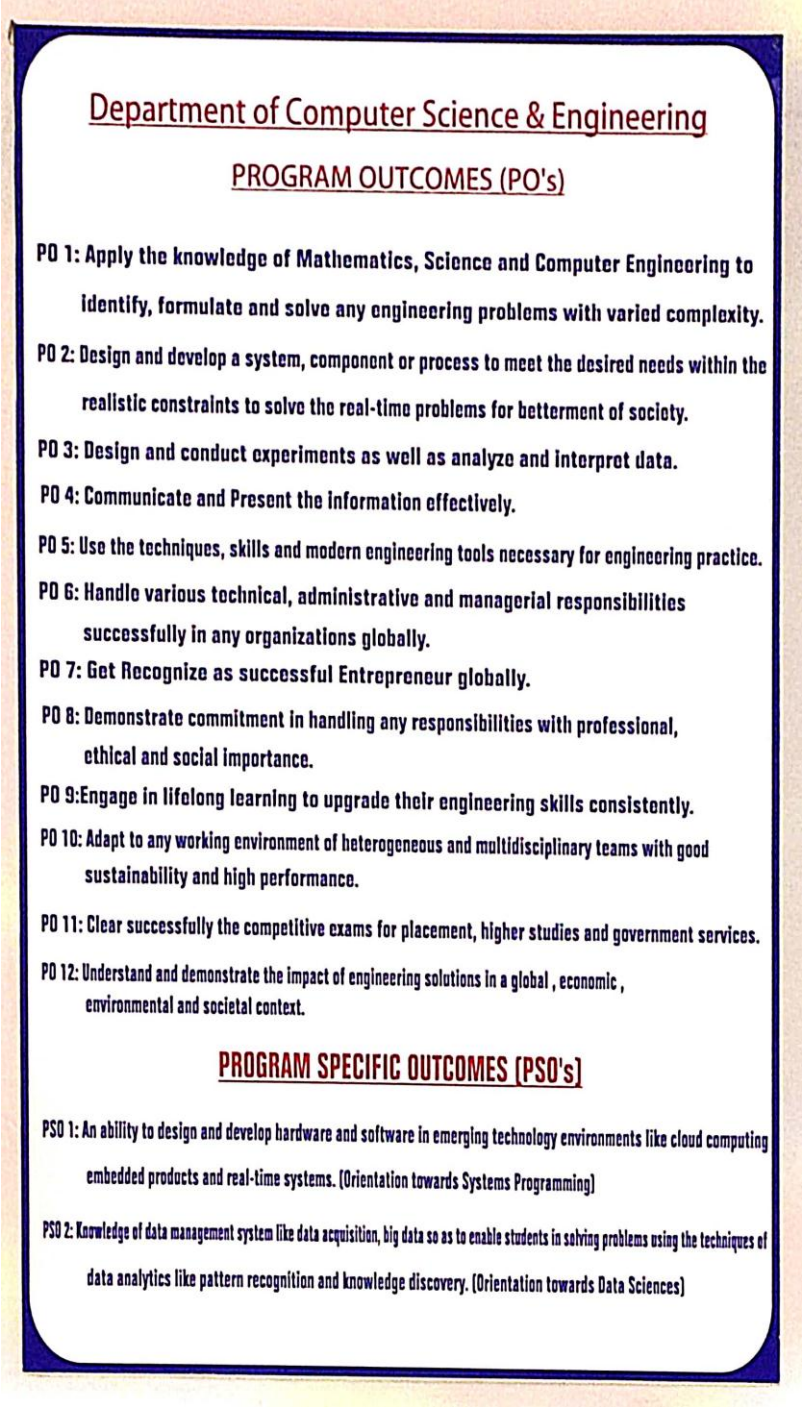
Display of Department of CS& E Sample POs, PSOs & COs



Department of Computer Science & Engineering

PROGRAM OUTCOMES (PO's)

PO 1: Apply the knowledge of Mathematics, Science and Computer Engineering to identify, formulate and solve any engineering problems with varied complexity.

PO 2: Design and develop a system, component or process to meet the desired needs within the realistic constraints to solve the real-time problems for betterment of society.

PO 3: Design and conduct experiments as well as analyze and interpret data.

PO 4: Communicate and Present the information effectively.

PO 5: Use the techniques, skills and modern engineering tools necessary for engineering practice.

PO 6: Handle various technical, administrative and managerial responsibilities successfully in any organizations globally.

PO 7: Get Recognize as successful Entrepreneur globally.

PO 8: Demonstrate commitment in handling any responsibilities with professional, ethical and social importance.

PO 9:Engage in lifelong learning to upgrade their engineering skills consistently.

PO 10: Adapt to any working environment of heterogeneous and multidisciplinary teams with good sustainability and high performance.

PO 11: Clear successfully the competitive exams for placement, higher studies and government services.

PO 12: Understand and demonstrate the impact of engineering solutions in a global , economic , environmental and societal context.

PROGRAM SPECIFIC OUTCOMES (PSO's)

PSO 1: An ability to design and develop hardware and software in emerging technology environments like cloud computing embedded products and real-time systems. (Orientation towards Systems Programming)

PSO 2: Knowledge of data management system like data acquisition, big data so as to enable students in solving problems using the techniques of data analytics like pattern recognition and knowledge discovery. (Orientation towards Data Sciences)

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COMPUTER NETWORKS LAB.

COURSE OUTCOMES

CO1.Understand the microwave signal measurement using VSWR and frequency meter.

CO2.Understand the design application and practical implementation of various Digital a.Modulation techniques.

CO3.Understand the challenges in practical implementation of Microwave a.communication system.

CO4.Understand the characteristics of various antennae and its coverage area.

Understand the characteristics and various losses associated with OFC channel

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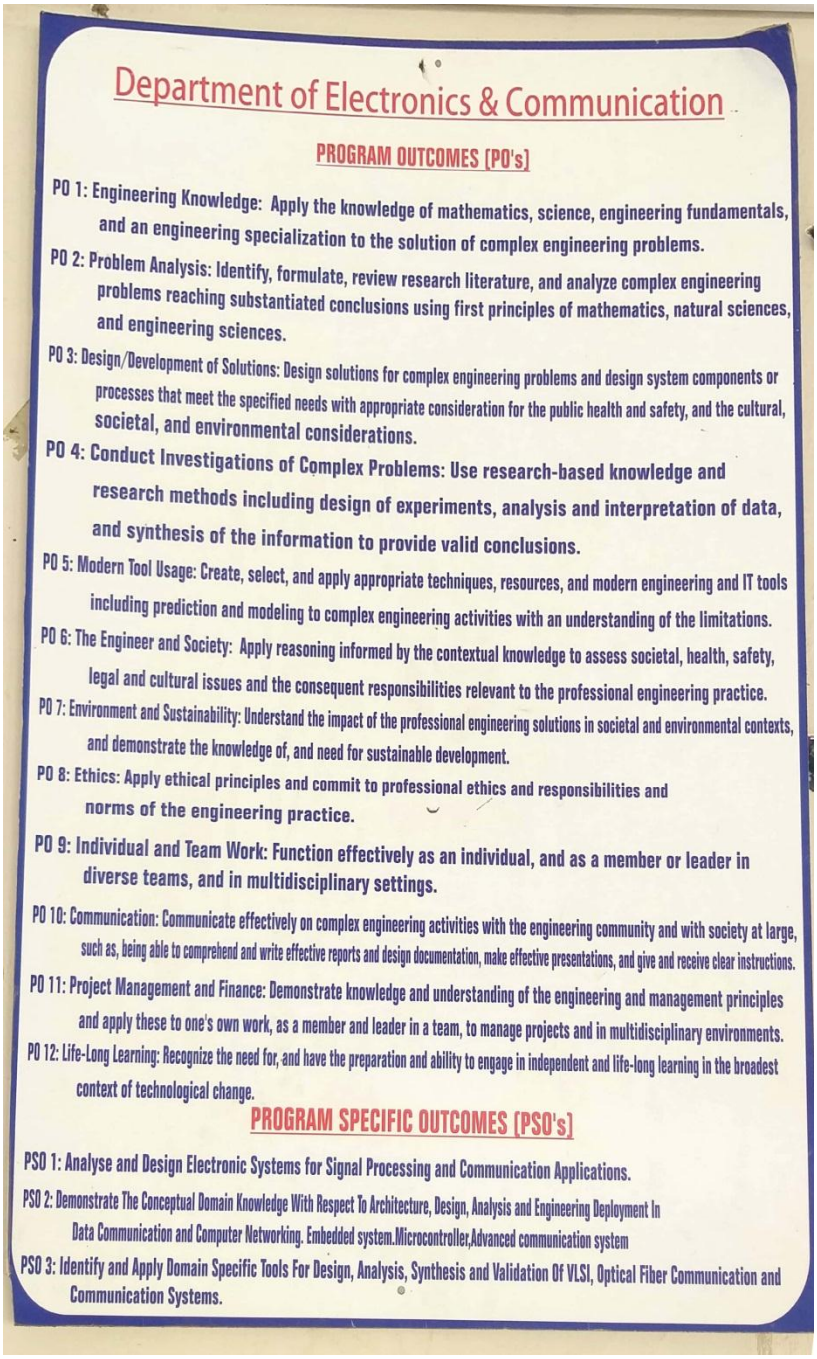
Display of Department of E& C Sample POs, PSOs & COs



Department of Electronics & Communication

PROGRAM OUTCOMES (PO's)

PO 1: Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO 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.

PO 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.

PO 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.

PO 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.

PO 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.

PO 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.

PO 8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO 9: Individual and Team Work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO 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.

PO 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.

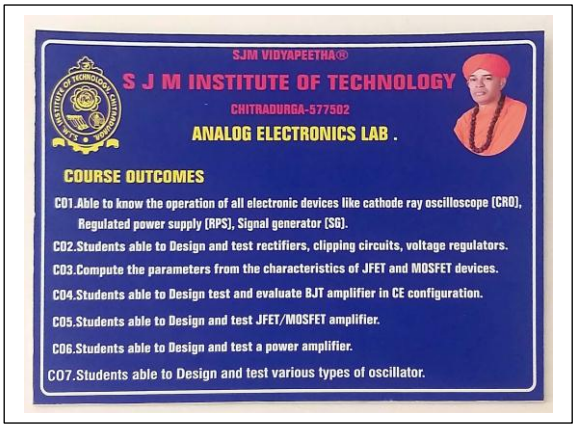
PO 12: Life-Long Learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAM SPECIFIC OUTCOMES (PSO's)

PSO 1: Analyse and Design Electronic Systems for Signal Processing and Communication Applications.

PSO 2: Demonstrate The Conceptual Domain Knowledge With Respect To Architecture, Design, Analysis and Engineering Deployment In Data Communication and Computer Networking. Embedded system.Microcontroller,Advanced communication system

PSO 3: Identify and Apply Domain Specific Tools For Design, Analysis, Synthesis and Validation Of VLSI, Optical Fiber Communication and Communication Systems.



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ANALOG ELECTRONICS LAB .

COURSE OUTCOMES

CO1.Able to know the operation of all electronic devices like cathode ray oscilloscope (CRO), Regulated power supply (RPS), Signal generator (SG).

CO2.Students able to Design and test rectifiers, clipping circuits, voltage regulators.

CO3.Compute the parameters from the characteristics of JFET and MOSFET devices.

CO4.Students able to Design test and evaluate BJT amplifier in CE configuration.

CO5.Students able to Design and test JFET/MOSFET amplifier.

CO6.Students able to Design and test a power amplifier.

CO7.Students able to Design and test various types of oscillator.

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Display of Department of E& E Sample POs, PSOs & COs

Department of Electrical &Electronics

PROGRAM OUTCOMES (PO's)

Po 1:Engineering Knowledge: Apply Knowledge Of Differential Equations, Vector Calculus, Complex Variables, Matrix Theory, Probability Theory, Physics And Chemistry, Electrical And Electronic Engineering Fundamentals.

PO 2:Problem Analysis: Graduates will Identify, formulate and solve complex electrical and electronics engineering problems using the first principles of mathematics natural sciences and engineering science

PO 3:Design: Graduates will design Electrical and Electronics systems meeting the given specifications for different problems taking safety and precautions into consideration.

PO 4:Investigations: Graduates will Perform investigations, design and conduct experiments, analyze and interpret the results to provide valid conclusions.

PO 5:Tool Usage: Graduates will use modern software tools to model and analyze problems, apply appropriate techniques and IT tools for the design & analysis of the systems keeping in view their limitations.

PO 6:The Engineer and Society: Graduates will understand the impact of local and global issues / happenings and assess societal, health, legal and cultural issue with competency in professional engineering practice on Electrical Engineers.

PO 7: Environment and Sustainability: Graduates will Demonstrate professional skills and contextual reasoning and provide sustainable solutions for problems related to Electrical and Electronics Engineering and also will understand their impact on environment.

PO 8:Ethics: Graduates will have knowledge of professional ethics and code of conduct as applied to Electrical Engineers.

PO 9:Individual and Team work:Graduates will work effectively as an individual and as a member or leader in diverse teams and in multi-disciplinary settings.

PO 10:Communication: Graduates will communicate effectively in both verbal and written form among engineering community, being able to comprehend and write reports, presentation and give / receive clear instructions.

PO 11:Project Management and Finance:Graduates will plan, demonstrate and execute engineering & management principles in their own / team projects in multidisciplinary environment

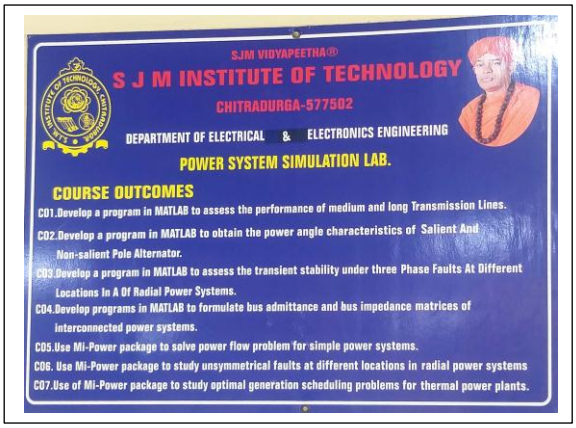
PO 12:Life-long learning: Graduates will have the ability for self- education, recognize the need for and have the ability to engage in independent and lifelong learning.

PROGRAM SPECIFIC OUTCOMES (PSO's)

PSO 1: Ability to specify architect, design and analyze systems that efficiency generate, transmit, distribute and utilize electrical power.

PSO 2: Ability to specify design, prototype and test modern electronic systems that perform analog and digital processing function.

PSO 3: Ability to use software for design, simulation and analysis of electrical system.



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Display of Department of Civil Engineering Sample POs, PSOs & COs

Department of Civil Engineering

PROGRAM OUTCOMES (PO's)

PO 1: To apply the knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems

PO 2: To identify, formulate, review research literature and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.

PO 3: To 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.

Po 4: To 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.

PO 5: To create, select and apply appropriate techniques, resources, and modern engineering and IT tools including predictions and modeling to complex engineering activities with an understanding of limitations.

PO 6: To 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

PO 7: To understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development

PO 8: To apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice

PO 9: To function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10: To communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO 11: To 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.

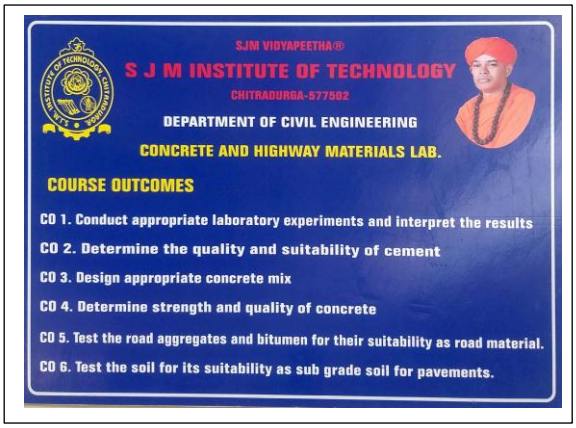
PO 12: To recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change

PROGRAM SPECIFIC OUTCOMES (PSO's)

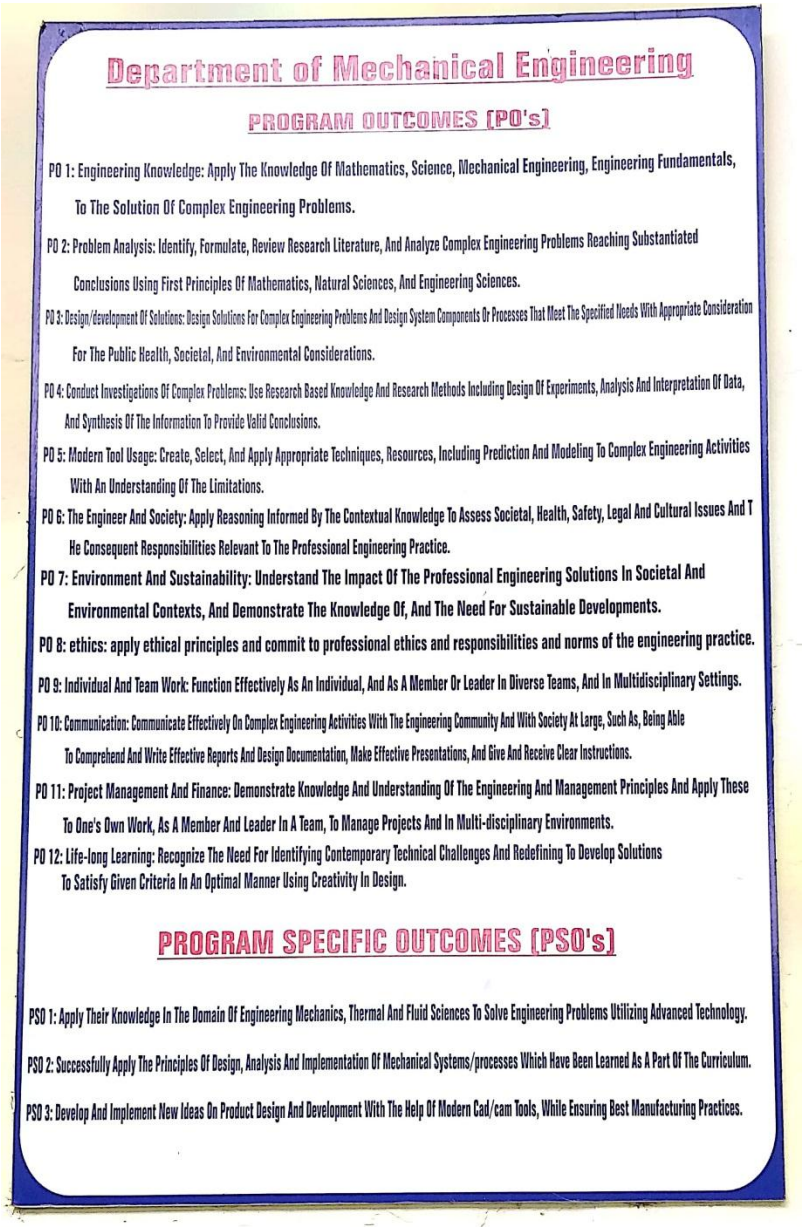
PSO1:Capable to study, plan, analyze and design the civil engineering structures required for the professional demands.

PSO2:Utilize the appropriate software and related modern tools to develop skills to plan, produce detailed drawings, write specifications, and prepare cost estimates of civil engineering structures.

PSO3:Offer engineering services with professional, environmental and ethical responsibility.



Display of Department of Mechanical Engineering Sample POs, PSOs & COs



Department of Mechanical Engineering

PROGRAM OUTCOMES (PO's)

PO 1: Engineering Knowledge: Apply The Knowledge Of Mathematics, Science, Mechanical Engineering, Engineering Fundamentals, To The Solution Of Complex Engineering Problems.

PO 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.

PO 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, Societal, And Environmental Considerations.

PO 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.

PO 5: Modern Tool Usage: Create, Select, And Apply Appropriate Techniques, Resources, Including Prediction And Modeling To Complex Engineering Activities With An Understanding Of The Limitations.

PO 6: The Engineer And Society: Apply Reasoning Informed By The Contextual Knowledge To Assess Societal, Health, Safety, Legal And Cultural Issues And T He Consequent Responsibilities Relevant To The Professional Engineering Practice.

PO 7: Environment And Sustainability: Understand The Impact Of The Professional Engineering Solutions In Societal And Environmental Contexts, And Demonstrate The Knowledge Of, And The Need For Sustainable Developments.

PO 8: ethics: apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO 9: Individual And Team Work: Function Effectively As An Individual, And As A Member Or Leader In Diverse Teams, And In Multidisciplinary Settings.

PO 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.

PO 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 Multi-disciplinary Environments.

PO 12: Life-long Learning: Recognize The Need For Identifying Contemporary Technical Challenges And Redefining To Develop Solutions To Satisfy Given Criteria In An Optimal Manner Using Creativity In Design.

PROGRAM SPECIFIC OUTCOMES (PSO's)

PSO 1: Apply Their Knowledge In The Domain Of Engineering Mechanics, Thermal And Fluid Sciences To Solve Engineering Problems Utilizing Advanced Technology.

PSO 2: Successfully Apply The Principles Of Design, Analysis And Implementation Of Mechanical Systems/processes Which Have Been Learned As A Part Of The Curriculum.

PSO 3: Develop And Implement New Ideas On Product Design And Development With The Help Of Modern Cad/cam Tools, While Ensuring Best Manufacturing Practices.

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MECHANICAL ENGINEERING DEPARTMENT

MATERIALS TESTING LAB.

COURSE OUTCOMES

CO1.Acquire Experimentation Skills In The Field Of Material Testing.

CO2.Develop Theoretical Understanding Of The Mechanical Properties Of Materials By Performing Experiments.

CO3.Apply The Knowledge To Analyze A Material Failure And Determine The Failure Inducing Agent/s.

CO4.Apply The Knowledge Of Testing Methods In Related Areas.

CO5.Know How To Improve Structure/behavior Of Materials For Various Industrial Applications.

Display of POs, PSOs & COs in Laboratory Manuals

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Department of Computer Science and Engineering

"COMPUTER NETWORK LABORATORY MANUAL"

[18CSL57]

5th Semester - 'CBCS Scheme'
2020 - 21

: FACULTIES IN-CHARGE :

Prof. Shruthi M K B.E., M.Tech.,

Prof. Dharaneesha H D B.E., M.Tech.,

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Department of Computer Science & Engineering

Program Outcomes (POs)

PO 1: Apply the knowledge of Mathematics, Science and Computer Engineering to identify, formulate and solve any engineering problems with varied complexity.

PO 2: Design and develop a system, component or process to meet the desired needs within the realistic constraints to solve the real-time problems for betterment of society.

PO 3: Design and conduct experiments as well as analyze and interpret data.

PO 4: Communicate and Present the information effectively.

PO 5: Use the techniques, skills and modern engineering tools necessary for engineering practice.

PO 6: Handle various technical, administrative and managerial responsibilities successfully in any organizations globally.

PO 7: Get Recognize as successful Entrepreneur globally.

PO 8: Demonstrate commitment in handling any responsibilities with professional, ethical and social importance.

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PO 10: Adapt to any working environment of heterogeneous and multidisciplinary teams with good sustainability and high performance.

PO 11: Clear successfully the competitive exams for placement, higher studies and government services.

PO 12: Understand and demonstrate the impact of engineering solutions in a global , economic , environmental and societal context.

Program Specific Outcomes (PSOs)

PSO 1: An ability to design and develop hardware and software in emerging technology environments like cloud computing embedded products and real-time systems. (Orientation towards Systems Programming)

PSO 2: Knowledge of data management system like data acquisition, big data so as to enable students in solving problems using the techniques of data analytics like pattern recognition and knowledge discovery. (Orientation towards Data Sciences)

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Course Outcomes (COs)

CO1: Analyze and Compare various networking protocols

CO2: Demonstrate the working of different concepts of networking

CO3: Implement, analyze and evaluate networking protocols in NS2/NS3 and JAVA Programming Language

PRINCIPAL
S.J.M.I.T., CHITRADURGA

VTU curriculum syllabus sample copy providing COs

C PROGRAMMING FOR PROBLEM SOLVING

Semester	**: I/II**	**CIE Marks**	**: 40**
Course Code	**: 18CPS13/23**	**SEE Marks**	**: 60**
Teaching Hours/week (L:T:P)	**: 2:2:0**	**Exam Hours**	**: 03**
	Credits : 03		

Course Learning Objectives:

This course **(18CPS13/23)** will enable students to:

- Familiarize with writing of algorithms, fundamentals of C and philosophy of problem solving.
- Implement different programming constructs and decomposition of problems into functions.
- Use and implement data structures like arrays and structures to obtain solutions.
- Define and use of pointers with simple applications.

MODULE-I

Introduction to computer Hardware and software: Computer generations, computer types, bits, bytes and words, CPU, Primary memory, Secondary memory, ports and connections, input devices, output devices, Computers in a network, Network hardware, Software basics, software types.

Overview of C: Basic structure of C program, executing a C program. Constant, variable and data types, Operators and expressions,

(RBT Levels : L1 & L2)

MODULE 2

Managing Input and output operations. Conditional Branching and Loops. Example programs, Finding roots of a quadratic equation, computation of binomial coefficients, plotting of Pascals triangle.

(RBT Levels : L1 & L2)

MODULE 3

Arrays: Arrays (1-D, 2-D), Character arrays and Strings, Basic Algorithms: Searching and Sorting Algorithms (Linear search, Binary search, Bubble sort and Selection sort).

(RBT Levels : L1, L2 & L3)

MODULE 4

User Defined Functions and Recursion.

Example programs, Finding Factorial of a positive integers and Fibonacci series.

(RBT Levels : L1, L2 & L3)

MODULE 5

Structure and Pointers, Preprocessor Directives

(RBT Levels : L1, L2 & L3)

Course Outcomes:

The student will be able to :

- Illustrate simple algorithms from the different domains such as mathematics, physics, etc.
- Construct a programming solution to the given problem using C.
- Identify and correct the syntax and logical errors in C programs.
- Modularize the given problem using functions and structures.

COs

Question Paper Pattern:

- The question paper will have ten questions.
- Each full Question consisting of 20 marks
- There will be 2 full questions (with a maximum of four sub questions) from each module.
- Each full question will have sub questions covering all the topics under a module.
- The students will have to answer 5 full questions, selecting one full question from each module.

Textbooks:

1. E. Balaguruswamy, Programming in ANSI C, 7th Edition, Tata McGraw-Hill
2. Brian W. Kernighan and Dennis M. Ritchie, The 'C' Programming Language, Prentice Hall of India.

Reference Books:

1. Sumitabha Das, Computer Fundamentals & C Programming, Mc Graw Hill Education.
2. Gary J Bronson, ANSI C Programming, 4th Edition, Ceneage Learning.
3. Dey and Ghosh, Programming in C, 3rd Edition, Oxford University Press.
4. Vikas Gupta: Computer Concepts and C Programming, Dreamtech Press 2013.
5. R S Bichkar, Programming with C, University Press, 2012.
6. V Rajaraman: Computer Programming in C, PHI, 2013.
7. Basavaraj S. Anami, Shanmukhappa A Angadi, Sunilkumar S. Manvi, Computer Concepts and C Programming: A Holistic Approach to Learning C, Seond edition, PHI India, 2010.

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Sample Internal Test question Paper with COs

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SJM Institute of Technology
Chitradurga – 577 502

Department : Computer Science & Engg. **Name of the Faculty: Prof. Poral Nagaraj**

Test : 3rd	Course name and Code	Semester	Max marks
Date: 21/09/2021 Time: 9:15 - 10:15	C Programming for Problem Solving (18CPS23)	2nd	30

Note : Answer any two full questions.

Q. No	Questions	Marks	CL	CO	PO
1. A)	Explain any 4 string manipulation functions with examples	8	U	2,3	1-3
1. B)	What are the categories of user defined functions. Explain.	7	U	2,3	1-3
2. A)	Explain the elements of user defined functions.	8	U	2,3	1-3
2. B)	Define a structure. How structures are defined, declared and initialized?	7	U	2,3	1-3
3. A)	Write a program to store and display the details of n students using array of structures.	8	Ap	2	1-3
3. B)	Write a program to add two numbers using pointers.	7	Ap	2,3	1-3
4. A)	Define a pointer. How the pointers are declared, initialized.	8	U	2,3	1-3
4. B)	List the important preprocessor directives.	7	R	2,3	1-3

************G O O D L U C K************

CO1: *Illustrate simple algorithms from different domains such as mathematics, physics etc.*

CO2: *Construct a programming solution to the given problem using C.*

CO3: *Identify and correct the syntax and logical errors in C Programs.*

CO4: *Modularize the given problem using functions and structures*

COs

CL : COGNITIVE LEVEL (R: Remember; U: Understand ; Ap: Apply ; A: Analyse ; E: Evaluate ; C: Create)