522017



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Guntur-522017, Andhra Pradesh, India

Department of Computer Science and Engineering

Teaching/Instructional Plan

| | |
|---------------------------|-----------------------|
| COURSE :Machine Learning | DEGREE: B.Tech |
| COURSE CODE: :R1942052 | YEAR: IV SEMESTER: II |
| REGULATION: R19 | COURSE TYPE: REGULAR |
| ACADEMIC YEAR : 2022-2023 | CREDITS: 3 |

| S.No | Topic(s) | No. of Hours | Reference Book | Teaching Methodology |
|---|---|--------------|----------------|-----------------------------------|
| UNIT-I : The ingredients of machine learning | | | | |
| 1 | Introduction to Machine Learning | 1 | T1 | Chalk & talk |
| 2 | Applications of Machine Learning and types of learning ,Different types of Machine Learning Algorithms , Advantages and Disadvantages of Machine Learning | 2 | T1 and T2 | PPT1 |
| 3 | Supervised Learning and Unsupervised Learning Semi-supervised Learning and Reinforcement Learning | 1 | T1 and T2 | Chalk & talk |
| 4 | The ingredients of machine learning | 1 | T1 | Chalk & talk |
| 5 | the problems that can be solved with machine learning | 1 | T1 | Chalk & talk |
| 6 | Models: the output of machine learning | 1 | T1 | Chalk & talk |
| 7 | Features, the workhorses of machine learning | 1 | T1 | Chalk & talk |
| 8 | Binary classification and related tasks | 1 | T1 | Chalk & talk |
| 9 | Classification, Scoring and ranking, | 1 | T1 | Chalk & talk |
| 10 | Class probability estimation | 1 | T1 | Chalk & talk |
| | | 11 | | |
| UNIT-II :: Beyond binary classification | | | | |
| 11 | Handling more than two classes | 1 | T1 | Chalk & talk |
| 12 | Regression | 2 | T1 | Chalk & talk Digital Education |
| 13 | Unsupervised learning. | 2 | T1 | Chalk & talk |
| 14 | Descriptive learning | 1 | T1 | Chalk & talk |



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| | | | | |
|---|---|----|-----------|-------------------------------|
| 15 | Concept learning | 2 | T1 and T2 | Chalk & talk |
| 16 | The hypothesis space | 1 | T1 | Chalk & talk |
| 17 | Paths through the hypothesis space | 1 | T1 | Chalk & talk |
| 18 | Beyond conjunctive concepts | 1 | T1 | Chalk & talk |
| | | 11 | | |
| UNIT-III : Tree models and Rule Models | | | | |
| 19 | Decision trees | 2 | T1 | Chalk & talk |
| 20 | ID3 algorithm | 1 | R1 | Chalk & talk |
| 21 | Ranking and probability estimation trees | 1 | T1 | Chalk & talk |
| 22 | Tree learning as variance reduction | 1 | T1 | Chalk & talk |
| 23 | Rule models: Learning ordered rule lists, | 2 | T1 | Chalk & talk |
| 24 | Learning unordered rule sets | 2 | T1 | Chalk & talk |
| 25 | Descriptive rule learning | 2 | T1 | Chalk & talk |
| 26 | First-order rule learning | 1 | T1 | Chalk & talk |
| | | 12 | | |
| UNIT-IV: Linear models and Distance Based Models | | | | |
| 27 | Linear models | 1 | T1 | PPT-4 Digital Education |
| 28 | The least-squares method | 1 | T1 | Chalk & talk |
| 29 | The perceptron | 1 | T1 | Chalk & talk |
| 30 | Heuristic learning algorithm for linear classifiers | 1 | T1 | Digital Education |
| 31 | Support vector machines | 2 | T1 | Chalk & talk |
| 32 | Obtaining probabilities from linear classifiers | 1 | T1 | Chalk & talk |
| 33 | Going beyond linearity with kernel methods. | 1 | T1 | Chalk & talk |
| 34 | Distance Based Models | 1 | T1 | Chalk & talk |
| 35 | k-Nearest Neighbors classification, | 2 | T1 | Chalk & talk |
| 36 | Distance Based Clustering | 1 | T1 | Chalk & talk |
| 37 | Hierarchical Clustering | 1 | T1 | Chalk & talk |



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| | | 13 | | |
|--|--|----|----|-------------------------------|
| UNIT-V: Probabilistic models and Features | | | | |
| 38 | The normal distribution and its geometric interpretations | 1 | T1 | Chalk & talk |
| 39 | Probabilistic models for categorical data | 1 | T1 | Chalk & talk |
| 40 | Discriminative learning by optimizing conditional Likelihood | 1 | T1 | Chalk & talk |
| 41 | Probabilistic models with hidden variables | 1 | T1 | Chalk & talk |
| 42 | Features: Kinds of feature | 1 | T1 | Chalk & talk |
| 43 | Feature transformations | 1 | T1 | Chalk & talk |
| 44 | Feature construction and selection | 1 | T1 | Chalk & talk |
| 45 | Model ensembles: Bagging and random forests, | 1 | T1 | Chalk & talk |
| 46 | Boosting | 1 | T1 | Chalk & talk |
| | | 9 | | |
| UNIT-VI : Dimensionality Reduction and Artificial Neural Networks | | | | |
| 57 | Principal Component Analysis (PCA) | 2 | R3 | Chalk & talk |
| 58 | Introduction to Neural networks | 2 | R4 | NPTEL Video Digital Education |
| 59 | appropriate problems for neural network learning | 1 | R4 | Chalk & talk |
| 60 | Multilayer networks | 1 | R4 | Chalk & talk |
| 61 | The back propagation algorithm | 1 | R4 | Chalk & talk |
| | | 6 | | |
| TOTAL NO.OF CLASSES =11+11+12+13+9+7=63 | | | | |

TEXT BOOKS:

| | |
|----|--|
| T1 | Machine Learning: The art and science of algorithms that make sense of data, Peter Flach, Cambridge. |
| T2 | Machine Learning, Tom M. Mitchell, MGH. |

REFERENCE BOOKS:

| | |
|----|--|
| R1 | . Understanding Machine Learning: From Theory to Algorithms, Shai Shalev-Shwartz, Shai Ben-David, Cambridge. |
|----|--|



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Department of Computer Science and Engineering

| | |
|----|--|
| R2 | . Machine Learning in Action, Peter Harington, 2012, Cengage |
|----|--|

Other REFERENCE BOOKS not prescribed in University Curriculum

| | |
|----|---|
| R3 | Machine Learning by Anuradha Shinivasaghan and Vincy Joseph, Widely |
| R4 | Applied Machine Learning by M.Gopal, McGraw Hill Education |

WEB REFERENCE:

| | |
|-----|--|
| W1 | https:// www.geeksforgeeks.org/machine-learning/ |
| W2 | https://www.en.wikipedia.org/wiki/Machine_learning |
| W3 | www.tutorialspoint.com/machine_learning/machine_learning_tutorial.pdf |
| W4 | http://www.datascienceassn.org/sites/default/files/Introduction%20to%20Machine%20Learnin g.pdf |
| W5 | https://courses.edx.org/asset- v1:ColumbiaX+CSMM.101x+1T2017+type@asset+block@AI_edx_ml_5.1intro.pdf |
| W6 | https://www.researchgate.net/publication/303806260_Machine_Learning_Algorithms_and_Ap plications/link/5862c0f308ae329d6201bca2/download |
| W7 | https://mrcet.com/downloads/digital_notes/CSE/IV%20Year/MACHINE%20LEARNING(R1 7A0534).pdf |
| W8 | https://news.vidyaacademy.ac.in/wp- content/uploads/2018/10/NotesOnMachineLearningForBTech-1.pdf |
| W9 | http://www.engppt.com/2009/07/machine-learning-notes-ppt-pdf.html |
| W10 | https://machinelearningmastery.com/what-is-semi-supervised-learning/ |



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Department of Computer Science and Engineering

Instructional Methods and Pedagogies

The following methods are some of the appropriate and efficient methodologies according to the characteristic of the learner.

| S.No. | INSTRUCTIONAL METHODOLOGY | YES/NO |
|-------|------------------------------------|--------|
| 1. | Chalk & Talk | YES |
| 2 | PPT | YES |
| 3 | NPTEL Videos | |
| 4 | Guest Lectures & Workshops | YES |
| 5 | Learning from Industrial visits | |
| 6 | Student centric Learning: | |
| | i. Seminar Method | YES |
| | ii. Group discussions | YES |
| | iii. Assignment | YES |
| | iv. Quiz | YES |
| | v. Learning from Industrial visits | YES |
| | vi. Brain Storming | YES |
| | vii. Minutes of paper | YES |
| | viii. Puzzles | YES |
| | ix. TPS(Think Pair Share) | YES |

Rhema
 Course Coordinator(s):

Program Coordinator

[Signature]
 HOD
 Dept. of Computer Science & Engineering
 Malineni Lakshmaiah Women's Engineering College
 Pulladigunta, GUNTUR-522017
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| | |
|--|-------------------------------------|
| SUBJECT NAME: DESIGN AND ANALYSIS OF ALGORITHMS | DEGREE: B. Tech |
| SUBJECT CODE: R2031052 | YEAR: III SEMESTER: I |
| REGULATION: R20 | COURSE TYPE: REGULAR |
| ACADEMIC YEAR: 2022-2023 | CREDITS: 3 |

Teaching/Instructional Plan

| Unit/ Topic No | Name of the Topic | No. of hours | Delivery Method | Reference Book |
|-------------------|---|-----------------|--------------------|-------------------|
| UNIT I | | | | |
| 1.1 | What is an Algorithm, Algorithm Specification | 2 | Chalk & Talk | T1 |
| 1.2 | Pseudo code Conventions | 1 | Chalk & Talk | T1 |
| 1.3 | Recursive Algorithm, Performance Analysis | 2 | Chalk & Talk | T1 |
| 1.4 | Space Complexity, Time Complexity | 2 | Chalk & Talk | T1 |
| 1.5 | Amortized Complexity | 1 | Chalk & Talk | T1 |
| 1.6 | Asymptotic Notation | 1 | Video | W5 |
| 1.7 | Practical Complexities | 1 | Chalk & Talk | T1 |
| 1.8 | Performance Measurement | 2 | Chalk & Talk | T1 |
| 1.9 | Randomized Sorting Algorithms | 2 | Chalk & Talk | T1 |
| | Unit wise total no. hours | 14 | | |
| UNIT-II | | | | |
| 2.1 | Dived and Conquer: General Method | 1 | Chalk & Talk | T1 |
| 2.2 | Defective Chessboard | 1 | Chalk & Talk | T1 |
| 2.3 | Binary Search | 1 | Chalk & Talk | T1 |
| 2.4 | Finding the Maximum and Minimum | 2 | Chalk & Talk | T1 |
| 2.5 | Merge Sort | 2 | PPT-1 | T1 |
| 2.6 | Quick Sort | 2 | Video | W6 |
| 2.7 | Performance Measurement | 1 | Chalk & Talk | T1 |
| 2.8 | Randomized Sorting Algorithms. | 1 | Chalk & Talk | T1 |
| | Unit wise total no. hours | 11 | | |
| UNIT-III | | | | |
| 3.1 | The Greedy Method: The General | 1 | Seminar | T1 |



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| Method | | | | |
|----------------------------|--|-----------|--------------|----|
| 3.2 | Knapsack Problem | 1 | Chalk & Talk | T1 |
| 3.3 | Job Sequencing with Deadlines | 2 | Chalk & Talk | T1 |
| 3.4 | Minimum-cost Spanning Trees | 1 | Chalk & Talk | T1 |
| 3.5 | Prim's Algorithm, Kruskal's Algorithms | 2 | PPT-2 | T1 |
| 3.6 | An Optimal Randomized Algorithm | 1 | Chalk & Talk | T1 |
| 3.7 | Optimal Merge Patterns | 1 | PPT-3 | T1 |
| 3.8 | Single Source Shortest Paths | 1 | Chalk & Talk | T1 |
| | Unit wise total no. hours | | | |
| UNIT-IV | | | | |
| 4.1 | Dynamic Programming: All - Pairs Shortest Paths | 2 | Video | W7 |
| 4.2 | Single – Source Shortest paths General Weights | 2 | Chalk & Talk | T1 |
| 4.3 | String Edition | 2 | Chalk & Talk | T1 |
| 4.4 | 0/1 Knapsack | 2 | Chalk & Talk | T1 |
| 4.5 | Reliability Design | 2 | | T1 |
| | Unit wise total no. hours | 10 | | |
| UNIT-V | | | | |
| 5.1 | Backtracking: The General Method | 2 | Chalk & Talk | T1 |
| 5.2 | The 8-Queens Problem | 2 | Video | W8 |
| 5.3 | Sum of Subsets | 2 | Chalk & Talk | T1 |
| 5.4 | Graph Coloring | 2 | Chalk & Talk | T1 |
| 5.5 | Hamiltonian Cycles | 2 | Chalk & Talk | T1 |
| | Unit wise total no. hours | 10 | | |
| UNIT VI | | | | |
| 6.1 | Branch and Bound: The Method | 1 | PPT-4 | T1 |
| 6.2 | Least cost (LC) Search, | 1 | Chalk & Talk | T1 |
| 6.3 | The 15-Puzzle: an Example, Control Abstraction for LC-Search | 1 | Chalk & Talk | T1 |
| 6.4 | Bounding, FIFO Branch-and-Bound, | 1 | Chalk & Talk | T1 |
| 6.5 | LC Branch and Bound | 1 | Chalk & Talk | T1 |
| 6.6 | 0/1Knapsack Problem, | 1 | Chalk & Talk | T1 |
| 6.7 | LC Branch-and Bound Solution | 1 | Chalk & Talk | T1 |
| 6.8 | FIFO Branch-and-Bound Solution, | 1 | Chalk & Talk | T1 |
| 6.9 | Traveling Salesperson. | 1 | Video | W9 |
| 6.10 | Random Forests | 1 | Chalk & Talk | T1 |
| | Unit wise total no. hours | 10 | | |
| Total No. of hours: | | 65 | | |



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TEXT BOOKS:

1. Fundamentals of computer algorithms E. Horowitz S. Sahni, University Press
2. Introduction to Algorithms Thomas H. Cormen, PHI Learning

REFERENCE BOOKS

1. The Design and Analysis of Computer Algorithms, Alfred V. Aho, John E. Hopcroft, Jeffrey D. Ullman
2. Algorithm Design, Jon Kleinberg, Pearson.

WEB REFERENCES:

1. https://www.tutorialspoint.com/design_and_analysis_of_algorithms/index.htm
2. <https://www.javatpoint.com/daa-tutorial>
3. <https://www.gatevidyalay.com/algorithms/>

NPTEL

4. <https://nptel.ac.in/courses/106101060/>

VIDEOS

5. <https://youtu.be/A03oI0znAoc>
6. https://youtu.be/7h1s2SojIRw?list=PLDN4rrl48XKpZkf03iYF1-O29szjTrs_O
7. https://youtu.be/oNI0rf2P9gE?list=PLDN4rrl48XKpZkf03iYF1-O29szjTrs_O
8. https://youtu.be/xFv_Hl4B83A?list=PLDN4rrl48XKpZkf03iYF1-O29szjTrs_O
9. https://youtu.be/1FEP_sNb62k?list=PLDN4rrl48XKpZkf03iYF1-O29szjTrs_O



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Instructional Methods and Pedagogies:

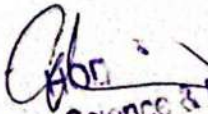
The following methods are some of the appropriate and efficient methodologies according to the characteristic of the learner.

| S.No. | INSTRUCTIONAL METHODOLOGY | YES/NO |
|-------|------------------------------------|--------|
| 1. | Chalk & Talk | YES |
| 2 | PPT | YES |
| 3 | NPTEL Videos | |
| 4 | Guest Lectures & Workshops | YES |
| 5 | Learning from Industrial visits | |
| 6 | Student centric Learning: | |
| | i. Seminar Method | YES |
| | ii. Group discussions | YES |
| | iii. Assignment | YES |
| | iv. Quiz | YES |
| | v. Learning from Industrial visits | YES |
| | vi. Brain Storming | YES |
| | vii. Minutes of paper | YES |
| | viii. Puzzles | YES |
| | ix. TPS(Think Pair Share) | YES |


Course Coordinator(s):

Program Coordinator


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 Guntur-522017, Andhra Pradesh, India

Department of Computer Science and Engineering

| | |
|--|------------------------------|
| COURSE : DATA WAREHOUSING & DATA MINING | DEGREE: B.Tech |
| COURSE CODE: R2031053 | YEAR: III SEMESTER: I |
| REGULATION: R20 | COURSE TYPE: REGULAR |
| ACADEMIC YEAR : 2022-2023 | CREDITS: 3 |

Teaching/Instructional Plan

| S.NO | Topic Name | No.of hours | Teaching Aid Methodologies | Books |
|--------------------------------------|--|-------------|----------------------------|-------|
| UNIT- I: Introduction | | | | |
| 1. | Why Data Mining? | 1 | Chalk & Talk | T2 |
| 2. | What Is Data Mining? | 1 | Chalk & Talk | T2 |
| 3. | What Kinds of Data Can Be Mined? | 1 | Chalk & Talk | T2 |
| 4. | What Kinds of Patterns Can Be Mined? | 1 | Chalk & Talk | T2 |
| 5. | Which Technologies Are Used? | 1 | Chalk & Talk | T2 |
| 6. | Which Kinds of Applications Are Targeted? | 1 | Chalk & Talk | T2 |
| 7. | Major Issues in Data Mining | 1 | Chalk & Talk | T2 |
| 8. | Data Objects and Attribute Types | 1 | Chalk & Talk | T2 |
| 9. | Basic Statistical Descriptions of Data | 1 | Chalk & Talk | T2 |
| 10. | Data Visualization | 2 | PPT | T2 |
| 11. | Measuring Data Similarity and Dissimilarity | 1 | Chalk & Talk | T2 |
| UNIT- II: Data Pre-processing | | | | |
| 12. | Data Pre-processing Overview | 1 | Chalk & Talk | T2 |
| 13. | Data Cleaning | 2 | Chalk & Talk | T2 |
| 14. | Data Integration | 2 | Chalk & Talk | T2 |
| 15. | Data Reduction | 2 | Chalk & Talk | T2 |
| 16. | Data Transformation | 2 | PPT | T2 |
| 17. | Data Discretization | 2 | Chalk & Talk | T2 |
| UNIT-III: Classification | | | | |
| 18. | Basic Concepts | 1 | Chalk & Talk | T1 |
| 19. | General Approach to solving a classification problem | 1 | Chalk & Talk | T1 |
| 20. | Decision Tree: Working of Decision Tree | 1 | Chalk & Talk | T1 |
| 21. | Building a decision tree | 1 | Chalk & Talk | T2 |



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| | | | | |
|---|---|---|--------------|----|
| 22 | Methods for expressing an attribute test conditions. | 2 | Chalk & Talk | T1 |
| 23 | Measures for selecting the best split, | 2 | Chalk & Talk | T1 |
| 24 | Algorithm for decision tree induction. | 2 | Chalk & Talk | T2 |
| UNIT-IV: Classification: Alternative Techniques | | | | |
| 25 | Bayes' Theorem | 2 | Chalk & Talk | T2 |
| 26 | Naïve Bayesian Classification | 2 | Chalk & Talk | T2 |
| 27 | Bayesian Belief Networks | 2 | Chalk & Talk | T3 |
| UNIT-V : Association Analysis: Basic Concepts and Algorithms | | | | |
| 28 | Problem Defecation | 1 | Chalk & Talk | T2 |
| 29 | Frequent Item Set generation | 2 | Chalk & Talk | T2 |
| 30 | Rule generation | 2 | Chalk & Talk | T2 |
| 31 | compact representation of frequent item sets | 2 | Chalk & Talk | T2 |
| 32 | FP-Growth Algorithm. | 2 | Chalk & Talk | T2 |
| UNIT-VI: Cluster Analysis: Basic Concepts and Algorithms | | | | |
| 33 | What Is Cluster Analysis? | 1 | Chalk & Talk | T2 |
| 34 | Different Types of Clustering, | 1 | | |
| 35 | The Basic K-means Algorithm | 1 | Chalk & Talk | T2 |
| 36 | K-means Additional Issues, | 1 | Chalk & Talk | T2 |
| 37 | Bisecting K-means. | 1 | Chalk & Talk | T2 |
| 38 | Strengths and Weaknesses | 1 | Chalk & Talk | T2 |
| 39 | Basic Agglomerative Hierarchical Clustering Algorithm | 2 | Chalk & Talk | T2 |
| 40 | Traditional Density Center-Based Approach | 1 | Chalk & Talk | T1 |
| 41 | DBSCAN Algorithm | 2 | Chalk & Talk | T2 |
| 42 | Strengths and Weaknesses. | 1 | Chalk & Talk | T1 |

TEXT BOOKS:

| | |
|----|--|
| T1 | Introduction to Data Mining: Pang-Ning Tan & Michael Steinbach, VipinKumar, Pearson. |
| T2 | Data Mining concepts and Techniques, 3/e, Jiawei Han, Michel Kamber, Elsevier. |



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REFERENCE BOOKS:

| | |
|----|--|
| R1 | Data Mining Techniques and Applications: An Introduction, Hongbo Du, Cengage Learning. |
| R2 | Data Mining :VikramPudi and P. Radha Krishna, Oxford. |
| R3 | Data Mining and Analysis - Fundamental Concepts and Algorithms; Mohammed J. Zaki, Wagner Meira, Jr, Oxford |
| R4 | Data Warehousing Data Mining & OLAP, Alex Berson, Stephen Smith, TMH. |

WEB REFERENCE:

| | |
|----|---|
| W1 | https://www.educba.com/data-warehousing-vs-data-mining/ |
| W2 | https://docs.oracle.com/cd/B28359_01/datamine.111/b28129/process.htm#DMCON002 |

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Instructional Methods and Pedagogies

The following methods are some of the appropriate and efficient methodologies according to the characteristic of the learner.

| S.No. | INSTRUCTIONAL METHODOLOGY | YES/NO |
|-------|------------------------------------|--------|
| 1. | Chalk & Talk | YES |
| 2 | PPT | YES |
| 3 | NPTEL Videos | |
| 4 | Guest Lectures & Workshops | YES |
| 5 | Learning from Industrial visits | |
| 6 | Student centric Learning: | |
| | i. Seminar Method | YES |
| | ii. Group discussions | YES |
| | iii. Assignment | YES |
| | iv. Quiz | YES |
| | v. Learning from Industrial visits | YES |
| | vi. Brain Storming | YES |
| | vii. Minutes of paper | YES |
| | viii. Puzzles | YES |
| | ix. TPS(Think Pair Share) | YES |

Thani
Course Coordinator(s):

Program Coordinator

[Signature]
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Dept. of Computer Science & Engineering
Pulladigunta, GUNTUR-522017



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 Guntur-522017, Andhra Pradesh, India

Department of Computer Science and Engineering

COURSE OBJECTIVES & OUTCOMES

| | |
|----------------------------|-----------------------|
| COURSE : Computer Networks | DEGREE: B.Tech |
| COURSE CODE: R2031051 | YEAR: III SEMESTER: I |
| REGULATION: R20 | COURSE TYPE: REGULAR |
| ACADEMIC YEAR : 2022-2023 | CREDITS: 3 |

| S.NO | Topic Name | No.of hours | Teaching Aid Methodologies | Books |
|------------------------------|--|-------------|----------------------------|-------|
| UNIT- I: Introduction | | | | |
| 1. | Introduction: Networks, Computer Networks, Data Flow, Network models. | 1 | Chalk & Talk | T1 |
| 2. | Network Topologies | 2 | Chalk & Talk | T1 |
| 3. | WAN, LAN | 1 | Chalk & Talk | T1 |
| 4. | MAN | 1 | Chalk & Talk | T1 |
| 5. | Reference models -OSI | 2 | Chalk & Talk | T1 |
| 6. | TCP/IP- Reference models | 1 | | |
| UNIT-II | | | | |
| 7. | Physical Layer – Fourier Analysis – Bandwidth Limited Signals | 1 | Chalk & Talk | T1 |
| 8. | The Maximum Data Rate of a Channel | 1 | Chalk & Talk | T1 |
| 9. | Guided Transmission Media | 2 | Chalk & Talk | T2 |
| 10. | Data Link Layer Design Issues | 1 | PPT | T2 |
| 11. | Error Detection and Correction | 1 | PPT | T2 |



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| | | | | |
|-----------------|--|---|------------------|-------|
| 12. | Elementary Data Link Protocols | 1 | Chalk & Talk | T2 |
| 13. | Sliding Window Protocols | 1 | PPT | T2 |
| UNIT-III | | | | |
| 14. | Services Provided to the Network Layer – Framing | 1 | Chalk & Talk | T1 |
| 15. | Error Control –Flow Control, Error Detection and Correction . | 2 | Chalk & Talk | T1 |
| 16. | Error-Correcting Codes | 1 | Video | T1 |
| 17. | Error Detecting Codes | 1 | Chalk & Talk | T1 |
| 18. | Elementary Data Link Protocols- A Utopian Simplex Protocol- | 1 | Chalk & Talk | T2 |
| 19. | A Simplex Stop and Wait Protocol for an Error free channel | 1 | Chalk & Talk | T1 |
| 20. | A Simplex Stop and Wait Protocol for a Noisy Channel | 1 | Chalk & Talk | T1 |
| 21. | Sliding Window Protocols | 2 | Chalk & Talk | T2 |
| 22. | A One Bit Sliding Window Protocol-A Protocol Using Go-Back-N | 1 | Chalk & Talk | T2 |
| 23. | A Protocol Using Selective Repeat. | 1 | Chalk & Talk | T1 |
| UNIT-IV | | | | |
| 24. | The Medium Access Control Sublayer-The Channel Allocation Problem-Static Channel Allocation. | 1 | Chalk & Talk | T2 |
| 25. | Assumptions for Dynamic Channel Allocation | 1 | GROUP DISCUSSION | T2 |
| 26. | Multiple Access Protocols-Aloha. | 1 | Chalk & Talk | T3 |
| 27. | Carrier Sense Multiple Access Protocols | 1 | Chalk & Talk | T2 |
| 28. | Collision | 1 | Chalk & Talk | T1 |
| 29. | Free Protocols | 1 | Chalk & Talk | W2,T1 |
| 30. | Limited Contention Protocols | | | |
| 31. | Wireless LAN Protocols | 1 | Chalk & Talk | T2 |
| 32. | Ethernet-Classic Ethernet Physical Layer-Classic Ethernet | 1 | Chalk & Talk | T2 |
| 33. | MAC Sublayer Protocol | 1 | Chalk & Talk | T2 |
| 34. | Ethernet Performance-Fast Ethernet Gigabit Ethernet | 1 | Chalk & Talk | T1 |
| 35. | 10-Gigabit Ethernet | 1 | Chalk & Talk | T1 |
| 36. | Retrospective on Ethernet | | | |



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| | | | | |
|----------------|--|---|--------------|----|
| 37. | Wireless Lans - The 802.11 Architecture and Protocol Stack | 1 | Chalk & Talk | T1 |
| 38. | 802.11 Physical Layer-The802.11 MAC Sub layer Protocol. | 1 | Chalk & Talk | T1 |
| 39. | The 805.11 Frame Structure-Services | 1 | Chalk & Talk | T1 |
| Unit-V | | | | |
| 40. | Design Issues-The Network Layer Design Issues – Store and Forward Packet Switching-Services. | 1 | Chalk & Talk | T2 |
| 41. | Provided to the Transport layer-Implementation of Connectionless Service. | 1 | Chalk & Talk | T2 |
| 42. | Implementation of Connection Oriented Service-Comparison of Virtual Circuit and Datagram Networks. | 1 | Chalk & Talk | T2 |
| 43. | Routing Algorithms | 1 | Chalk & Talk | T2 |
| 44. | The Optimality principle | 1 | Chalk & Talk | T2 |
| 45. | Shortest path Algorithm | 1 | Chalk & Talk | T2 |
| 46. | Congestion Control Algorithms | 1 | Chalk & Talk | T2 |
| 47. | Approaches to Congestion Control | 1 | Chalk & Talk | T2 |
| 48. | Traffic Aware Routing | 1 | Chalk & Talk | W2 |
| 49. | Admission Control-Traffic Throttling | | | |
| 50. | Load Shedding | | | |
| UNIT-VI | | | | |
| 51. | Transport Layer – The Internet Transport Protocols | 1 | Chalk & Talk | T2 |
| 52. | Udp | 1 | Chalk & Talk | T2 |
| 53. | The Internet Transport Protocols: Tcp | 1 | Chalk & Talk | T2 |
| 54. | Application Layer –The Domain Name System | 1 | Chalk & Talk | T2 |
| 55. | The DNS Name Space | 1 | Chalk & Talk | T2 |
| 56. | Resource Records, | 1 | Chalk & Talk | T2 |
| 57. | Name Servers | 1 | Chalk & Talk | T1 |
| 58. | Electronic Mail: Architecture | 1 | Chalk & Talk | T2 |
| 59. | Electronic Mail: Services | 1 | Chalk & Talk | T3 |
| 60. | The User Agent, Message Formats | 1 | Chalk & Talk | T3 |
| 61. | Message Transfer | 1 | Video | T1 |
| 62. | Final Delivery | 1 | Chalk & Talk | T1 |

TEXT BOOKS:



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1. Tanenbaum and David J Wetherall, Computer Networks, 5th Edition, Pearson Edu, 2010
2. Computer Networks: A Top Down Approach, Behrouz A. Forouzan, Firouz Mosharraf, McGraw Hill Education

REFERENCE BOOKS:

1. Larry L. Peterson and Bruce S. Davie, "Computer Networks - A Systems Approach" (5th ed), Morgan Kaufmann/ Elsevier, 2011.

WEB REFERENCE:

<https://www.geeksforgeeks.org/computer-network-tutorials/>

<https://www.javatpoint.com/computer-network-tutorial>

https://www.tutorialspoint.com/computer_fundamentals/computer_networking.htm

Instructional Methods and Pedagogies

The following methods are some of the appropriate and efficient methodologies according to the characteristic of the learner.

| S.No. | INSTRUCTIONALMETHODOLOGY | YES/NO |
|-------|--------------------------|--------|
| 1. | Chalk & Talk | YES |
| 2 | PPT | YES |
| 3 | E-Learning | |



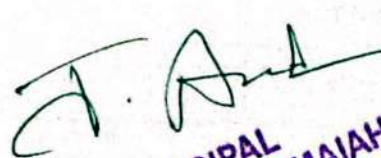
MALINENI LAKSHMAIAH WOMEN'S ENGINEERING COLLEGE
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| | | |
|----|---------------------------------|-----|
| 4 | NPTEL Videos | YES |
| 5 | Guest Lectures & Workshops | |
| 6 | Seminar Method | |
| 7 | Group discussions | YES |
| 8 | Assignment | YES |
| 9 | Quiz | |
| 10 | Learning from Industrial visits | |

^{M.K.}
Course Coordinator(s):

Program Coordinator


PRINCIPAL
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PULLADIGUNTA, GUNTUR-17

HOD
Dept. of Computer Science & Engg.
Malineni Lakshmaiah Women's Engineering College
Pulladigunta, HOD TUR-522017



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Department of Computer Science and Engineering

| | |
|----------------------------------|-----------------------|
| COURSE : ARTIFICIAL INTELLIGENCE | DEGREE: B.Tech |
| COURSE CODE: R1931052 | YEAR: III SEMESTER: I |
| REGULATION: R19 | COURSE TYPE: REGULAR |
| ACADEMIC YEAR : 2021-2022 | CREDITS: 3 |

UNIT-I : Introduction to AI

| S.No. | Topics to be covered | No. of Classes Required | Teaching Learning Methods | Text Book followed |
|-------|--------------------------------|-------------------------|---------------------------|--------------------|
| 1. | History of AI | 1 | TLM1 | T1 |
| 2. | Intelligent systems | 1 | TLM1 | T1 |
| 3. | Heuristic search techniques | 1 | TLM1 | T1 |
| 4. | Heuristic search techniques | 1 | TLM1 | T1 |
| 5. | TUTORIAL-1 | 1 | TLM1 | T1 |
| 6. | Best first search | 1 | TLM1 | T1 |
| 7. | Problem reduction | 1 | TLM2 | T1 |
| 8. | TUTORIAL-2 | 1 | TLM3 | T1 |
| 9. | Constrain satisfaction problem | 1 | TLM2,TLM8 | T1 |
| 10. | Means ends analysis | 1 | TLM2,TLM8 | T1 |

UNIT-II : KNOWLEDGE REPRESENTATION

| S.No. | Topics to be covered | No. of Classes Required | Teaching Learning Methods | Text Book followed |
|-------|--|-------------------------|---------------------------|--------------------|
| 11. | Approches of knowledge representation and issues | 1 | TLM1 | T1 |
| 12. | Knowledge based agents | 1 | TLM1 | T1 |
| 13. | Propositional logic | 1 | TLM1 | T1 |
| 14. | Propositional logic | 1 | TLM1 | T1 |
| 15. | Predicate logic | 1 | TLM1 | T1 |



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| | | | | |
|-----|----------------------------------|---|------|----|
| 16. | Unification | 1 | TLM1 | T1 |
| 17. | Resolution | 1 | TLM1 | T1 |
| 18. | TUTORIAL-3 | 1 | TLM3 | T1 |
| 19. | Weak slot filler structures | 1 | TLM2 | T1 |
| 20. | Strong slot filler structures | 1 | TLM2 | T1 |
| 21. | Revision for I st midexamination | 1 | TLM2 | T1 |
| 22. | Test& Quiz | 1 | TLM6 | T1 |

UNIT-III : REASONING UNDER UNCERTAINTY

| S.No. | Topics to be covered | No. of Classes Required | Teaching Learning Methods | Text Book followed |
|-------|--|-------------------------|---------------------------|--------------------|
| 23. | Logics of non monotonic reasoning | 1 | TLM1 | T1 |
| 24. | Logic implementation | 1 | TLM1 | T1 |
| 25. | Probability notation, Bayes theorem | 1 | TLM1 | T1 |
| 26. | Bayes rules and networks | 1 | TLM1, TLM8 | T1 |
| 27. | TUTORIAL-5 | 1 | TLM3 | T1 |
| 28. | certainty factors and rules | 1 | TLM2 | T1 |
| 29. | Rule based systems | 1 | TLM2, TLM8 | T1 |
| 30. | Dempster shafer theory | 1 | TLM2 | T1 |
| 31. | Fuzzy logic | 1 | TLM2 | T1 |
| 32. | TUTORIAL-6 | 1 | TLM3 | T1 |
| 33. | Comparison of various abovementioned methods | 1 | TLM2, TLM8 | T1 |
| | | 1 | TLM6 | T1 |

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UNIT-IV : PLANNING AND LEARNING

| S.No. | Topics to be covered | No. of Classes Required | Teaching Learning Methods | Text Book followed |
|-------|--|-------------------------|---------------------------|--------------------|
| 44. | Game playing | 1 | TLM1 | T3 |
| 45. | min max procedure | 1 | TLM1 | T3 |
| 46. | Adding alpha-beta cut offs | 1 | TLM1 | T3 |
| 47. | Expert systems Introduction | 1 | TLM1 | T3 |
| 48. | Expert systems, representation, shells | 1 | TLM1 | T3 |
| 49. | Knowledge acquisition | 1 | TLM1 | T3 |
| 50. | TUTORIAL-8 | 1 | TLM3 | T3 |
| 51. | Robotics hardware | 1 | TLM2 | T3 |
| 52. | robotic perception | 1 | TLM2 | T3 |
| 53. | Planning application domains | 1 | TLM2 | T3 |
| 54. | Swarm intelligent systems | 1 | TLM2 | T3 |

UNIT-V : ADVANCED TOPICS

| | | | | |
|-----|---|---|------|----|
| 55. | Ant colony system | 1 | TLM2 | T3 |
| 56. | Ant colony Development | 1 | TLM2 | T3 |
| 57. | Application and working of antcolony system | 1 | TLM2 | T3 |
| 58. | SLIP TEST | 1 | TLM6 | T3 |

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Text Books: 1. Artificial Intelligence, Saroj Kaushik, CENGAGE Learning, 2. Artificial intelligence, A modern Approach, 2nd ed, Stuart Russel, Peter Norvig, PEA 3. Artificial Intelligence, Rich, Kevin Knight, Shiv Shankar B Nair, 3rd ed, TMH 4. Introduction to Artificial Intelligence, Patterson, PHI

Reference Books: 1. Artificial intelligence, structures and Strategies for Complex problem solving, -George F Luger, 5th ed, PEA 2. Introduction to Artificial Intelligence, Ertel, Wolf Gang, Springer 3. Artificial Intelligence, A new Synthesis, Nils J Nilsson, Elsevier

Anela
Course Coordinator(s):

Program Coordinator

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Department of Computer Science and Engineering

Teaching/Instructional Plan

| | |
|------------------------------|----------------------|
| COURSE: SOFTWARE ENGINEERING | DEGREE: B.Tech |
| COURSE CODE: R2021053 | YEAR: II SEMESTER: I |
| REGULATION: R20 | COURSE TYPE: REGULAR |
| ACADEMIC YEAR : 2022-2023 | CREDITS: 3 |

| S.NO | Topic Name | No.of hours | Teaching Aid Methodologies | Books |
|---|--|-------------|----------------------------|-------|
| UNIT- I: Software and Software Engineering Process Models | | | | |
| 1. | The Nature of Software | 1 | Chalk & Talk | T1 |
| 2. | The Unique Nature of WebApps | 1 | Chalk & Talk | T1 |
| 3. | Software Engineering | 1 | Chalk & Talk | T2 |
| 4. | Software Process | 1 | Chalk & Talk | T1 |
| 5. | Software Engineering Practice | 1 | Chalk & Talk | T1 |
| 6. | Software Myths | 1 | PPT-1 | W1 |
| 7. | A Generic Process Model | 1 | Chalk & Talk | T1 |
| 8. | Process Assessment and Improvement | 1 | Chalk & Talk | T1 |
| 9. | Prescriptive Process Models | 1 | Chalk & Talk | T2 |
| 10. | Specialized Process Models | 1 | Chalk & Talk | T1 |
| 11. | The Unified Process | 1 | PPT-2 | W2 |
| 12. | Personal and Team Process Models | 1 | Chalk & Talk | R1 |
| 13. | Process Terminology | 1 | Chalk & Talk | T2 |
| 14. | Product and Process | 1 | Chalk & Talk | T2 |
| UNIT-II Requirements Analysis and Specification, Software Design | | | | |
| 15. | Requirements Gathering and Analysis | 1 | Chalk & Talk | T2 |
| 16. | Software Requirement Specification (SRS) | 1 | PPT-3 | T2 |
| 17. | Formal System Specification | 1 | Chalk & Talk | T3 |
| 18. | Overview of the Design Process | 1 | Chalk & Talk | T3 |
| 19. | How to Characterize of a Design | 1 | Chalk & Talk | T3 |
| 20. | Cohesion and Coupling | 1 | Chalk & Talk | R2 |
| 21. | Layered Arrangement of Modules | 1 | Chalk & Talk | T3 |
| 22. | Approaches to Software Design | 1 | Chalk & Talk | T3 |
| UNIT-III Function-Oriented Software Design User Interface Design | | | | |
| 23. | Overview of SA/SD Methodology | 1 | Chalk & Talk | T3 |
| 24. | Structured Analysis | 1 | Chalk & Talk | T3 |
| 25. | Developing the DFD Model of a System | 1 | Video | W3 |



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| | | | | |
|-----|---|---|--------------|----|
| 26. | Structured Design | 1 | Chalk & Talk | T3 |
| 27. | Detailed Design | 1 | Chalk & Talk | T3 |
| 28. | Design Review | 1 | Chalk & Talk | T3 |
| 29. | Over view of Object-Oriented design | 1 | Chalk & Talk | T3 |
| 30. | Characteristics of Good User Interface | 1 | Chalk & Talk | R3 |
| 31. | Basic Concepts | 1 | Chalk & Talk | T2 |
| 32. | Types of User Interfaces | 1 | Chalk & Talk | T2 |
| 33. | Fundamentals of Component-based GUI Development | 1 | Chalk & Talk | T3 |
| 34. | A User Interface DesignMethodology. | 1 | Chalk & Talk | T3 |

UNIT-IV: Codingand Testing

| | | | | |
|-----|---|---|------------------|----|
| 35. | Coding | 1 | PPT-4 | W4 |
| 36. | Code Review | 1 | GROUP DISCUSSION | T2 |
| 37. | Software Documentation | 1 | Chalk & Talk | T3 |
| 38. | Testing | 1 | Chalk & Talk | T2 |
| 39. | Unit Testing | 1 | Chalk & Talk | T2 |
| 40. | Black-Box Testing | 1 | Chalk & Talk | T1 |
| 41. | White-Box Testing | 1 | Chalk & Talk | R4 |
| 42. | Debugging | 1 | Chalk & Talk | T2 |
| 43. | Program Analysis Tool | 1 | Chalk & Talk | T2 |
| 44. | Integration Testing | 1 | Chalk & Talk | T2 |
| 45. | Testing Object-Oriented Programs | 1 | Chalk & Talk | T3 |
| 46. | System Testing | 1 | Chalk & Talk | R3 |
| 47. | Some General Issues Associated with Testing | 1 | Chalk & Talk | T3 |

UNIT-V Software Reliability and Quality Management CASE

| | | | | |
|-----|-------------------------------------|---|--------------|----|
| 48. | Software Reliability | 1 | Chalk & Talk | T3 |
| 49. | Statistical Testing | 1 | Chalk & Talk | T3 |
| 50. | Software Quality | 1 | Chalk & Talk | R2 |
| 51. | Software Quality Management System | 1 | Chalk & Talk | T3 |
| 52. | ISO 9000 | 1 | Chalk & Talk | T3 |
| 53. | SEI Capability Maturity Model | 1 | PPT-5 | W5 |
| 54. | Case and its Scope | 1 | Chalk & Talk | T3 |
| 55. | Case Environment | 1 | Chalk & Talk | T3 |
| 56. | Case Support in Software Life Cycle | 1 | Chalk & Talk | T3 |
| 57. | Other Characteristics of Case Tools | 1 | Chalk & Talk | T3 |
| 58. | Towards Second Generation CASE Tool | 1 | Chalk & Talk | T3 |
| 59. | Architecture of a Case Environment | 1 | Chalk & Talk | T4 |

UNIT-VI SoftwareMaintenance& SoftwareReuse

| | | | | |
|-----|---------------------|---|--------------|----|
| 60. | Softwaremaintenance | 1 | Chalk & talk | T1 |
|-----|---------------------|---|--------------|----|

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| | | | | |
|---------------------------|---------------------------------|-----------|--------------|----|
| 61. | MaintenanceProcessModels | 1 | Chalk & talk | T1 |
| 62. | MaintenanceCost | 1 | Chalk & Talk | R2 |
| 63. | SoftwareConfigurationManagement | 1 | Chalk & Talk | T3 |
| 64. | WhatcanbeReused? | 1 | Chalk & Talk | T3 |
| 65. | WhyalmostNoReuseSoFar? | 1 | Chalk & Talk | T3 |
| 66. | BasicIssuesinReuseApproach, | 1 | Chalk & Talk | T3 |
| 67. | ReuseatOrganizationLevel | 1 | Chalk & Talk | T3 |
| TOTALNO.OF CLASSES | | 67 | | |

TEXT BOOKS:

| | |
|----|---|
| T1 | SoftwareEngineering-Concepts andPractices:UgrasenSuman,Cengage Learning |
| T2 | SoftwareEngineering-APractitioner'sApproach,RogerS.Pressman, Seventh EditionMcGrawHillInternationalEdition. |
| T3 | FundamentalsofSoftwareEngineering,RajibMall,ThirdEdition,PHI. |
| T4 | SoftwareEngineering,IanSommerville,Ninthedition,Pearsoneducation |

REFERENCE BOOKS:

| | |
|----|--|
| R1 | SoftwareEngineering:APrimer,WamanSJawadekar, TataMcGraw-Hill,2008 |
| R2 | SoftwareEngineering,APreciseApproach,PankajJalote,WileyIndia,2010. |
| R3 | SoftwareEngineering, PrinciplesandPractices,DeepakJain,OxfordUniversityPress. |
| R4 | SoftwareEngineering I:Abstractionandmodeling,DinerBjorner,SpringerInternationaledition,2006. |

WEB REFERENCE:

| | |
|----|---|
| W1 | https://www.slideshare.net/KanchanPati34/unit-1-sepm-software-myths |
| W2 | https://www.slideshare.net/DaniyalYounis/unified-process-model |
| W3 | http://youtube.com/watch?v=PvYTyXJiwuo&t=54s |
| W4 | https://www.slideshare.net/RoboGardenInc/what-is-coding-slideshare |
| W5 | https://www.slideshare.net/abasit83/capability-maturity-model-cmm-lecture8 |

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Instructional Methods and Pedagogies

The following methods are some of the appropriate and efficient methodologies according to the characteristic of the learner.

| S.No. | INSTRUCTIONAL METHODOLOGY | YES/NO |
|---------------------------|------------------------------------|--------|
| 1. | Chalk & Talk | YES |
| 2 | PPT | YES |
| 3 | NPTEL Videos | NO |
| 4 | Guest Lectures & Workshops | NO |
| 5 | Learning from Industrial visits | |
| 6 | Student centric Learning: | YES |
| | i. Seminar Method | YES |
| | ii. Group discussions | YES |
| | iii. Assignment | YES |
| | iv. Quiz | NO |
| | v. Learning from Industrial visits | YES |
| | vi. Brain Storming | YES |
| | vii. Minutes of paper | YES |
| | viii. Puzzles | YES |
| ix. TPS(Think Pair Share) | YES | |

Course Instructor:

Program Coordinator

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| | |
|---|-----------------------------|
| COURSE : OBJECT ORIENTED PROGRAMMING THROUGH C++ | DEGREE: B.Tech |
| COURSE CODE: R2021051 | YEAR: II SEMESTER: I |
| REGULATION: R20 | COURSE TYPE: REGULAR |
| ACADEMIC YEAR : 2022-2023 | CREDITS: 3 |

Teaching/Instructional Plan

| S.No | Topic(s) | No. of Hours | Reference Book | Teaching Methodology |
|----------------------------------|--|--------------|----------------|-------------------------------|
| UNIT-I ARRAYS | | | | |
| 1 | Abstract Data Types and the C++ Class | 1 | T2 | Chalk & talk |
| 2 | An Introduction to C++ Class-Data Abstraction and Encapsulation in C++ | 1 | T2 | Chalk & talk |
| 3 | Declaring Class Objects and Invoking Member Functions | 1 | T2 | Chalk & talk |
| 4 | Abstract Data Types and the C++ Class | 1 | T2 | Chalk & talk |
| 5 | Special Class Operations | 1 | T1 | Chalk & talk |
| 6 | Miscellaneous Topics | 1 | T1 | Chalk & talk |
| 7 | The Array as an Abstract Data Type | 1 | T1 | Chalk & talk |
| 8 | Special Class Operations | 1 | T1 | Chalk & talk |
| 9 | The Polynomial Abstract Data type- Polynomial Representation | 1 | T3 | Chalk & talk |
| 10 | Polynomial Addition | 1 | T3 | Chalk & talk |
| 11 | Spares Matrices | 1 | | PPT-1 Digital Education |
| 12 | The Polynomial Abstract Data type- Polynomial Representation | 1 | T3 | Chalk & talk |
| 13 | Abstract Data Types and the C++ Class | 1 | T3 | Chalk & talk |
| 14 | Templates in C++ | 1 | T1 | Chalk & talk |
| UNIT-II STACKS AND QUEUES | | | | |
| 15 | Types of Data Structures | 1 | T1 | Chalk & talk |
| 16 | The Stack Abstract Data Type | 1 | W1 | Digital Education |
| 17 | Applications of Stack | 1 | T1 | Chalk & talk |
| 18 | The Queue Abstract Data Type | 1 | T1 | Chalk & talk |
| 19 | Sub typing and Inheritance in C++ | 1 | T1 | Chalk & talk |
| 20 | Evaluation of Expressions | 1 | T1 | Chalk & talk |
| 21 | The Queue Abstract Data Type | 1 | T1 | Chalk & talk |
| 22 | Expression Traversals | 1 | | PPT-2 |



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| | | | | Digital Education |
|-----------------------------|--|---|----|----------------------------|
| 23 | Single Linked List and Chains | 1 | R1 | Chalk & talk |
| 24 | Asymptotic Notations Analysis | 1 | | Seminar |
| UNIT-III LINKED LIST | | | | |
| 25 | Pointer manipulation in C++ | 1 | T1 | Chalk & talk |
| 26 | Single Linked List and Chains | 1 | R1 | Chalk & talk |
| 27 | The Template Class Chain | 1 | T1 | Chalk & talk |
| 28 | Circular Lists | 1 | T1 | Chalk & talk |
| 29 | Chain Operations | 1 | T1 | Chalk & talk |
| 30 | Circular Lists | 1 | T1 | Chalk & talk |
| 31 | Linked Stacks and Queues | 1 | R1 | Chalk & talk |
| 32 | Linked Queues | 1 | R1 | Chalk & talk |
| 33 | Polynomials | 1 | | PPT-3 Digital Education |
| 34 | Sparse Matrices | 1 | R1 | Chalk & talk |
| 35 | Doubly Linked Lists | 1 | T1 | Chalk & talk |
| 36 | Representation of Generalized Lists | 1 | R2 | Chalk & talk |
| 37 | Applications of Linked List | 1 | T1 | Chalk & talk |
| 38 | Recursive Algorithms for Lists | 1 | R2 | Chalk & talk |
| 39 | Shared and Recursive Lists | 1 | T1 | Chalk & talk |
| UNIT-IV TREES | | | | |
| 40 | Trees | 1 | | PPT-4 Digital Education |
| 41 | Recursive Algorithms for Lists | 1 | T1 | Chalk & talk |
| 42 | Binary Trees - Properties Representation | 1 | R2 | Chalk & talk |
| 43 | Traversals | 1 | W2 | Digital Education |
| 44 | Thread Binary Trees | 1 | T1 | Chalk & talk |
| 45 | Thread Binary Trees | 1 | T1 | Chalk & talk |
| 46 | Heaps | 1 | W3 | Chalk & talk |
| 47 | Priority Queue | 1 | W4 | Chalk & talk |
| 48 | Binary Search Trees | 1 | W5 | Digital Education |
| UNIT-V GRAPHS | | | | |
| 49 | operations The Graph Abstract Data Type | 1 | T1 | Chalk & talk |
| 50 | BFS & DFS, Spanning Trees | 1 | | PPT-5 Digital |



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| | | | | |
|----------------------------|--|-----------|----|-------------------------------------|
| | | | | Education |
| 51 | Connected Components | 1 | T1 | Chalk & talk |
| 52 | Minimum Cost Spanning Trees-Algorithms | 1 | T1 | Chalk & talk |
| 53 | Minimum Cost Spanning Trees-Algorithms | 1 | T1 | Chalk & talk |
| 54 | Shortest Paths and Transitive Closure | 1 | T1 | Chalk & talk |
| 55 | Single Source/All Destination: Nonnegative Edge Cost | 1 | T1 | Chalk & talk |
| 56 | Single Source/All Destination: General Weights | 1 | T1 | Chalk & talk |
| 57 | Bellmen Ford Algorithm | 1 | T2 | Chalk & talk |
| UNIT-VI SORTING | | | | |
| 58 | Insertion Sort | 1 | W6 | Chalk & talk |
| 59 | Quick Sort | 1 | | NPTEL Video Digital Education |
| 60 | Merge Sort Merging | 1 | R3 | Chalk & talk |
| 61 | Iterative Merge Sort | 1 | T1 | Chalk & talk |
| 62 | Recursive Merge Sort | 1 | T1 | Chalk & talk |
| 63 | Heap Sort | 1 | T1 | Chalk & talk |
| 64 | Selection Sort | 1 | | NPTEL Video Digital Education |
| 65 | Bucket Sort Technique | 1 | T1 | Chalk & talk |
| TOTAL NO.OF CLASSES | | 65 | | |

TEXT BOOKS:

| | |
|----|--|
| T1 | Fundamentals of Data Structures in C++, Ellis Horowitz, Sartaj Sahni and Dinesh Mehta 2nd Edition, Universities Press (India) Pvt. Ltd. |
| T2 | Data structures and Algorithm Analysis in C++, Mark Allen Weiss, Pearson Education Ltd., Second Edition. |
| T3 | Data structures and Algorithms in C++, Michael T.Goodrich, R.Tamassia and .Mount, Wiley student edition, John Wiley and Sons. |



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REFERENCE BOOKS:

| | |
|----|---|
| R1 | Data structures and algorithms in C++, 3rd Edition, Adam Drozdek, Thomson. |
| R2 | Data structures using C and C++, Langsam, Augenstein and Tanenbaum, PHI. |
| R3 | Problem solving with C++, The OOP, Fourth edition, W.Savitch, Pearson education |

WEB REFERENCE:

| | |
|----|---|
| W1 | https://en.wikipedia.org/wiki/List_of_data_structures |
| W2 | https://www.geeksforgeeks.org/tree-traversals-inorder-preorder-and-postorder/ |
| W3 | https://www.geeksforgeeks.org/heap-data-structure/ |
| W4 | https://www.tutorialspoint.com/data_structures_algorithms/priority_queue |
| W5 | https://www.geeksforgeeks.org/binary-search-tree-set-1-search-and-insertion |
| W6 | https://www.geeksforgeeks.org/sorting-algorithms/ |
| W7 | https://nptel.ac.in/courses/106102064/ |



Department of Computer Science and Engineering

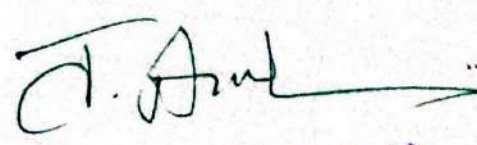
Instructional Methods and Pedagogicals:

The following methods are some of the appropriate and efficient methodologies according to the characteristic of the learner.

| S.No. | INSTRUCTIONAL METHODOLOGY | YES/NO |
|-------|------------------------------------|--------|
| 1. | Chalk & Talk | YES |
| 2 | PPT | YES |
| 3 | NPTEL Videos | YES |
| 4 | Guest Lectures & Workshops | YES |
| 5 | Student centric Learning: | |
| | i. Seminar Method | YES |
| | ii. Group discussions | YES |
| | iii. Assignment | YES |
| | iv. Quiz | YES |
| | v. Learning from Industrial visits | NO |
| | vi. Brain Storming | NO |
| | vii. Minutes of paper | NO |
| | viii. Puzzles | YES |
| | ix. TPS(Think Pair Share) | NO |


Course Instructor

Program Coordinator



HOD
Department of Computer Science & Engineering
Malineni Lakshmaiah Women's Engineering College
Pulladigunta, GUNTUR-522017
HOD

PRINCIPAL
MALINENI LAKSHMAIAH
WOMEN'S ENGINEERING COLLEGE
PULLADIGUNTA, GUNTUR-17

MALINENI LAKSHMAIAH WOMEN'S ENGINEERING COLLEGE



(Approved by AICTE, Affiliated to JNTUK)
 (An ISO9001:2008 Certified Institution)
 Pulladigunta (Village), Vatticherukuru (Mandal),
 Guntur-522017, Andhra Pradesh, India
Department of Computer Science and Engineering

| | |
|----------------------------------|-----------------------------|
| COURSE: OPERATING SYSTEMS | DEGREE: B. Tech |
| COURSE CODE: R2021052 | YEAR: II SEMESTER: I |
| REGULATION: R20 | COURSE TYPE: REGULAR |
| ACADEMIC YEAR: 2022-2023 | CREDITS: 3 |

Teaching/Instructional Plan

| L. No | Name of the Topic | No. of hours | Delivery Method | Reference Book |
|---|--|--------------|-----------------|----------------|
| UNIT I- INTRODUCTION TO OPERATING SYSTEM CONCEPT | | | | |
| 1 | Types of operating systems | 1 | Chalk & Talk | T1 |
| 2 | operating systems concepts | 1 | Chalk &Talk | T1 |
| 3 | operating systems services | 1 | Chalk & Talk | T1 |
| 4 | Introduction to System call | 1 | Chalk & Talk | T1 |
| 5 | System call types | 1 | PPT-1 | T1 |
| UNIT-II- PROCESS MANAGEMENT | | | | |
| 6 | Process concept, The process | 1 | Chalk & Talk | T1 |
| 7 | Process State Diagram | 1 | Chalk & Talk | T1 |
| 8 | Process control block | 1 | Chalk & Talk | T1 |
| 9 | Process Scheduling- Scheduling Queues, | 1 | Chalk & Talk | T1 |
| 10 | Schedulers | 1 | Chalk & Talk | T1 |
| 11 | Operations on Processes | 1 | PPT-2 | T1 |
| 12 | Interprocess Communication | 1 | Chalk & Talk | T1 |
| 13 | Threading Issues | 1 | Chalk & Talk | T1 |
| 14 | Scheduling-Basic Concepts | 1 | Chalk & Talk | T1 |
| 15 | Scheduling Criteria | 1 | Chalk & Talk | T1 |
| 16 | Scheduling Algorithms | 1 | Chalk & Talk | T1 |
| UNIT-III-MEMORY MANAGEMENT | | | | |
| 17 | Swapping | 1 | Seminar | T1 |
| 18 | Contiguous Memory Allocation | 1 | Chalk & Talk | T1 |
| 19 | Paging | 1 | PPT-3 | T1 |
| 20 | structure of the Page Table | 1 | Chalk & Talk | T1 |
| 21 | Segmentation | 1 | Video | W6, W9 |

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| | | | | |
|---|-------------------------------------|---|--------------|---------|
| 22 | Virtual Memory | 1 | Chalk & Talk | T1 |
| 23 | Demand Paging | 1 | Chalk & Talk | T1 |
| 24 | Page-Replacement Algorithms | 1 | PPT-4 | T1 |
| 25 | Thrashing | 1 | Chalk & Talk | T1 |
| UNIT-IV- CONCURRENCY AND PRINCIPLES OF DEADLOCK | | | | |
| 26 | Process Synchronization | 1 | Chalk & Talk | T1 |
| 27 | The Critical- Section Problem | 1 | Chalk & Talk | T1 |
| 28 | Synchronization Hardware | 1 | Chalk & Talk | T1 |
| 29 | Semaphores | 1 | Chalk & Talk | T1 |
| 30 | Classic Problems of Synchronization | 1 | Chalk & Talk | T1 |
| 31 | Monitors | 1 | PPT-5 | T1 |
| 32 | Synchronization examples | 1 | Chalk & Talk | T1 |
| 33 | Semaphores | 1 | Chalk & Talk | T1 |
| 34 | Dead Locks | 1 | PPT-6 | T1 |
| 35 | Deadlock Characterization | 1 | Chalk & Talk | T1 |
| 36 | Deadlock Prevention | 1 | Chalk & Talk | T1 |
| 37 | Deadlock Avoidance | 1 | Chalk & Talk | T1 |
| 38 | Deadlock Detection | 1 | Chalk & Talk | T1 |
| 39 | Recovery from Deadlock | 1 | Chalk & Talk | T1 |
| UNIT-V- FILE SYSTEM INTERFACE AND IMPLEMENTATION | | | | |
| 40 | File Systems | 1 | Chalk & Talk | T1 |
| 41 | Access Methods | 1 | Chalk & Talk | T1 |
| 42 | Directory Structure | 1 | Chalk & Talk | T1 |
| 43 | File System Mounting | 1 | PPT-7 | T1 |
| 44 | File Sharing | 1 | Chalk & Talk | T1 |
| 45 | Protection | 1 | Chalk & Talk | T1 |
| 46 | Implementation of File Systems | 1 | Chalk & Talk | T1 |
| 47 | File System Implementation | 1 | Chalk & Talk | T1 |
| 48 | Directory Implementation | 1 | Seminar | T1 |
| 49 | Allocation Methods | 1 | Chalk & Talk | T1 |
| 50 | Free Space Management | 1 | PPT-8 | T1 |
| 51 | Overview of Mass-Storage Structure | 1 | Chalk & Talk | T1 |
| 52 | Disk Structure | 1 | Chalk & Talk | T1 |
| 53 | Disk Scheduling | 1 | Video | W7, W10 |
| 54 | Device Drivers | 1 | Chalk & Talk | T1 |
| UNIT VI - LINUX SYSTEM AND ANDROID SOFTWARE PLATFORM | | | | |
| 55 | Components of LINUX | 1 | Chalk & Talk | T1 |
| 56 | Interprocess Communication | 1 | PPT-9 | T1 |

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| | | | | |
|-------------------|---|----|--------------|---------|
| 57 | Synchronization | 1 | Chalk & Talk | T1 |
| 58 | Interrupt | 1 | Chalk & Talk | T1 |
| 59 | Exception and System Call | 1 | Chalk & Talk | T1 |
| 60 | Android Software Platform: Android Architecture | 1 | Video | W8, W11 |
| 61 | Operating System Services | 1 | Chalk & Talk | T3 |
| 62 | Android Runtime Application Development | 1 | Chalk & Talk | T3 |
| 63 | Application Structure | 1 | Chalk & Talk | T3 |
| 64 | Application Process management | 1 | Chalk & Talk | T3 |
| Total No of Hours | | 64 | | |

TEXT BOOK:

1. Operating System Concepts, Abraham Silberschatz, Peter Baer Galvin and Greg Gagne 9th Edition, John Wiley and Sons Inc., 2012.
2. Operating Systems – Internals and Design Principles, William Stallings, 7th Edition, Prentice Hall, 2011.
3. Operating Systems-S Halder, Alex A Aravind Pearson Education Second Edition 2016.

REFERENCE BOOKS:

1. Modern Operating Systems, Andrew S. Tanenbaum, Second Edition, Addison Wesley, 2001.
2. Operating Systems: A Design-Oriented Approach, Charles Crowley, Tata Mc Graw Hill Education", 1996.
3. Operating Systems: A Concept-Based Approach, D M Dhamdhare, Second Edition, Tata Mc Graw-Hill Education, 2007.

WEB REFERENCES:

1. <https://www.geeksforgeeks.org/operating-system-introduction-system-call/>
2. https://www.tutorialspoint.com/operating_system/os_processes.htm
3. https://www.tutorialspoint.com/operating_system/os_memory_management.htm

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4. <https://whatis.techtarget.com/definition/deadlock>
5. https://www.cs.uic.edu/~jbell/CourseNotes/OperatingSystems/11_FileSystemImplementation.html
6. https://www.youtube.com/watch?v=RCH3B_eLoP0
7. https://www.youtube.com/watch?v=u_gfOE1FGhM
8. <https://www.youtube.com/watch?v=TTpe2lOGF4g>

NPTEL VIDEOS:

9. <https://youtu.be/GoI8xYCESiw>- Segmentation
10. <https://youtu.be/4hCih9eLc7M>- CPU SCHEDULING
11. <https://www.youtube.com/watch?v=fzQcQV0UCUM>- Android Software Platform

Instructional Methods and Pedagogies:

The following methods are some of the appropriate and efficient methodologies according to the characteristic of the learner.

| S.No. | INSTRUCTIONAL METHODOLOGY | YES/NO |
|-------|------------------------------------|--------|
| 1. | Chalk & Talk | YES |
| 2 | PPT | YES |
| 3 | NPTEL Videos | YES |
| 4 | Guest Lectures & Workshops | NO |
| 5 | Learning from Industrial visits | NO |
| 6 | Student centric Learning: | |
| | i. Seminar Method | YES |
| | ii. Group discussions | YES |
| | iii. Assignment | YES |
| | iv. Quiz | YES |
| | v. Learning from Industrial visits | NO |

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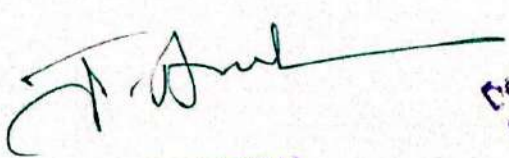
Department of Computer Science and Engineering

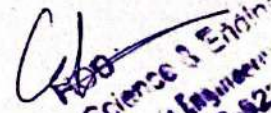


| | | |
|-------|------------------------|-----|
| vi. | Brain Storming | YES |
| vii. | Minutes of paper | YES |
| viii. | Puzzles | YES |
| ix. | TPS (Think Pair Share) | YES |


Course Coordinator(s):

Program Coordinator


PRINCIPAL
MALINENI LAKSHMAIAH
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PULLADIGUNTA, GUNTUR-17


HOD
Dept. of Computer Science & Engineering
Malineni Lakshmaiah Women's Engineering College
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Guntur-522017, Andhra Pradesh, India

Department of Computer Science and Engineering

Teaching/Instructional Plan

| | |
|---|----------------------|
| COURSE: MATHEMATICAL FOUNDATION OF COMPUTER SCIENCE | DEGREE: B. Tech |
| COURSE CODE: R2021054 | YEAR: II SEMESTER: I |
| REGULATION: R20 | COURSE TYPE: REGULAR |
| ACADEMIC YEAR: 2022-2023 | CREDITS: 3 |

| S.NO. | Topic | No. of hours | Teaching aid | Reference book |
|-----------------|---|--------------|-----------------------------|----------------|
| 1 | Mathematical logic:statement calculus | 1 | Glass Board and Chalk Piece | Text book:1 |
| 2 | Statements and Notations,connectivities | 1 | GB and CP | Text book1 |
| 3 | Truth tables | 1 | GB and CP | Text book1 |
| 4 | Converse, contrapositive and inverse of statements. | 1 | GB and CP | Text book1 |
| 5 | Well-formed formulas | 1 | GB and CP | Text book1 |
| 6 | Equivalence formulas | 2 | GB and CP | Text book1 |
| 7 | Duality law , Tautological implicartions | 1 | GB and CP | Text book1 |
| 8 | Normal forms | 4 | GB and CP | Text book1 |
| 9 | Validity using truth tables | 1 | GB and CP | Text book1 |
| 10 | Rules of inferences | 3 | GB and CP | Text book1 |
| 11 | Indirect method of proof ,consistency of premises | 2 | GB and CP | Text book1 |
| 12 | Introduction of predicates and Quantifiers,Free and bounded variables | 1 | GB and CP | Text book1 |
| 13 | Inference theory for predicate Calculus | 1 | GB and CP | Text book1 |
| 14 | Problems on predicate Calculus | 2 | GB and CP | Text book1 |
| Total-22 | | | | |
| 15 | Set theory:Introduction,operation on binary sets | 3 | GB and CP | Text book1 |
| 16 | Principle of Inclusion and Exclusion and applications. | 2 | GB and CP | Text book1 |
| 17 | Relations and properties of binary realtions | 1 | GB and CP | Text book1 |
| 18 | Relation matris and Graph of a relation | 1 | GB and CP | Text book1 |
| 19 | Equivalence relations | 1 | GB and CP | Text book1 |
| 20 | Partial ordering | 1 | GB and CP | Text book1 |
| 21 | Hassae diagrams | 2 | GB and CP | Text book1 |
| 22 | Functions | 1 | GB and CP | Text book1 |
| 23 | Bijective functions | 1 | GB and CP | Text book1 |
| 24 | Composition of functions,inverse functions | 1 | GB and CP | Text book1 |

| | | | | |
|----|--|---|-----------|-------------|
| 25 | Permutation functions | | | |
| 26 | Recursive functions | 1 | GB and CP | Text book1 |
| 27 | Lattice and properties | 1 | GB and CP | Text book1 |
| | Total-18 | 2 | GB and CP | Text book1 |
| 28 | Algebraic systems General properties | 1 | GB and CP | Text book:1 |
| 29 | Semigroups and Monoids, Homomorphism of semigroups and monoids | 1 | GB and CP | Text book:1 |
| 30 | Groups and problems | 1 | GB and CP | Text book:1 |
| 31 | Subgroup Abelian group, Homomorphism and isomorphism of groups | 1 | GB and CP | Text book:1 |
| 32 | Number theory: Properties of integers | 1 | GB and CP | Text book:1 |
| 33 | Division theorem, Greatest common divisor | 1 | GB and CP | Text book:1 |
| 34 | Euclidean algorithm, Least common multiple | 1 | GB and CP | Text book:1 |
| 35 | Testing of prime numbers | 1 | GB and CP | Text book1 |
| 36 | The fundamental theorem of Arithmetic, Modular Arithmetic | 1 | GB and CP | Text book1 |
| 37 | Fermat's theorem and Euler's theorem | 1 | GB and CP | Text book1 |
| | Total-10 | 1 | GB and CP | Text book1 |
| 38 | Combinatorics: Basic of counting (sum rule and product rule) | 2 | GB and CP | Text book1 |
| 39 | Permutations without repetitions | 3 | GB and CP | Text book1 |
| 40 | Problems on permutations | 2 | GB and CP | Text book1 |
| 41 | Combinations | 1 | GB and CP | Text book1 |
| 42 | Binomial theorem | 1 | GB and CP | Text book1 |
| 43 | Permutations with repetitions | 1 | GB and CP | Text book1 |
| 44 | Combinations with repetitions, circular permutations | 1 | GB and CP | Text book1 |
| 45 | Pigeon-hole principle and its applications | 1 | GB and CP | Text book1 |
| | Total-12 | 2 | GB and CP | Text book:1 |
| 46 | Recurrence relations: Generating functions | 2 | GB and CP | Text book:1 |
| 47 | Solutions of Linear homogenous recurrence relations | 2 | GB and CP | Text book:1 |

| | | | | |
|-----------------|---|---|-----------|-------------|
| 48 | Solutions of Non homogenous recurrence relations | 3 | GB and CP | Text book:1 |
| 49 | Properties of Generating functions | 1 | GB and CP | Text book:1 |
| 50 | Problems on Generating functions | 2 | GB and CP | Text book1 |
| Total-10 | | | | |
| 51 | Graph theory:Basics concepts,subgraphs | 1 | GB and CP | Text book1 |
| 52 | Matrix representation of graphs:Adjacency matrices,incidence matrices | 2 | GB and CP | Text book1 |
| 53 | Isomorphism of graphs | 1 | GB and CP | Text book1 |
| 54 | Paths and circuits, Eulerian graph and Hamiltonian graph. | 2 | GB and CP | Text book1 |
| 55 | Planar graphs , Euler's formulae | 1 | GB and CP | Text book1 |
| 56 | Graph colouring and chromatic number | 1 | GB and CP | Text book1 |
| 57 | Algorithms to find for spanning trees (BFS algorithm and DFS algorithm) | 2 | GB and CP | Text book1 |
| 58 | Kruskal's Algorithm | 1 | GB and CP | Text book1 |
| 59 | Prim's algorithm | 1 | GB and CP | Text book1 |
| Total-12 | | | | |

TOTAL No. Classes : 59

TEXT BOOKS:

1. Discrete Mathematical Structures with Applications to Computer Science, J.P.Tremblay and Manohar, Tata McGraw Hill.
2. Elements of Discrete Mathematics – A Computer Oriented Approach, C.L.Liu and D.P. Mohapatra, 2nd Edition, Tata McGraw Hill.
3. Discrete Mathematics and its applications with Combinatorics and Graph theory , K.H. Rosen, 7th Edition, Tata McGraw Hill.

REFERENCE BOOKS:

1. Discrete Mathematics for Computer Scientists and Mathematicians, J.L.Mott, A.Kandel, T.P.Bak, 2nd Edition , Prentice Hall of India.
2. Discrete Mathematical Structures, BernardKolman, Robert C.Busby, Sharon Cutler Ross, PHI.
3. Discrete Mathematics, S.K.Chakrabarthy and B.K.Sarkar, Oxford, 2011.

Instructional Methods and Pedagogies:

The following methods are some of the appropriate and efficient methodologies according to the characteristic of the learner.

| S.No. | INSTRUCTIONAL METHODOLOGY | YES/NO |
|-------|------------------------------------|--------|
| 1. | Chalk & Talk | |
| 2 | PPT | YES |
| 3 | NPTEL Videos | NO |
| 4 | Guest Lectures & Workshops | NO |
| 5 | Learning from Industrial visits | NO |
| 6 | Student centric Learning: | |
| | i. Seminar Method | NO |
| | ii. Group discussions | NO |
| | iii. Assignment | NO |
| | iv. Quiz | NO |
| | v. Learning from Industrial visits | NO |
| | vi. Brain Storming | NO |
| | vii. Minutes of paper | NO |
| | viii. Puzzles | NO |
| | ix. TPS (Think Pair Share) | NO |

Course Instructor:

Program Coordinator

T. Anil

MALAPRA...
WOMEN'S ENGINEERING
PULLADIGUNTA, GUNTUR-17
Dept. of Computer Science & Engineering
Jinneni Lakshmaiah Women's Engineering College
Pulladigunta, GUNTUR-522017



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Department of INFORMATION TECHNOLOGY

| | |
|--------------------------|----------------------|
| COURSE: DevOps | DEGREE: B. Tech |
| COURSE CODE: R194112E | YEAR: IV SEMESTER: I |
| REGULATION: R19 | COURSE TYPE: REGULAR |
| ACADEMIC YEAR: 2022-2023 | CREDITS: 3 |

Teaching/Instructional Plan

| S.NO | Topic Name | No. of hours | Teaching Aids Methodologies | Books |
|--|---|--------------|-----------------------------|---------|
| UNIT- I: | | | | |
| 1. | Phases of Software Development lifecycle | 4 | PPT | W2 |
| 2. | Software Development process models | 4 | PPT | W3 |
| 3. | Agile model | 2 | Chalk & Talk | W4 |
| 4. | Values and principles of agile software development | 1 | Chalk & Talk | W5 |
| UNIT-II: Fundamentals of DevOps: | | | | |
| 5. | Architecture | 2 | VIDEO | W1 |
| 6. | Deployments | 2 | Chalk & Talk | W1 |
| 7. | Orchestration | 2 | Chalk & Talk | W1 |
| 8. | Need | 1 | Chalk & Talk | W1 |
| 9. | Instance of applications | 2 | Chalk & Talk | W1 |
| 10. | DevOps delivery pipeline | 2 | Chalk & Talk | W1 |
| 11. | DevOps ecosystem. | 1 | Chalk & Talk | W1 |
| UNIT-III : DevOps adoption in projects: | | | | |
| 12. | Technology aspects | 2 | VIDEO | W6 |
| 13. | Agiling capabilities | 2 | Chalk & Talk | W7 |
| 14. | Tool stack implementation | 3 | Chalk & Talk | W9 |
| 15. | People aspect | 1 | Chalk & Talk | W10 |
| 16. | processes | 1 | Chalk & Talk | W10 |
| UNIT-IV : CI/CD: | | | | |
| 17. | Introduction to Continuous Integration | 3 | VIDEO | W8, W11 |



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| | | | | |
|--|--------------------------------------|----|-------------------|-----|
| 18. | Continuous Delivery and Deployment | 3 | Chalk & Talk | W11 |
| 19. | Benefits of CI/CD | 1 | Chalk & Talk | W12 |
| 20. | Metrics to track CI/CD practices | 2 | Seminar Method | W13 |
| UNIT-V : Devops Maturity Model: | | | | |
| 21. | Key factors of DevOps maturity model | 2 | Chalk & Talk | W14 |
| 22. | stages of Devops maturity model | 2 | Chalk & Talk | W14 |
| 23. | DevOps maturity Assessment | 2 | Group discussions | W15 |
| S | Total | 45 | | |

TEXTBOOKS:

| | |
|----|--|
| T1 | 1) The DevOps Handbook: How to Create World-Class Agility, Reliability, and Security in Technology Organizations, Gene Kim, John Willis, Patrick Debois, Jez Humble, 1 st Edition, O'Reilly publications, 2016. |
| T2 | 2) What is Devops? Infrastructure as code, 1 st Edition, Mike Loukides, O'Reilly publications, 2012. |

REFERENCE BOOKS:

| | |
|----|--|
| R1 | 1) Building a DevOps Culture, 1 st Edition, Mandi Walls, O'Reilly publications, 2013. |
| R2 | 2) The DevOps 2.0 Toolkit: Automating the Continuous Deployment Pipeline With Containerized Microservices, 1 st Edition, Viktor Farcic, CreateSpace Independent Publishing Platform, 2016 |
| R3 | 3) Continuous Delivery: Reliable Software Releases Through Build, Test, and Deployment Automation, 1 st Edition, Jez Humble and David Farley, 2010. |
| | 4) Achieving DevOps: A Novel About Delivering the Best of Agile, DevOps, and Microservices, 1 st Edition, Dave Harrison, Knox Lively, Apress publications, 2019. |

WEB REFERENCE:

| | |
|----|--|
| W1 | 1) https://www.javatpoint.com/devops |
| W2 | 2) https://phoenixnap.com/blog/software-development-life-cycle |



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| | |
|-----|---|
| W3 | 3) https://www.tutorialride.com/software-testing/software-development-process-models.htm |
| W4 | 4) https://www.tutorialspoint.com/sdlc/sdlc_agile_model.htm |
| W5 | 5) https://www.smartsheet.com/comprehensive-guide-values-principles-agile-manifesto |
| W6 | 6) https://www.veritis.com/blog/devops-adoption-strategy-market-trends/ |
| W7 | 7) https://appinventiv.com/blog/devops-adoption-and-implementation/ |
| W8 | 8) https://github.com/nkatre/Free-DevOps-Books-1/blob |
| W9 | 9) https://www.airpair.com/devops/posts/the-toolstack-for-devops-engineer |
| W10 | 10) https://www.mckinsey.com/capabilities/people-and-organizational-performance/our-insights/building-agile-capabilities-the-fuel-to-power-your-agile-body |
| W11 | 11) https://www.digitalocean.com/community/tutorials/an-introduction-to-continuous-integration-delivery-and-deployment |
| W12 | 12) https://www.spiceworks.com/tech/devops/articles/what-is-ci-cd/ |
| W13 | 13) https://www.bmc.com/blogs/devops-ci-cd-metrics/ |
| W14 | 14) https://lightrun.com/6-key-factors-for-an-efficient-devops-maturity-model/ |
| W15 | 15) blog.supportlobby.com/devops-maturity-assessment-framework/ |

Instructional Methods and Pedagogies

The following methods are some of the appropriate and efficient methodologies according to the characteristic of the learner.

| S.No. | INSTRUCTIONALMETHODOLOGY | YES/NO |
|-------|---------------------------------|------------------|
| 1. | Chalk & Talk | YES |
| 2 | PPT | YES ⁺ |
| 3 | NPTEL Videos | YES |
| 4 | Guest Lectures & Workshops | NO |
| 5 | Learning from Industrial visits | NO |



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| Student centric Learning: | | |
|---------------------------|------------------------------------|-----|
| 6 | i. Seminar Method | YES |
| | ii. Group discussions | YES |
| | iii. Assignment | YES |
| | iv. Quiz | YES |
| | v. Learning from Industrial visits | NO |
| | vi. Brain Storming | YES |
| | vii. Minutes of paper | YES |
| | viii. Puzzles | YES |
| | ix. TPS (Think Pair Share) | YES |

Course Instructor:

Program Coordinator

HOD

2025 PRINCIPAL
MALINENI LAKSHMAIAH
WOMEN'S ENGINEERING COLLEGE
PULLAORUNTA, GUNTUR-17.



MALINENI LAKSHMAIAH WOMEN'S ENGINEERING COLLEGE

(Approved by AICTE, Affiliated to JNTUK)(An ISO9001:2008 Certified Institution)
Pulladigunta (V), Vatticherukuru(M), Guntur-522017,A.P,India.

DEPARTMENT OF CSE-DATASCIENCE

| | |
|---------------------------------|------------------------------------|
| COURSE: Java Programming | DEGREE: B.Tech |
| COURSE CODE: R2021422 | YEAR: II SEMESTER: I |
| REGULATION: R20 | COURSE TYPE: REGULAR |
| ACADEMIC YEAR: 2022-23 | CREDITS: 3 |

Teaching/Instructional Plan

| S.No | Topic(s) | No. of Hours | Reference Book | Teaching Methodology |
|--|---|--------------|----------------|----------------------|
| UNIT-I: Program Structure in Java | | | | |
| 1 | Introduction, java history and java buzzword applications | 1 | T1 | Chalk & talk |
| 2 | Elements or Tokens in Java Programs, and Java Statements | 1 | T1 | Chalk & talk |
| 3 | Command Line Arguments, User Input to Programs | 2 | T1 | PPT1 |
| 4 | Escape Sequences Comments, Programming Style | 1 | T1 | Chalk & talk |
| 5 | Writing Simple Java Programs and its execution | 1 | T1 | Chalk & talk |
| 6 | Data Types, Variables, and Operators | 1 | T1 | Chalk & talk |
| 7 | Ternary Operator, Relational Operators, Boolean Logical Operators, Bitwise Logical Operators. | 1 | T1 | Chalk & talk |
| 8 | Control Statements Introduction | 1 | T1 | PPT1 |
| 9 | conditional and unconditional | 1 | T1 | Assignment |
| 10 | Loop statements | 1 | T1 | Chalk & talk |
| | | 10 | | |
| UNIT-II :: Classes and Objects, methods ,constructors | | | | |
| 11 | Introduction, Class Declaration and Modifiers | 1 | T1 | Chalk & talk |
| 12 | Class Members, Declaration of Class Objects | 1 | T1 | Chalk & talk |
| 13 | Constructor Methods for Class | 1 | T1 | Chalk & talk |
| 14 | Types of class modifiers ,access modifiers | 1 | T1 | Chalk & talk |
| 15 | Non-access modifiers | 1 | T1 | Chalk & talk |
| 16 | Methods for a class | 1 | T1 | ppt |
| 17 | Constructor Methods for Class | 1 | T1 | ppt |



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DEPARTMENT OF CSE-DATASCIENCE

| | | | | |
|---|--|----|----|--------------|
| 18 | Method overloading and constructor overload | 1 | T1 | Chalk & talk |
| 19 | Difference between method overload and method override | 1 | T1 | seminar |
| 20 | Recursive Methods, Attributes Final and Static | 1 | T1 | Chalk & talk |
| 21 | Nesting of Methods | 1 | T1 | Chalk & talk |
| | | 11 | | |
| UNIT III: Arrays: Introduction and inheritance | | | | |
| 22 | Declaration and Initialization of Arrays | 1 | T1 | Chalk & talk |
| 23 | Storage of Array in Computer Memory, Accessing Elements of Arrays, | 1 | T1 | Chalk & talk |
| 24 | Operations on Array Elements(adding elements, delete elements, update elements)in array list | 1 | T1 | Chalk & talk |
| 25 | Sorting of Arrays, (bubble sort amrge sort) | 1 | T1 | ppt |
| 26 | Search for Values in Arrays(linear search, binary search) | 1 | T1 | ppt |
| 27 | Two-dimensional Arrays Three-dimensional Arrays, Arrays as Vectors. | 1 | T1 | Chalk & talk |
| 28 | Introduction, Process of Inheritance | 1 | T1 | Chalk & talk |
| 29 | Types of inheritance | 1 | T1 | ppt |
| 30 | Access Control and Inheritance, | 1 | T1 | Chalk & talk |
| 31 | Multilevel inheritance, Application of Keyword Super, | 1 | T1 | Chalk & talk |
| 32 | Introduction, Declaration of Interface | 1 | T1 | Chalk & talk |
| 33 | Implementation of Interface, Multiple Interfaces, | 1 | T1 | Chalk & talk |
| 34 | Nested Interfaces, Inheritance of Interfaces | 1 | T1 | Seminar |
| | | 13 | | |
| UNIT-IV: Packages,and Exception Handling | | | | |



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DEPARTMENT OF CSE-DATASCIENCE

| | | | | |
|--|---|----|----|--------------|
| 35 | Introduction, Defining Package | 1 | T1 | Chalk & talk |
| 36 | Importing Packages and Classes into Programs | 1 | T1 | Chalk & talk |
| 37 | Types of packages provide by java | 1 | T1 | seminars |
| 38 | Path and Class Path, Access Control | 1 | T1 | Chalk & talk |
| 39 | Java.lang Package and its Classes | 2 | T2 | Chalk & talk |
| 40 | Java util Classes and Interfaces | 2 | T1 | Chalk & talk |
| 41 | Exception Handling: Introduction, Hierarchy of Standard Exception | 1 | T1 | Chalk & talk |
| 42 | Classes, Keywords throws and throw, try, catch, and finally Blocks | 1 | T1 | Chalk & talk |
| 43 | Multiple Catch Clauses, Class Throwable, Unchecked Exceptions, | 1 | T1 | Seminar |
| 44 | Nested try and catch Blocks, Rethrowing Exception, Throws Clause. | 1 | T1 | Chalk & talk |
| | | 14 | | |
| UNIT V: StringHandling in Java, Multithreaded Programming | | | | |
| 45 | String Handling in Java types string methods | 1 | T1 | Chalk & talk |
| 46 | String operations | 2 | T1 | PPT |
| 47 | Methods for Modifying Strings,, Methods for Searching Strings | 1 | T1 | Chalk & talk |
| 48 | Data Conversion and Miscellaneous Methods, Class String Buffer, Class String Builder | 1 | T1 | Chalk & talk |
| 49 | Introduction, Need for Multiple Threads MultithreadedProgramming for Multi-core Processor | 2 | T2 | Chalk & talk |
| 50 | Thread life cycle Thread Class, Main Thread- Creation of New | 1 | T2 | PPT |
| 51 | Deadlock and Race Situations, Inter-thread Communication - Suspending, | 1 | T2 | Chalk & talk |
| 52 | Introduction, JDBC Architecture | 2 | T2 | Chalk & talk |
| 53 | Installing MySQL and MySQL Connector/J, JDBC Environment Setup | 2 | | PPT |
| 54 | Creating JDBC Application, | 2 | | PPT |



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DEPARTMENT OF CSE-DATASCIENCE

| | | | |
|---|--|----|--|
| JDBC Batch Processing, JDBC Transaction Management | | | |
| | | 14 | |
| TOTAL NO.OF CLASSES =10+11+13+14+14=62 | | | |

TEXT BOOKS:

| | |
|----|---|
| T1 | JAVA one step ahead, Anitha Seth, B.L.Juneja, Oxford. |
| T2 | The complete Reference Java, 8th edition, Herbert Schildt, TMH. |

REFERENCE BOOKS:

| | |
|----|--|
| R1 | Introduction to java programming, 7th edition by Y Daniel Liang, Pearson |
| R2 | Murach's Java Programming, Joel Murach |

WebReferences:

| | |
|-----|---|
| WR1 | https://nptel.ac.in/courses/106/105/106105191/ |
| WR2 | https://www.w3schools.com/java/java_data_types.asp |



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DEPARTMENT OF CSE-DATASCIENCE

Instructional Methods and Pedagogies

The following methods are some of the appropriate and efficient methodologies according to the characteristic of the learner.

| S.No. | INSTRUCTIONALMETHODOLOGY | YES/NO |
|-------|------------------------------------|--------|
| 1. | Chalk & Talk | YES |
| 2 | PPT | YES |
| 3 | NPTEL Videos | NO |
| 4 | Guest Lectures & Workshops | YES |
| 5 | Learning from Industrial visits | NO |
| 6 | Student centric Learning: | |
| | i. Seminar Method | YES |
| | ii. Group discussions | YES |
| | iii. Assignment | YES |
| | iv. Quiz | YES |
| | v. Learning from Industrial visits | NO |
| | vi. Brain Storming | NO |
| | vii. Minutes of paper | NO |
| | viii. Puzzles | YES |
| | ix. TPS(Think Pair Share) | YES |


Course Instructor:


Program Coordinator


HOD


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DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

| | |
|---------------------------------|------------------------------------|
| COURSE: Java programming | DEGREE: B.Tech |
| COURSE CODE: R2021422 | YEAR: II SEMESTER: I |
| REGULATION: R20 | COURSE TYPE: REGULAR |
| ACADEMIC YEAR: 2022-23 | CREDITS: 3 |

Teaching/Instructional Plan

| S.No | Topic(s) | No. of Hours | Reference Book | Teaching Methodology |
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| 2 | Elements or Tokens in Java Programs, and Java Statements | 1 | T1 | Chalk & talk |
| 3 | Command Line Arguments, User Input to Programs | 2 | T1 | PPT1 |
| 4 | Escape Sequences Comments, Programming Style | 1 | T1 | Chalk & talk |
| 5 | Writing Simple Java Programs and its execution | 1 | T1 | Chalk & talk |
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| 7 | Ternary Operator, Relational Operators, Boolean Logical Operators, Bitwise Logical Operators. | 1 | T1 | Chalk & talk |
| 8 | Control Statements Introduction | 1 | T1 | PPT1 |
| 9 | conditional and unconditional | 1 | T1 | Assignment |
| 10 | Loop statements | 1 | T1 | Chalk & talk |
| | | 10 | | |
| UNIT-II :: Classes and Objects, methods ,constructors | | | | |
| 11 | Introduction, Class Declaration and Modifiers | 1 | T1 | Chalk & talk |
| 12 | Class Members, Declaration of Class Objects | 1 | T1 | Chalk & talk |
| 13 | Constructor Methods for Class | 1 | T1 | Chalk & talk |
| 14 | Types of class modifiers ,access modifiers | 1 | T1 | Chalk & talk |
| 15 | Non access modifiers | 1 | T1 | Chalk & talk |



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DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

| | | | | |
|---|--|----|----|--------------|
| 16 | Methods for a class | 1 | T1 | ppt |
| 17 | Constructor Methods for Class | 1 | T1 | ppt |
| 18 | Method overloading and constructor overload | 1 | T1 | Chalk & talk |
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| 23 | Storage of Array in Computer Memory, Accessing Elements of Arrays, | 1 | T1 | Chalk & talk |
| 24 | Operations on Array Elements(adding elements, delete elements, update elements)in array list | 1 | T1 | Chalk & talk |
| 25 | Sorting of Arrays, (bubble sort amrge sort) | 1 | T1 | ppt |
| 26 | Search for Values in Arrays(linear search, binary search) | 1 | T1 | ppt |
| 27 | Two-dimensionalArrays Three-dimensionalArrays,Arrays as Vectors. | 1 | T1 | Chalk & talk |
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| 29 | Types of inheritance | 1 | T1 | ppt |
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| 33 | Implementation of Interface, Multiple Interfaces, | 1 | T1 | Chalk & talk |
| 34 | Nested Interfaces, Inheritance of Interfaces | 1 | T1 | Seminar |
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| UNIT-IV: Packages,and Exception Handling | | | | |



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DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

| | | | | |
|--|---|----|----|--------------|
| 35 | Introduction, Defining Package | 1 | T1 | Chalk & talk |
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DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

| | | | |
|---|--|----|--|
| Transaction Management | | | |
| | | 14 | |
| TOTAL NO.OF CLASSES =10+11+13+14+14=62 | | | |

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| T2 | The complete Reference Java, 8th edition, Herbert Schildt, TMH. |

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| R1 | Introduction to java programming, 7th edition by Y Daniel Liang, Pearson |
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WebReferences:

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|-----|---|
| WR1 | https://nptel.ac.in/courses/106/105/106105191/ |
| WR2 | https://www.w3schools.com/java/java_data_types.asp |


Course Instructor


Program Coordinator


HOD


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Pulladigunta (Village), Vatticherukuru (Mandal),

Guntur-522017, Andhra Pradesh, India

Department of Master of Business Administration

LESSON PLAN

Faculty Name : B. Naga Syamala
 Course Name : Rural Innovation projects
 Academic Year : 2022-23 I Semester
 Degree & Branch : I MBA

| S. No | Topic | Teaching Aid | Text Book/ Reference Book |
|----------------|--|--------------|---------------------------------|
| Unit-I | | | |
| 1 | Definition and meaning of Resources. | Chalk & Talk | T1 |
| 2 | Types of Rural Resources | Chalk & Talk | T1 |
| 3 | Natural and Man-made | Chalk & Talk | T1 |
| 4 | Characteristics of Resources, | Chalk & Talk | T1 |
| 5 | Importance of different resources in Rural Development | Chalk & Talk | T1 |
| 6 | Rural Governance and Administration in India- Pre & Post independence | Chalk & Talk | T1 |
| 7 | Rural Governance and Administration in India- Pre & Post independence | Chalk & Talk | T1 |
| 8 | Elements of Indian constitution Constitutional amendment to Panchayati Raj system | Chalk & Talk | T1 |
| 9 | Panchayati Raj system | Chalk & Talk | T1 |
| 10 | Development (Department) Administration in Rural India | Chalk & Talk | T1 |
| 11 | Development (Department) Administration in Rural India | Chalk & Talk | T1 |
| 12 | Schema of Rural areas | Chalk & Talk | T1 |
| 13 | Seminar | Chalk & Talk | T1 |
| 14 | Schema of Rural areas | Chalk & Talk | T1 |
| Unit-II | | | |
| 1 | Classification of land | Chalk & Talk | T2 |
| 2 | Classification of land based on utility, | Chalk & Talk | T2 |

| | | | |
|-----------------|---|--------------|----|
| 3 | Classification of Soils | Chalk & Talk | T2 |
| 4 | Structure and importance of land | Chalk & Talk | T2 |
| 5 | Structure and importance of soil | Chalk & Talk | T2 |
| 6 | Properties of Soil: | Chalk & Talk | T2 |
| 7 | Seminar | Chalk & Talk | T2 |
| 8 | Physical and Chemical properties of soil | Chalk & Talk | T2 |
| 9 | Soil Conservation | Chalk & Talk | T2 |
| 10 | importance | Chalk & Talk | T2 |
| 11 | - methods | Chalk & Talk | T2 |
| 12 | - methods | Chalk & Talk | T2 |
| 13 | Status of Rural development in the SAARC countries. | Chalk & Talk | T2 |
| 14 | Status of Rural development in the SAARC countries | Chalk & Talk | T2 |
| 15 | Status of Rural development in the SAARC countries | Chalk & Talk | T2 |
| Unit-III | | | |
| 1 | Human Resources Dimensions of Rural Development | Chalk & Talk | T2 |
| 2 | Quantitative aspects of rural human resource | Chalk & Talk | T2 |
| 3 | Gender & Age wide classification, Density, Issue in rural human resources | Chalk & Talk | T2 |
| 4 | Density, Issue in rural human resources | Chalk & Talk | T2 |
| 5 | Scarcity, lack of skill, attitude, and social status | Chalk & Talk | T2 |
| 6 | Food security | Chalk & Talk | T2 |
| 7 | public distribution system | Chalk & Talk | T2 |
| 8 | Rural Financial Sector | Chalk & Talk | T2 |
| 9 | Sources of Rural Credit | Chalk & Talk | T2 |
| 10 | Sources of Rural Credit institutional level | Chalk & Talk | T2 |
| 11 | Sources of Rural Credit non institutional level | Chalk & Talk | T2 |
| 12 | Service Delivery System in Rural areas | Chalk & Talk | T1 |
| 13 | Rural Infrastructural Sector | Chalk & Talk | T1 |
| 14 | Millennium Development Goals Housing in Rural Areas | Chalk & Talk | T1 |

| | | | |
|----------------|---|--------------|----|
| 15 | Millennium Development Goals Housing in Rural Areas | Chalk & Talk | T1 |
| Unit-IV | | | |
| 1 | Approaches of Rural Development in India | Chalk & Talk | T1 |
| 2 | Rural Development in institutional, | Chalk & Talk | T1 |
| 3 | Rural Development in technological | Chalk & Talk | T1 |
| 4 | Rural Development in area and target group | Chalk & Talk | T1 |
| 5 | participatory, | Chalk & Talk | T1 |
| 6 | Rural Development in individualistic | Chalk & Talk | T1 |
| 7 | Rural Development Policies during different plan periods | Chalk & Talk | T1 |
| 8 | Strategies of Rural Developmen | Chalk & Talk | T2 |
| 9 | growth oriented strategy | Chalk & Talk | T2 |
| 10 | Welfare strategy, Responsive strategy | Chalk & Talk | T2 |
| 11 | Holistic strategy, right-based strategy. | Chalk & Talk | T2 |
| 12 | PURA Model. | Chalk & Talk | T2 |
| Unit-IV | | | |
| 1 | Review of Rural Development Programmes in the area of agricultural sector | Chalk & Talk | T2 |
| 2 | crop, non- crop, livestock | Chalk & Talk | T2 |
| 3 | fishery, forestry | Chalk & Talk | T2 |
| 4 | Review of Rural Development Programmes in area of Social Sectors – Health | Chalk & Talk | T3 |
| 5 | Sanitation and Education | Chalk & Talk | T3 |
| 6 | Project Planning and Management | Chalk & Talk | T3 |

TEXT BOOKS:

References Books:

1. T1. Rural Development: Principles, Policies and Management, Katar Singh, Sage Publications India Pvt.Ltd., 2009.
2. T2. Soil & Water Conservation & Watershed Management Hardcover – 2012, Singh PK Mahnot
3. T3. E-Agriculture and Rural Development: Global Innovations and Future Prospects


Signature of the faculty


Head of the department

