

Gayatri Vidya Parishad College of Engineering (Autonomous), Madhurawada, Visakhapatnam- 530048

**Department of Information Technology
2020-21**

SCHEME OF COURSE WORK

Course Details:

Course Title	Programming for Problem Solving using C Lab		
Course Code	22CT1102	L T P C	0 0 3 1.5
Program:	B.Tech.		
Specialization:	Mechanical Engineering		
Semester	I		
Prerequisites	Basic Mathematical Foundation		
Courses to which it is a prerequisite	Any other programming languages		

Course Outcomes (Cos): At the end of the course, a student will be able to

CO1	Apply the concepts of variables, data types, operators and expressions.(L3)
CO2	Demonstrate the usage of Conditional and Unconditional statements. (L3)
CO3	Demonstrate the usage of functions and relate functions with respect to arrays and strings. (L3)
CO4	Implement the concept of pointers and structures. (L3)
CO5	Demonstrate the usage of files and Command Line Arguments. (L3)

Programme Outcomes (POs): At the end of the program, the students will be able to

PO1	Apply the knowledge of mathematics, science, engineering fundamentals to solve complex mechanical engineering problems.
PO2	Attain the capability to identify, formulate and analyse problems related to mechanical engineering.
PO3	Design solutions for mechanical system components and processes that meet the specified needs with appropriate consideration for public health and safety.
PO4	Perform analysis, conduct experiments and interpret data by using research methods such as design of experiments to synthesize the information and to provide valid conclusions.
PO5	Select and apply appropriate techniques from the available resources and current mechanical engineering and software tool s.
PO6	Carry out their professional practice in mechanical engineering by appropriately considering and weighing the issues related to society..
PO7	Understand the impact of the professional engineering solutions on environmental safety and legal issues.
PO8	Transform into responsible citizens by resorting to professional ethics and norms of the engineering practice.
9	Function effectively in individual capacity as well as a member in diverse teams and in multidisciplinary streams.

10	Communicate fluently with the engineering community and society, and will be able to prepare reports and make presentations effectively.
11	Apply knowledge of the engineering and management principles to managing projects and finance in multidisciplinary environments.
12	Engage themselves in independent and life-long learning to continuing professional practice in their specialized areas of mechanical engineering.

Course Outcome versus Program Outcomes versus Program Specific Outcomes

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO-1	3	2	2	2	2							
CO-2	3	2	2		2							
CO-3	2	2	2	2	2							
CO-4	2	2	3	2	2							
CO-5	2	2	3		2							

3 - Strongly correlated, 2 - Moderately correlated, Blank - No correlation

Programme Specific Outcomes (PSOs):

The student must attain the knowledge and skills to

PSO-1	Design, analyse and optimize mechanical systems along with control mechanisms
PSO-2	Manufacture mechanical components by selecting effective processing methods and efficient tools
PSO-3	Design, analyse and evaluate thermal systems

Course Outcome Versus Program Specific Outcomes:

COs	PSO1	PSO2	PSO3
CO-1	2		
CO-2	2		
CO-3	2		
CO-4	2		
CO-5	2		

3 - Strongly correlated, 2 - Moderately correlated, Blank - No correlation

Assessment Methods:	Day to Day Analysis / Internal Lab Examination
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Teaching-Learning and Evaluation

Week	TOPIC / CONTENTS	Course Outcomes	Sample question	TEACHING-LEARNING STRATEGY	Assessment Method & Schedule
1	Week 1 (Basic programs)	CO1	C program to perform temperature conversions from Centigrade to Fahrenheit and vice versa.	Lecture PPT Program Execution	Day-to-Day Analysis

2	Week 2 (Programs on operators)	CO1	C program to perform all bitwise operations	Lecture PPT Program Execution	Day-to-Day Analysis
3	Week3 (Programs on conditional statements)	CO2	C program to display the nature and roots of a quadratic equation.	Lecture PPT Program Execution	Day-to-Day Analysis
4	Revision/ Doubts clarification				
5	Week4 (Programs on loop statements)	CO2	C program to print odd numbers between specified ranges	Lecture PPT Program Execution	Day-to-Day Analysis
6	Week 5 (Programs on functions)	CO3	rogram to find the LCM of two numbers using functions.	Lecture PPT Program Execution	Day-to-Day Analysis
7	Week 6 (Programs on arrays)	CO3	C program to read n integer values into an array and display them	Lecture PPT Program Execution	Day-to-Day Analysis
Lab Internal – 1					
8	Week 7 (Programs on strings)	CO3	C program that reads two integers as strings and display their sum.	Lecture PPT Program Execution	Day-to-Day Analysis

9	Week 8 (Programs on strings)	CO3	C program to demonstrate the usage of at least 10 predefined string handling functions.	Lecture PPT Program Execution	Day-to-Day Analysis
10	Week 9 (Programs on pointers and dynamic memory allocation)	CO4	C program to demonstrate the usage of pointers.	Lecture PPT Program Execution	Day-to-Day Analysis
11	Revision/ Doubts clarification				
12	Week 10 (Programs on pointers)	CO4	C program to demonstrate the following Pointers to Pointers	Lecture PPT Program Execution	Day-to-Day Analysis
13	Week 11 (Programs on structures)	CO4	C program to access and display the members of the structure.	Lecture PPT Program Execution	Day-to-Day Analysis

14	Week 12 (Programs on files)	CO5	C program to copy the contents of one file to another.	Lecture PPT Program Execution	Day-to-Day Analysis
15	Revision/ Doubts clarification				
16	Lab Internal – 2				
17	END EXAM				