Vision of the Institution

To ignite the minds of the students through academic excellence so as to bring about social transformation and prosperity.

Mission of the Institution

- To expand the frontiers of knowledge through Quality Education.
- To provide valued added Research and Development.
- To embody a spirit of excellence in Teaching, Creativity, Scholarship and Outreach.
- To provide a platform for synergy of Academy, Industry and Community.
- To inculcate high standards of Ethical and Professional Behavior.

Vision of EEE Department

"Centre of Excellence in Education and Research in the field of Electrical and Electronics Engineering and to become the foremost academic department through its education and research programs"

Mission of EEE Department

- To develop innovative, efficient and proficient electrical engineers.
- To keep the curriculum industry friendly, with due regard to the University curriculum.
- To participate in large projects of National and International importance.
- To promote ethical and moral values among the students so as to make them emerge as responsible professionals.

Program Educational Objectives (PEOs)

PEO 1. To produce Electrical and Electronics Engineering graduates who have strong foundation in Mathematics, Sciences and Basic Engineering.

PEO 2. To provide intensive training in problem solving, laboratory skills and design skills to use modern engineering tools through higher education and research.

PEO 3. Ability to seek employment in a variety of engineering (or) engineering technology positions to specialize in specific areas of interest and work successfully in their chosen career aspirations.

PEO 4. To inculcate in students professional and ethical attitude, effective communication skills, teamwork skills, multidisciplinary approach, and an ability to relate engineering issues to broader social context through life-long learning.

Program Outcomes(POs) of EEE Department

Engineering Graduates will be able to:

1. **Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. **Problem analysis**: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4. **Conduct investigations of complex problems**: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. **Modern tool usage**: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
6. **The engineer and society**: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. **Environment and sustainability**: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. **Ethics**: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. **Individual and team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. **Communication**: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11. **Project management and finance**: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
12. **Life-long learning**: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Program Specific Outcomes (PSOs) of EEE Department

PSO 1: The EEE program must demonstrate knowledge and hands-on competence in the application of electrical and electronics circuits in a rigorous mathematical environment at or above the level of algebra and trigonometry.

PSO2: The EEE program must demonstrate that graduates can apply interdisciplinary project management techniques to electrical and electronics systems.

PSO 3: The EEE program must demonstrate that graduates can analyze, design and develop hardware and software for control systems, measurements, power electronics and power systems

ACADEMIC REGULATIONS

B.Tech FOUR YEAR DEGREE COURSE

R19 Regulations
(Applicable for the batches admitted from 2019-2020)

VISHNU INSTITUTE OF TECHNOLOGY : BHIMAVARAM
(Autonomous)
Approved by AICTE & Affiliated to JNTUK, Kakinada
Accredited with 'A' Grade by NAAC & NBA

Vishnupur, Bhimavaram, West Godavari Dist., Andhra Pradesh,
India. PIN - 534202

Email: info@vishnu.edu.in, Website: www.vishnu.edu.in

I . B.Tech. II- Semester

S.No	Course Title	L	T	P	C	I	E	TM
1	Mathematics-II(PDE & Vector Calculus)	2	1	-	3	40	60	100
2	Mathematics-III (Transform Calculus & Complex Variables)	2	1	-	3	40	60	100
3	Applied Physics	3	-	-	3	40	60	100
4	Problem Solving & Programming Using Python	2	1	-	3	40	60	100
5	Engineering Graphics & Design	1	-	2	2.5	40	60	100
6	Applied physics Lab	-	-	3	1.5	40	60	100
7	Problem Solving & Programming Lab	-	-	3	1.5	40	60	100
8	Workshop (Electrical & Electronics Engineering Lab)	-	-	3	1.5	40	60	100
9	Constitution of India	2	-	-	-	-	-	-
	Total	**12**	**3**	**11**	**19**	**320**	**480**	**800**

I YEAR II SEMESTER

ELECTRICAL & ELECTRONICS ENGINEERING

R19 SYLLABUS

Year/Semester	I B. Tech/II Sem	L	T	P	C
Regulation Year	2019-20	2	1	0	3
Subject	Mathematics-II (PDE &Vector Calculus)				
Branch	CE, ME, ECE & EEE				

Course Objectives: To enable the students to

1. make the students learn modeling various physical phenomena as first and second order PDE
2. learn techniques to solve as first and second order PDE .

UNIT-I: First Order Partial Differential Equations

Formation of Partial differential equations by elimination of arbitrary constants and arbitrary functions– solutions of first order linear (Lagrange) equations and nonlinear equations-standard types

UNIT- II: Higher Order Partial Differential Equations

Solutions of Linear Partial differential equations with constant coefficients. RHS terms of the type $e^{ax + by}$, Sin(ax+by), Cos (ax+by), $x^m y^n$. Classification of second order partial differential equations-parabolic,elliptical and hyperbolic.

UNIT-III: Applications of Partial Differential Equations

Method of Separation of Variables-Applications to wave equation, heat conduction equation in one dimensions and Laplace equation in two dimensions

UNIT-IV: Laplace Transforms

Laplace transform-Definition-conditions for existence,– Linear Property -Shifting Theorems, Laplace transformof Standard Functions-Transforms of derivatives and integrals–Unit step function–Dirac delta function. Inverse Laplace transforms by Partial fractions–Convolution theorem (without proof) – inverse by convolution,Solving ordinary differential equations with constant coefficients.

UNIT-V: Vector Differentiation

Vector Differentiation - Scalar and Vector Fields, Level surfaces, Directional Derivative, Gradient of a Scalar Field, Divergence, Curl of a vector field and applications , Vector Identities

Unit-VI: Vector Integration

Vector Integration - Line integral, work done, areas, Surface integrals.

Vector integral theorems - Green's theorem, Stokes theorem and Gauss Divergence theorem (All theorems without proof) and applications areas ,surface areas and volumes.

Text Books:

1. B.S.Grewal, Higher Engineering Mathematics, 42nd Ed., Khanna Publishers, New Delhi, 2012
2. Erwin .Kreyszig,Advanced Engineering Mathematics,9th Ed., Wiley, 2012

References:

1. T.K.V.Iyengar, B. Krishna Ghandhi, S. Ranganathan and M.V.S.S.N.Prasad, Engineering Mathematics, Volume-I, 12th Ed., S. Chand Publishers, 2014
2. B. V. Ramana, Engineering Mathematics, 4th Ed., Tata McGraw Hill, New Delhi, 2009
3. D. S. Chandrashekharaiah, Engineering Mathematics, Volume 1, Prism Publishers, 2010
4. N.P. Bali and Manish Goyal, A text book of Engineering Mathematics, Laxmi Publications, reprint, 2008

Course Outcomes:

After completing this course, the students will be able to

1. model first order linear and non-linear partial differential equations and solve analytically
2. model higher order homogeneous & non homogeneous linear partial differential equations and solve analytically
3. model physical problems of engineering like steady and unsteady heat conduction, vibration of string
4. use of Laplace transforms in solving the differential equations with the initial and boundary conditions.
5. understand electric and magnetic fields and their physical significance
6. compute line, surface and volume integrals and evaluate the work done, flux, potential functions.

Year/Semester	I B. Tech/II Sem	L	T	P	C
Regulation Year	2019-20	2	1	0	3
Subject	Mathematics III (Transform Calculus & Complex Variables)				
Branch	ECE & EEE				

Course Objectives: To enable the students to

1. learn the Fourier series of periodic functions and expand a function in sine and cosine series
2. solve problems related to engineering applications using integral transform techniques
3. evaluate the problems to engineering applications using Z- transform techniques
4. make use the significance of differentiability and analyticity for complex variable functions and be familiar with the Cauchy-Riemann equations.

find integrals along a path in the complex plane using the Cauchy's theorem and Residue theorem.

5. solve the singularities of complex variable function by expanding them into Taylor's and Laurent's series and finding residues

UNIT - I: **Fourier series**

Introduction, Periodic function, Dirichlet's conditions, Fourier series of periodic function, Fourier series in an arbitrary interval, Fourier series of even and odd functions, Fourier series at the point of discontinuity, Half-range Fourier Sine and Cosine series.

Unit- II: Fourier Transforms

Fourier integral theorem (only statement) – sine and cosine integrals, Fourier transforms – sine and cosine transforms –Inverse formulae-Properties- Finite Fourier Transforms.

UNIT - III: Z-Transforms

Z-transform – properties – Damping rule – Shifting rule – Initial and final value theorems – Inverse Z –transform - Convolution theorem – solvingdifference equations by using Z-transforms.

UNIT - IV: Functions of Complex Variables

Continuity and differentiability, Analyticity,properties, Cauchy Riemann equations in Cartesian and polar coordinates, harmonic and conjugate harmonic functions, Milne – Thompson method.

Unit – V: Complex Integration

Integration of complex functions – Line Integrals, Cauchy's Integral theorem, Cauchy's Integral Formula - Generalized Cauchy's Integral formula.

Unit -VI: Complex power series

Complex power series-Taylor's Series and Laurent's Series, Singularities, Poles and

Residues-Cauchy Residues theorem (without proof) and applications.

Text Books:

1. B. S. Grewal, Higher Engineering Mathematics, 42nd Ed., Khanna Publishers, New Delhi, 2012
2. Erwin Kreyszig, Advanced Engineering Mathematics, 9th Ed., Wiley, 2012.

References:

1. T.K.V.Iyengar, B. Krishna Ghandhi, S. Ranganatham and M.V.S.S.N.Prasad, Engineering Mathematics, Volume-I, 12th Ed., S. Chand Publishers, 2014
2. D. S. Chandrashekharaiah, Engineering Mathematics, Volume 1, Prism Publishers, 2010
3. B. V. Ramana, Engineering Mathematics, 4th Ed., Tata McGraw Hill, New Delhi, 2009
4. S. KaleshaValli, G. VenkataRao and A.V. Papa Rao, Engineering Mathematics-I, Cengage Publications, 2018.

Course Outcomes:

After undergoing this course, students will be able to

1. compute Fourier series of periodic functions
2. identify and solve problems related to engineering application using integral transform techniques
3. identify and solve problems related to engineering applications using Z- transform techniques
4. understand differentiability and analyticity for complex variable functions and learn sufficient conditions for analyticity.
5. evaluate integration of complex valued functions
6. classify the singularities of complex function of one variable

Year/Semester	I B. Tech/II Sem	L	T	P	C
Regulation Year	2019-20	3	0	0	3
Subject	Applied Physics				
Branch	CSE,IT & EEE				

COURSE OBJECTIVES:

- To highlight the importance of physics concepts in Engineering & Technology.
- To facilitate the students with the aid of advanced insight in the applied science.
- To focus the real time applications of physics in engineering fields.
- To prepare the students to face the challenges in core fields with the support of physical

  principles.
- To motivate the students to understand the Engineering Principles through basic ideas in

  Physics.

UNIT-I: WAVE OPTICS

Interference-Principle of Superposition-Interference of light-Theory of Interference fringes-Conditions for Sustained Interference -Interference in thin films (reflected light)-Newton's Rings-Determination of Wavelength. Diffraction- types of Diffraction, Fraunhofer Diffraction-Single slit, Double slit -Diffraction Grating -Determination of Wavelength. Polarization- types of polarized light, Polarization by reflection, refraction and double refraction-Nicol's prism-Half wave and Quarter wave plate- Engineering applications of Interference, Diffraction and Polarization.

UNIT-II: DIELECTRICS

Introduction to Dielectrics--Electric polarization-Dielectric polarizability, Susceptability and Dielectric constant- Types of polarizations with mathematical Derivations –Frequency dependence of polarization-Lorentz(internal) field-Claussius -Mosotti equation-Applications of Dielectrics.

UNIT-III: MAGNETIC MATERIALS

Introduction -Magnetic dipole moment-Magnetization-Magnetic susceptibility and permeability- Origin of permanent magnetic moment -Classification of Magnetic materials-Weiss theory of ferromagnetism (qualitative)-Hysteresis-soft and hard magnetic materials-Ferrites-Magnetic device applications.

UNIT-IV: FIBER OPTICS

Introduction to Optical Fibers-Total Internal Reflection- Construction of optical fibers -Acceptance angle-Numerical Aperture-Classification of fibers based on Refractive index profile, modes - Propagation of electromagnetic wave through optical fiber -l Applications -Block Diagram of Fiber optic Communication.

UNIT-V: SEMICONDUCTORS

Origin of energy bands - Classification of solids based on energy bands – Intrinsic semiconductors - density of charge carriers-Fermi energy – Electrical conductivity – extrinsic semiconductors - P-type & N-type - Density of charge carriers - Dependence of Fermi energy on carrier concentration and temperature- Direct and Indirect band gap semiconductors-Hall effect- Hall coefficient - Applications of Hall effect - Drift and Diffusion currents – Einstein's equation - Applications of Semiconductors.

UNIT-VI: SUPERCONDUCTORS

Introduction to Superconductors-Properties-Critical parameters of Superconductors- Meissner's effect-BCS Theory-Josephson effect (AC & DC)-Types of Superconductors-High Tc Superconductors-SQUID- Superconductors Applications

Text books:

1. M.N. Avadhanulu, P.G.Kshirsagar "A Text book of Engineering Physics"-S.Chand Publications,2017

2. H.K.Malik & A.K.Singh "Engineering Physics",- McGraw Hill Publishing Company Ltd, 2018

Reference Books:

1. David J.Griffiths, "Introduction to Electrodynamics"- 4/e, Pearson Education,2014

2. Gerd Keiser "Optical Fiber Communications"- 4/e, Tata Mc GrawHill ,2008

3. Charles Kittel "Introduction to Solid State Physics",Wiley Publications,2011

4. S.M.Sze "Semiconductor devices-Physics and Technology"-Wiley,2008

5. T Pradeep “A Text book of Nano Science and Nano Technology”- Tata Mc GrawHill 2013

COURSE OUTCOMES:

Upon the completion of the course the students will be able to:

CO1: To interpret the interaction of energy with the matter.

CO2: To explain the concepts and applications of Dielectrics.

CO3: To classify the magnetic materials based on susceptibility and their temperature dependence.

CO4: To identify the applications of optical fibers in various fields.

CO5: Learn classification of semiconductors and their real time applications.

CO6**:** Understand the principle and background of superconductors

Year/Semester	I B. Tech/II Sem	L	T	P	C
Regulation Year	2019-20	2	1	0	3
Subject	Problem Solving & Programming Using Python				
Branch	EEE				

OBJECTIVES:

• Introduction to Scripting Language

• Exposure to various problems solving approaches of computer science

UNIT – I:

Introduction: History of Python, Need of Python Programming, Applications Basics of Python Programming Using the REPL(Shell), Running Python Scripts, Variables, Assignment, Keywords, Input-Output, Indentation.

UNIT – II:

Types, Operators and Expressions: Types - Integers, Strings, Booleans; Operators- Arithmetic Operators, Comparison (Relational) Operators, Assignment Operators, Logical Operators, Bitwise Operators, Membership Operators, Identity Operators, Expressions and order of evaluations Control Flow- if, if-elif-else, for, while, break, continue, pass

UNIT – III:

Data Structures Lists - Operations, Slicing, Methods; Tuples, Sets, Dictionaries, Sequences. Comprehensions.

UNIT – IV:

Functions - Defining Functions, Calling Functions, Passing Arguments, Keyword Arguments, Default Arguments, Variable-length arguments, Anonymous Functions, Fruitful Functions(Function Returning Values), Scope of the Variables in a Function - Global and Local Variables.

Modules: Creating modules, import statement, from. Import statement, name spacing,

Python packages, Introduction to PIP, Installing Packages via PIP, Using Python Packages

UNIT – V:

Object Oriented Programming OOP in Python: Classes, 'self variable', Methods, Constructor Method, Inheritance, Overriding Methods, and Data hiding.

Error and Exceptions: Difference between an error and Exception, Handling Exception, try except block, Raising Exceptions, User Defined Exceptions

UNIT – VI:

Brief Tour of the Standard Library - Operating System Interface - String Pattern Matching, Mathematics, Internet Access, Dates and Times, Data Compression, Multithreading, GUI Programming, Turtle Graphics

Testing: Why testing is required?, Basic concepts of testing, Unit testing in Python,

Writing Test cases, Running Tests.

OUTCOMES:

- Making Software easily right out of the box.
- Experience with an interpreted Language.
- To build software for real needs.
- Prior Introduction to testing software

TEXT BOOKS

1. Python Programming: A Modern Approach, Vamsi Kurama, Pearson
2. Learning Python, Mark Lutz, Orielly

Reference Books:

1. Think Python, Allen Downey, Green Tea Press
2. Core Python Programming, W.Chun, Pearson.
3. Introduction to Python, Kenneth A. Lambert, Cengage
4. Python Cookbook, O Reilly, David Beazley and Brain k.Jones.

Year/Semester	I B. Tech/II Sem	L	T	P	C
Regulation Year	2019-20	1	0	2	2.5
Subject	Engineering Graphics & Design				
Branch	EEE				

Course Objectives:

Engineering drawing being the principle method of communication for engineers, the objective is to introduce the students, the techniques of constructing the various types of polygons, curves and scales.

The objective is also to visualize and represent the 3D objects in 2D planes with proper dimensioning, scaling etc.

UNIT I

Objective: To introduce the students to use drawing instruments and to draw polygons, Engg. Curves.

Polygons: Construction of regular polygons by general methods, inscribing and describing polygons on circles.

Curves: Ellipse, Parabola and Hyperbola by general methods, Tangent & Normal and Ellipse by Oblong Method and Arcs of Circles Method

UNIT II

Objective: To introduce the students to use scales and orthographic projections, projections of points & simple lines.

Scales: Plain scale, Diagonal scale and Vernier scale.

Orthographic Projections: Introduction to Projections, Horizontal plane, Vertical plane, Profile plane, importance of reference lines.

Projections of points in various quadrants.

UNIT III

Objective: The objective is to make the students draw the projections of the lines inclined to both the planes.

Projections of straight lines inclined to one plane, inclined to both the planes, traces

UNIT IV

Objective: The objective is to make the students draw the projections of the plane inclined to both the planes.

Projections of planes: inclined to one reference plane; inclined to both the reference planes.

UNIT V

Objective: The objective is to make the students draw the projections of the various types of solids in different positions inclined to one of the planes.

Projections of Solids – Projections of Prisms, Pyramids, Cones and Cylinders simple positions, the axis inclined to one of the reference planes.

UNIT VI

Objective: The objective is to represent the object in 3D view through isometric views. The student will be able to represent and convert the isometric view to orthographic view and vice versa.

Conversion of isometric views to orthographic views;

Conversion of orthographic views to isometric views.

Course Outcomes:

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

1. Understand and construct the polygons and curves in engineering applications.
2. Visualize objects in 3D space and draw Orthographic Projections.
3. Interpret Orthographic and Isometric views of objects.

TEXT BOOKS:

1. Engineering Drawing by N.D. Bhatt, Charotar Publishing House Pvt. Ltd
2. Engineering Drawing by Agarwal & Agarwal, Tata McGraw Hill
3. Engineering Drawing + AutoCAD by K. Venugopal, V. Prabhu Raja, New Age

REFERENCE BOOKS:

1. Engineering Drawing by K.L.Narayana & P. Kannaiah, Scitech Publications
2. Engineering Graphics for Degree by K.C. John, PHI Learning
3. Engineering Graphics by PI Varghese, McGrawHill Publishers.
4. Engineering Drawing by P.S. Gill, S.K. Kataria & Sons.
5. Engineering Drawing by Venkata Reddy – B.S. Publications.

Year/Semester	I B. Tech/II Sem	L	T	P	C
Regulation Year	2019-20	0	0	3	1.5
Subject	Applied Physics Lab				
Branch	CSE,IT & EEE				

List of Experiments:

1. Determination of wavelength of a source-Diffraction Grating-Normal incidence
2. Newton's rings –Radius of Curvature of Plano Convex Lens.
3. Determination of thickness of a thin object using parallel interference fringes.
4. Determination/ of Rigidity modulus of a material- Torsional Pendulum.
5. Determination of Acceleration due to Gravity and Radius of Gyration- Compound Pendulum.
6. Melde's experiment – Transverse and Longitudinal modes.
7. Verification of laws of stretched string – Sonometer.
8. Determination of velocity of sound – Volume resonator.
9. L C R Series Resonance Circuit
10. Study of I/V Characteristics of Semiconductor diode
11. I/V characteristics of Zener diode
12. Thermistor characteristics – Temperature Coefficient
13. Magnetic field along the axis of a current carrying coil – Stewart and Gee's apparatus.
14. Energy Band gap of a Semiconductor p.n junction.
15. Hall Effect for semiconductor.

REFERENCE:

1. Engineering Physics Lab Manual by Dr.Y. Aparna & Dr.K.Venkateswarao (V.G.S.Book links)
2. Physics Practical Manual, Lorven Publication.

Year/Semester	I B. Tech/II Sem	L	T	P	C
Regulation Year	2019-20	0	0	3	1.5
Subject	Problem Solving & Programming Lab				
Branch	EEE				

Course Objectives:

- Understand the basic concept of C Programming, and its different modules that includes conditional and looping expressions, Arrays, Strings, Functions, Pointers Structures.
- Acquire knowledge about the basic concept of writing a program.
- Role of constants, variables, identifiers, operators, type conversion and other building blocks of C Language.
- Use of conditional expressions and looping statements to solve problems associated with conditions and repetitions.
- Role of functions involving the idea of Modularity.

Exercise - 1 Basics
a) What is an OS Command, Familiarization of Editors - vi, Emacs
b) Using commands like mkdir, ls, cp, mv, cat, pwd, and man
c) C Program to Perform Adding, Subtraction, Multiplication and Division of two numbers From Command line

Exercise - 2 Basic Math
a) Write a C Program to Simulate 3 Laws at Motion
b) Write a C Program to convert Celsius to Fahrenheit and vice versa

Exercise - 3 Control Flow – I
a)Write a C Program to Find Whether the Given Year is a Leap Year or not.
b)Write a C Program to Add Digits & Multiplication of a number

Exercise – 4 Control Flow – II
a)Write a C Program to Find Whether the Given Number is
i) Prime Number ii) Armstrong Number
b) Write a C program to print Floyd Triangle
c) Write a C Program to print Pascal Triangle

Exercise – 5 Functions
a) Write a C Program demonstrating of parameter passing in Functions and returning values.
b) Write a C Program illustrating Fibonacci, Factorial with Recursion without Recursion

Exercise – 6 Control Flow – III
a) Write a C Program to make a simple Calculator to Add, Subtract, Multiply or Divide Using switch...case
b) Write a C Program to convert decimal to binary and hex (using switch call function the function)

Exercise – 7 Functions – Continued
Write a C Program to compute the values ofsin x and cos x and e^x values using Series expansion. (use factorial function)

Exercise – 8 Arrays
Demonstration of arrays
a) Search-Linear.
b) Sorting-Bubble, Selection.
c) Operations on Matrix.

Exercises - 9 Structures
a)Write a C Program to Store Information of a Movie Using Structure
b)Write a C Program to Store Information Using Structures with Dynamically Memory Allocation
c) Write a C Program to Add Two Complex Numbers by Passing Structure to a Function

Exercise - 10 Arrays and Pointers
a)Write a C Program to Access Elements of an Array Using Pointer
b) Write a C Program to find the sum of numbers with arrays and pointers.

Exercise – 11 Dynamic Memory Allocations
a) Write a C program to find sum of n elements entered by user. To perform this program,allocate memory dynamically using malloc () function.
b) Write a C program to find sum of n elements entered by user. To perform this program, allocate memory dynamically using calloc () function.
Understand the difference between the above two programs

Exercise – 12 Strings
a) Implementation of string manipulation operations with library function.
    i) copy ii) concatenate
    iii) length iv) compare
b) Implementation of string manipulation operations without library function.
    i) copy
    ii) concatenate
    iii) length
    iv) compare

Course Outcomes:

- Apply and practice logical ability to solve the problem.
- Understand C programming development environment, compiling, debugging and linking and executing a program using the development environment.
- Analyzing the complexity of problems, modularize the problems into small modules and then convert them into programs.
- Understand and apply the inbuilt functions and customized functions for solving the problems.
- Understand and apply the pointers, memory allocation techniques.

Year/Semester	I B. Tech/I Sem	L	T	P	C
Regulation Year	2019-20	0	0	3	1.5
Subject	Workshop (Electrical & Electronics Engineering Lab)				
Branch	EEE				

Course Objectives for Workshop:

1. To know about different tools, abbreviations and symbols in Electrical Engineering
2. To learn about types of measuring instruments to measure electrical quantities
3. To gain knowledge on different types of earthing and earth resistance
4. To study different types of wiring

Syllabus:

1. Study on Introduction to Electrical tools, symbols and abbreviations
2. Study of types of sizes of wires and making "T" joint and straight joint for wires
3. Measurements of Electrical quantities (like Voltage, Current, Power, Power factor in RLC circuits)
4. Study of measurements of Energy (using Single phase and Three phase Energy meter) by connecting different loads
5. Study of earthing and measurement of earth resistance
6. Study and performance of residential wiring (using Energy meter, Fuses, Switches, Indicator, Lamps, etc.)
7. Study of Fluorescent lamp wiring
8. Study of various electrical gadgets (CFL and LED)
9. Study of PV Cell
10. Study of Induction motor and Transformer
11. Assembly of choke or small transformer
12. Study of trouble shooting of electrical equipments (fan, iron box, mixer-grinder, etc.)
13. Introduction to basics of Electronic components: Solder practice, Multi meter, Power supply
14. Measurement of wire gauges using gauge meter
15. Identification of color code, resistors, ICs, Transistors, capacitors, diodes, SCRs, IGBTs etc.

References:

1. Lab manual of Electrical Engineering by TTTI, Chennai.

Course Outcomes for Workshop:

1. Able to demonstrate knowledge on different tools, abbreviations and symbols used in Electrical Engineering (L2)
2. Able to measure different electrical quantities using measuring instruments (L3)
3. Able to demonstrate how to trouble shoot the electrical equipments (like fan, grinder, motor, etc.) (L4)

4 Able to perform wiring and earthing for residential houses (L5)

Year/Semester	I B.Tech. / II Sem.	L	T	P	C
Regulation Year	2019-20	2	-	-	-
Name of the Subject	Constitution of India				
Branch	CSE,IT & EEE				

COURSE OBJECTIVES:

- To train students in understanding the basic structure of Indian Constitution
- To prepare students to live better and happily with other fellow beings through the application of Fundamental Rights in their lives.

UNIT-I: Introduction to Indian Constitution

Meaning of the term Indian Constitution –Preamble- Constituent Assembly- Salient Features of Indian Constitution

UNIT-II: Fundamental Rights

Fundamental Rights -Fundamental Duties -The Directive Principles of State Policy

UNIT-III: Union Government

Union Government -Union Legislature (Parliament) -Lok Sabha and Rajya Sabha (with Powers and Functions) -Union Excecutive -President of India (with Powers and Functions) -Prime Minister of India (with Powers and Functions) -Union Judiciary (Supreme Court) -Jurisdiction of the Supreme Court

UNIT-IV State Government

State Government -State Legislature (Legislative Assembly / Vidhan Sabha, Legislative Council / Vidhan Parishad) -Powers and Functions of the State Legislature -State Executive-Governor of the State (with Powers and Functions) -The Chief Minister of the State (with Powers and Functions) -State Judiciary (High Courts)

UNIT-V: Local Self Governance

Powers and functions of Municipalities, Panchyats, ZP's and Co – Operative Societies

UNIT-VI: Sovereign Bodies

Election Commission of India (with Powers and Functions) -The Union Public Service Commission (with Powers and Functions)

BOOKS:

1. Introduction to constitution of India, Durga Das Basu, Lexis Nexis Publications
2. Constitution of India by PRFESSIONAL BOOK PUBLISHERS
3. The Constitution of India by Arun K Tiru vengadam, Blooms bury publishers.
4. The constitution of India by PM Bakshi, Universal law publishing co
5. The Constitution of India by S.R. Bhansali, Universal law publishing co

COURSE OUTCOMES:

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

CO1: Examine salient features of Indian Constitution and live accordingly in society.
CO2: Interpret the meaning of Fundamental Rights and Directive Principles of State Policy and,
develop an attitude which paves the way for better living conditions.
CO3: Discover various aspects of Union Government legislation and live up to the expectations
of the rules.
CO4: Critically examine State Government legislation and improve your living standards by
following the rules strictly
CO5: Examine powers and functions of local bodies such as Muncipalities and Panchayats and,
take advantage of available resources for better living
CO6: Analyze the powers and functions of Election Commission and The Union Public Service
Commission and decide upon it for safe and secured life.