Sri Indu Institute of Engineering and Technology (Autonomous)
(Formerly RVR Institute of Engineering & Technology)
An Autonomous Institution Under UGC
NAAC Accredited. Recognized Under 2(f) of UGC Act 1956
ESTD : 2007
EAMCET CODE: INDI
Approved by AICTE, New Delhi, & Affiliated to JNTUH, Hyderabad.
JNTUH CODE: X3

COURSE FILE

ON

PROGRAMMING FOR PROBLEM SOLVING

Course Code – CS103ES

I-B. Tech Semester-I
A.Y. 2022-2023

Prepared by

G.KALYANI

Asst. Professor

Head of the Department
Department of H&S
SRI INDU INSTITUTE OF ENGG & TECH
Sheriguda(V) Ibrahimpatnam (M) R.R. Dist-501 510

PRINCIPAL
Sri Indu Institute of Engineering & Tech.
Sheriguda(Vill), Ibrahimpatnam
R.R. Dist. Telangana-501 510.

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INSTITUTE VISION & MISSION

Vision:

To become a premier institute of academic excellence by providing the world class education that transforms individuals into high intellectuals, by evolving them as empathetic and responsible citizens through continuous improvement.

Mission:

- **IM1:** To offer outcome-based education and enhancement of technical and practical skills.
- **IM2:** To Continuous assess of teaching-learning process through institute-industry collaboration.
- **IM3:** To be a centre of excellence for innovative and emerging fields in technology development with state-of-art facilities to faculty and students' fraternity.
- **IM4:** To Create an enterprising environment to ensure culture, ethics and social responsibility among the stakeholders.

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SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

(UGC AUTONOMOUS INSTITUTION)

Accredited by NAAC A+ Grade, Recognized under 2(f) of UGC Act 1956.

(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)

Khalsa Ibrahimpatnam, Sheriguda(V), Ibrahimpatnam(M), Ranga Reddy Dist., Telangana – 501510

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

PROGRAM EDUCATIONAL OBJECTIVES

PEO1: To develop trained graduates with strong academic and technical skills of modern computer science and engineering.

PEO2: To promote trained graduates with leadership qualities and the ability to solve real time problems using current techniques and tools in interdisciplinary environment.

PEO3: To motivate the graduates towards lifelong learning through continuing education and professional development.

PROGRAM SPECIFIC OUTCOMES

PSO1 : Professional Skills: To implement computer programs of varying complexity in the areas related to Web Design, Cloud Computing, Network Security and Artificial Intelligence.

PSO2: Problem-Solving Skills: To develop quality products using open ended programming environment.

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PROGRAM OUTCOMES (POs)

PO1: Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO2: Problem Analysis: Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3: 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.

PO4: 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.

PO5: 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.

PO6: The Engineer & 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.

PO7: Environment & Sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9: Individual & Team Work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10: 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, give and receive clear instructions.

PO11: Project Management & 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.

PO12: Life Long Learning: Recognize the need for, and have the preparation and ability to engage in independent and lifelong learning in the broadest context of technological change.

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SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

B.Tech. in COMPUTER SCIENCE AND ENGINEERING (IOT)

COURSE STRUCTURE, I YEAR SYLLABUS (BR22 Regulations)

Applicable from Academic Year: 2022-23 Batch

I Year I Semester

S. No.	Course Code	Course Title	L	T	P	Credits
1.	MA101BS	Matrices and Calculus	3	1	0	4
2.	AP102BS	Applied Physics	3	1	0	4
3.	CS103ES	Programming for Problem Solving	3	0	0	3
4.	ME102ES	Engineering Workshop	0	1	3	2.5
5.	EN104HS	English for Skill Enhancement	2	0	0	2
6.	CS106ES	Elements of Computer Science & Engineering	0	0	2	1
7.	AP105BS	Applied Physics Laboratory	0	0	3	1.5
8.	CS107ES	Programming for Problem Solving Laboratory	0	0	2	1
9.	EN107HS	English Language and Communication Skills Laboratory	0	0	2	1
10.	*MC101ES	Environmental Science	3	0	0	0
11.		Induction Programme				
		Total	**14**	**3**	**12**	**20**

I Year II Semester

S. No.	Course Code	Course Title	L	T	P	Credits
1.	MA201BS	Ordinary Differential Equations and Vector Calculus	3	1	0	4
2.	CH203BS	Engineering Chemistry	3	1	0	4
3.	ME201ES	Computer Aided Engineering Graphics	1	0	4	3
4.	EE201ES	Basic Electrical Engineering	2	0	0	2
5.	EC201ES	Electronic Devices and Circuits	2	0	0	2
6.	CH206BS	Engineering Chemistry Laboratory	0	0	2	1
7.	EE202ES	Basic Electrical Engineering Laboratory	0	0	2	1
8.	CS201ES	Python Programming Laboratory	0	1	2	2
9.	CS203ES	IT Workshop	0	0	2	1
		Total	**11**	**3**	**12**	**20**

PROGRAMMING FOR PROBLEM SOLVING
(Course Code: CS103ES)

B.Tech. I Year I Sem. **L T P C**

3 0 0 3

Course Objectives:

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

Course Outcomes: The student will learn

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

UNIT - I: Introduction to Programming

Compilers, compiling and executing a program.

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

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

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

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

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

Arrays: one and two dimensional arrays, creating, accessing and manipulating elements of arrays

Strings: Introduction to strings, handling strings as array of characters, basic string functions available in C (strlen, strcat, strcpy, strstr etc.), arrays of strings

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

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

UNIT - III: Preprocessor and File handling in C:

Preprocessor: Commonly used Preprocessor commands like include, define, undef, if, ifdef, ifndef

Files: Text and Binary files, Creating and Reading and writing text and binary files, Appending data to existing files, Writing and reading structures using binary files, Random access using fseek, ftell and rewind functions.

UNIT - IV: Function and Dynamic Memory Allocation:

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

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

UNIT - V: Searching and Sorting:

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

TEXT BOOKS:

1. Jeri R. Hanly and Elliot B.Koffman, Problem solving and Program Design in C 7th Edition, Pearson

2. B.A. Forouzan and R.F. Gilbert C Programming and Data Structures, Cengage Learning, (3rd Edition)

REFERENCE BOOKS:

1. Brian W. Kernighan and Dennis M. Ritchie, The C Programming Language, Prentice Hall of India

2. E. Balagurusamy, Computer fundamentals and C, 2nd Edition, McGraw-Hill

3. Yashavant Kanetkar, Let Us C, 18th Edition, BPB

4. R.G. Dromey, How to solve it by Computer, Pearson (16th Impression)

5. Programming in C, Stephen G. Kochan, Fourth Edition, Pearson Education.

6. Herbert Schildt, C: The Complete Reference, Mc Graw Hill, 4th Edition

7. Byron Gottfried, Schaum's Outline of Programming with C, McGraw-Hill

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Course: Programming For Problem Solving (C113) **Class: I-B.TECH IOT**

Course Outcomes

C113.1	Recognize various types of operators , data types and understand the definition of algorithm and flowchart (Knowledge)
C113.2	Apply various Branching/Looping statements, structure of c program to solve the given problem (Application)
C113.3	Classify homogeneous derived data types and use them to solve the problems(Analysis)
C113.4	Distinguish Text files and Binary Files and write simple c program using File handling functions (Analysis)
C113.5	Illustrate Functions and how Recursion works and write programs using recursion to solve problems(Comprehension)
C113.6	Apply Algorithms for searching and sorting techniques (Application)

CO's Mapping with PO/PSO

Mapping of course outcomes with program outcomes:

High -3 Medium -2 Low-1

PO/PSO/ CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C113.1	2	-	3	-	-	-	-	-	-	-	-	-	-	-
C113.2	2	3	-	-	-	-	-	-	-	-	-	-	-	3
C113.3	2	3	2	-	-	-	-	-	-	-	-	-	-	3
C113.4	2	3	-	-	-	-	-	-	-	-	-	2	-	3
C113.5	2	3	3	-	-	-	-	-	-	-	-	2	3	3
C113.6	3	3	2		-	-	-	-	-	-	-	3	-	2
C113	2.1	3	2.5	-	-	-	-	-	-	-	-	2.3	3	2.8

CO – PO / PSO Mapping Justification

PROGRAMME OUTCOMES (POs):

PO1	**Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2	**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.
PO3	**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.
PO12	**Life Long Learning:** Recognize the need for, and have the preparation and ability to engage in independent and lifelong learning in the broadest context of technological change.

PSO1	**Professional Skills:** The ability to implement computer programs of varying complexity in the areas related to web design, cloud computing and networking.
PSO2	**Problem-Solving Skills:** The ability to develop quality products using open ended programming environment.

C113.1 Recognize various types of operators , data types and understand the definition of algorithm and flowchart .(Knowledge)

	Justification
PO1	Gains knowledge on various types of operators, data types.(level 2)
PO3	Designs solution for complex engineering problems using algorithm /flowchart (Level 3)

C113.2 Apply various Branching/Looping statements, structure of c program to solve the given problem (Application)

	Justification
PO1	Applying the knowledge gained on looping/branching to solve the given problems. (Level 2)
PO2	Analyze the effectiveness of programming in solving the complex problems(Level 3)
PSO2	Enables to solve the complex problems using programming techniques like branching/looping(Level 3)

C113.3 Differentiate homogeneous derived data types and use them to solve the problems(Analysis)

	Justification
PO1	Gains Knowledge on different data types and apply them for problem solving. (level 2)
PO2	Analyze the effectiveness of programming in solving the complex problems (level 3)
PO3	Design solution for complex engineering problems (Level 2)
PSO2	Ability to solve complex problems using various derived data types.(Level 3)

C113.4 Distinguish Text files and Binary Files and write simple c program using File handling functions (Analysis)

	Justification
PO1	Apply the knowledge on creation, reading, writing text in binary files(level 2)
PO2	Identify and formulate complex problems to reach sustained results(Level 3)
PO12	Develop the ability to distinguish text and binary files, write simple C programs, and prioritize lifelong learning in the context of technological change. (level 2)
PSO2	Enables to solve the complex problems using file handling techniques (Level 3)

C113.5 Illustrate how Recursion works and write programs using recursion to solve problems(Comprehension)

	Justification
PO1	Gains the knowledge on recursion. (Level 2)
PO2	Ability to analyse and apply recursion in solving complex problems.. (Level 3)
PO3	Enables to design solution for complex problems using the concept of recursion (level 3)
PO12	Demonstrate recursion's functionality and write programs using it for problem-solving. Emphasize lifelong learning and prepare for independent learning in the midst of technological change. (level 2)
PSO1	Usage of the recursion technique in developing various applications in real time (Level 3).
PSO2	Ability to solve complex problems using recursion technique.(Level 3)

C113.6 Apply Algorithms for searching and sorting techniques (Application)

	Justification
PO1	Apply appropriate searching /sorting technique to solve the complex problems. (level 3).
PO2	Identify and formulate complex problems to reach sustained conclusions. (level 3)
PO3	Design the application with specified needs and appropriate considerations.(level 2).
PO12	The application of algorithms for searching and sorting techniques is crucial for lifelong learning (level 3).
PSO2	Ability to apply the appropriate technique to solve complex problems (Level 2).

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https://siiet.ac.in/

Lr. No. SIIET/BR22/Academic Calendar/2022/02 Date: 15.12.2022

REVISED ACADEMIC CALENDAR
I B.TECH FOR THE ACADEMIC YEAR 2022-23
(BR22-REGULATIONS)

Dr. I. Satyanarayana,
Principal.

X3

To,
All the HOD's
Sir,

Sub: SIIET (Autonomous)–Academic & Evaluation–Revised Academic Calendar for **I B.Tech - I & II Semesters** for the academic year 2022-2023-Reg.

****

The approved Academic Calendar for **I B.Tech – I & II Semesters** for the academic year 2022-23 is given below.

I-SEMESTER

S. NO	Description	Period		Duration
		From	To	
1.	Commencement of I Semester class work (including Induction programme)	03.11.2022		
2.	1st Spell of Instructions	03.11.2022	28.12.2022	8 Weeks
3.	I Mid Examinations	`29.12.2022	04.01.2023	1 Week
4.	Submission of First Mid Term Exam Marks to the Autonomous Section on or before	10.01.2023		
5.	2nd Spell of Instructions	05.01.2023	02.03.2023	8 Weeks
6.	Second Mid Term Examinations	03.03.2023	09.03.2023	1 Week
7.	Preparation & Practical Examinations	10.03.2023	16.03.2023	1 Week
8.	Submission of Second Mid Term Exam Marks to the Autonomous Section on or before	16.03.2023		
9.	I Semester End Examinations	17.03.2023	01.04.2023	2 Weeks

II-SEMESTER

S. NO	Description	Period		Duration
		From	To	
1.	Commencement of II Semester class work	03.04.2023		
2.	1st Spell of Instructions (including Summer Vacation)	03.04.2023	10.06.2023	10 Weeks
	Summer Vacation	15.05.2023	27.05.2023	2 Weeks
3.	I Mid Examinations	`12.06.2023	17.06.2023	1 Week
4.	Submission of First Mid Term Exam Marks to the Autonomous Section on or before	23.06.2023		
5.	2nd Spell of Instructions	19.06.2023	12.08.2023	8 Weeks
6.	II Mid Term Examinations	14.08.2023	19.08.2023	1 Week
7.	Preparation & Practical Examinations	21.08.2023	26.08.2023	1 Week
8.	Submission of Second Mid Term Exam Marks to the Autonomous Section on or before	26.08.2023		
9.	II Semester End Examinations	28.08.2023	09.09.2023	2 Weeks
Commencement of Class Work for II B.Tech I Semester – 11.09.2023				

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CE

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Copy to All the Heads of the Depts. & AO

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Class: IOT **Semester: I** **W.E.F-14-11-2022** **LH:-D-110**

	I 9:40-10:30	II 10:30 - 11:20	III 11:20-12:10	12:10-12.45	IV 12.45-1.35	V 1.35-2.25	VI 2.25-3.15	VII 3.15-4.00
MON	PPS	M&C	ENG	LUNCH	M&C	ENG	AP	ECSE(T)
TUE	M&C	PPS	AP		EWS/ELCS LAB			ENG(T)/M&C(T)
WED	AP LAB				ENG	PPS	E-CSE	WED
THU	EWS/ELCS LAB				AP	M&C	PPS	PPS(T)/AP(T)
FRI	M&C	AP	ECSE		PPS	AP	PPS	AP(T)/PPS(T)
SAT	M&C	ENG	AP		PPS LAB			M&C(T)/ENG(T)

Course Code	Course Name	Name of the Faculty	Course Code	Course Name	Name of the Faculty
MA101BS	Matrices and Calculus	V.SUJATHA	ME102ES	Engineering Workshop	W.MARUTHI /M.V.B.KALYAN
AP102BS	Applied Physics	P.SRINIVASA CHARY	AP105BS	Applied Physics - Lab	M.MANISHA/M.JANAIAH
CS103ES	Programming for Problem Solving	G.KALYANI	CS107ES	Programming for Problem Solving Lab	G.KALYANI /U.NARESH
EN104HS	English for Skill Enhancement	S.SWAPNA	EN107HS	English Language and Communication Skills Lab	S.SWAPNA/E.PRARTHANA
CS106ES	Elements of Computer Science & Engineering	P.SRILATHA	MC101ES	Environmental Science	K.MOUNIKA

Class In-Charge

Time Table Coordinator

Sri Indu Institute of Engineering & Technology SHERIGUDA 501 510

Head of The Department
Dr. R. YADAGIRI RAO
M.Sc.,B.Ed.,M.Tech(CSE).,Ph.D
Head of the Department
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Programming For Problem Solving-Lesson Plan

Course Title	**PROGRAMMING FOR PROBLEM SOLVING**
Course Code	**CS103ES**
Programme	B.Tech
Year & Semester	I year I- semester
Regulation	BR22
Course Faculty	G.KALYANI, Assistant Professor

S.NO	UNIT	TOPIC	Number of Sessions Planned	Teaching method/Aids	REFERENCE
1.	I	**Programming** Introduction to components of a computer system	1	Black Board	T1
2.		compilers, creating, compiling and executing a program	1	Black Board	T1
3.		Program design and structured programming.	1	Black Board	T1
4.		Syntax and Logical Errors in compilation, object and executable code	1	Black Board	T1
5.		Representation of Algorithm, Flowchart/Pseudo code with examples,	2	Black Board	T1
6.		variables (with data types and space requirements	1	Black Board	T1
7.		Operators	2	Black Board	T1
8.		expressions and precedence, Expression evaluation and type	2	Black Board	T1

		conversion			
9.		The main method and command line arguments	1	Black Board	T1
10.		Bitwise AND, OR, XOR and NOT operators	2	Black Board	T1
11.		Writing and evaluation of conditionals and consequent branching with if, if-else	2	Black Board	T1
12.		switch-case ,ternary operator	1	Black Board	T1
13.		goto, Iteration with for, while, do-while loops.	1	Black Board	T1
14.		I/O: Simple input and output with scanf and printf,	1	Black Board	T1
15.		Introduction to stdin, stout and stderr. Command line arguments	1	Black Board	T1
16.	**II**	Arrays introduction: one and two dimensional arrays	2	Black Board	T1
17.		creating, accessing elements of arrays	1	Black Board	T1
18.		manipulating elements of arrays	1	Black Board	T1
19.		Strings:Introduction to strings, Handling strings as array of characters.	1	Black Board	T1
20.		basic string functions available in C (strlen, strcat, strcpy, strstr etc.)	2	Black Board	T1
21.		arrays of strings Structures	1	Black Board	T1
22.		Pointers introduction, Defining pointers	1	Black Board	T1
23.		Pointers to Arrays and Structures	1	Black Board	T1
24.		Use of Pointers in self-referential structures,	1	Black Board	T1

25.		Enumeration data type.	1	Black Board	T1
26.	**III**	Pre-processor commands : include, define, undef	1	Black Board	T1
27.		if, ifdef, ifndef	1	Black Board	T1
28.		Files: Text and Binary files	1	Black Board	T1
29.		Creating and Reading and writing text and binary files,	2	Black Board	T1
30.		Appending data to existing files,	1	Black Board	T1
31.		Writing and reading structures using binary files,	1	Black Board	T1
32.		Random access using fseek, ftell and rewind functions	1	Black Board	T1
33.	**IV**	Functions: Designing structured programs, Declaring a function	1	Black Board	T1
34.		Signature of a function,	1	Black Board	T1
35.		Parameters and return type of a function	1	Black Board	T1
36.		passing parameters to functions call by value and call-by-reference	1	Black Board	T1
37.		Passing arrays to functions, Some C standard functions and libraries	1	Black Board	T1
38.		Recursion: Finding Factorial, Fibonacci series, Limitations of Recursive functions	1	Black Board	T1
39.		Dynamic memory allocation: Allocating and freeing memory,	1	Black Board	T1
40.		Allocating memory for arrays of different data types	1	Black Board	T1

41.	**V**	linear search techniques	1	Black Board	T1
42.		binary search techniques	1	Black Board	T1
43.		Basic algorithms to sort array of elements of Bubble sorting	1	Black Board	T1
44.		Insertion sort	1	Black Board	T1
45.		Selection sort	1	Black Board	T1
46.		Basic concept of order of complexity through the example programs	1	Black Board	T1

TEXT BOOKS:

T1: Byron Gottfried, Schaum's Outline of Programming with C, McGraw-Hill

T2: SB.A. Forouzan and R.F. Gilbert C Programming and Data Structures, Cengage Learning,(3rd Edition)

REFERENCE BOOKS:

R1: Brian W. Kernighan and Dennis M. Ritchie, The C Programming Language, Prentice

R2: Hall of India

R3:R.G. Dromey, How to solve it by Computer, Pearson (16th Impression)

R4: Programming in C, Stephen G. Kochan, Fourth Edition, and Pearson Education.

R5: Herbert Scheldt, C: The Complete Reference, Mc Graw Hill, 4th Edition

WEB REFERENCES

WR1: https://www.w3schools.com/c/c_intro.php

WR2: https://www.geeksforgeeks.org/c-programming-language/

WR3: https://www.tutorialspoint.com/cprogramming/index.htm

WR4: https://www.guru99.com/c-programming-language.html

WR5: https://byjus.com/gate/introduction-to-c-programming/

WR6: https://www.freecodecamp.org/news/the-c-programming-handbook-for-beginners/

VIDEO REFERENCES

V1:https://nptel.ac.in/courses/106105171

V2: https://www.youtube.com/watch?v=irqbmMNs2Bo

V3: https://www.youtube.com/watch?v=EjavYOFoJJ0&list=PLdo5W4Nhv31a8UcMN9-35ghv8qyFWD9_S

NOTES

https://drive.google.com/file/d/1d5e4czLi4fgC63knbZXvATitHJqD3WVx/view?usp=sharing

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Khalsa Ibrahimpatnam, Sheriguda(V), Ibrahimpatnam(M), Ranga Reddy Dist., Telangana – 501510

POWER POINT PRESENTATION

https://docs.google.com/presentation/d/1C8y9M_J4P_nM0jknVhcBF4E2_X7Vn-r8/edit?usp=sharing&ouid=112433602927689134255&rtpof=true&sd=true

(For Introduction)

https://docs.google.com/presentation/d/16Y7hbuoWFTOqHjR5Zel-QPN366fPtOjP/edit?usp=drive_link&ouid=112433602927689134255&rtpof=true&sd=true

(For Arrays)

https://docs.google.com/presentation/d/1QiE2OWHpMduDrFMKRVDjHgHlvLos1Iik/edit?usp=sharing&ouid=112433602927689134255&rtpof=true&sd=true

(For Structures and Unions)

https://docs.google.com/presentation/d/1XKCfqCQ2olK4bDRYVdN28kZdZGSlqSLU/edit?usp=sharing&ouid=112433602927689134255&rtpof=true&sd=true **(For Files)**

https://docs.google.com/presentation/d/1PrcLPQLu6-BDYzcaEq5JrqGkbkHNiQwt/edit?usp=sharing&ouid=112433602927689134255&rtpof=true&sd=true **(For File Handling Functions)**

https://docs.google.com/presentation/d/1VnSO-N0GAkRK7V07ELhzdAOnPbUw7y1X/edit?usp=sharing&ouid=112433602927689134255&rtpof=true&sd=true **(For Functions)**

https://docs.google.com/presentation/d/1bQpiTuvFqfFes0PhAFxqYhG99MmOp8TB/edit?usp=sharing&ouid=112433602927689134255&rtpof=true&sd=true **(For Dynamic Functions)**

https://docs.google.com/presentation/d/1OArMa638yWNzUSJzDVNM3uPCwEHeHAfS/edit?usp=sharing&ouid=112433602927689134255&rtpof=true&sd=true **(For Sorting Techniques)**

https://docs.google.com/presentation/d/1pZkuU4fBKjBKMhp924e5ERjz5r63MTzC/edit?usp=sharing&ouid=112433602927689134255&rtpof=true&sd=true **(For Searching Techniques)**

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PREVIOUS QUESTION PAPERS

Course Code: CS103ES

BR22

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

UGC Autonomous Institution and Affiliated to JNTUH, Hyderabad

B .Tech I Year I Semester Regular Examinations, March– 2023

X3

PROGRAMMING FOR PROBLEM SOLVING

(Common to CSE, CSE (AI&ML), CSE (IOT), AI&DS, CSE (CS), CSE (DS))

Time: 3 Hours Max.Marks: 60

Note: This question paper contains two parts A and B.
Part A is compulsory which carries10 marks. All Question Carry Equal Marks in Part A.
Part B consists of 5 Units. Answer any one full question from each unit.
Each question carries 10 marks and may have a, b, c as sub questions.

PART-A

10x1=10Marks

1. What are data types in C. Give example for each
2. List the bit wise operators and logical operators with example for each.
3. Define structure. Declare a structure in C.
4. Declare a two dimensional array and write a C statement to print the array elements.
5. List any four preprocessor directives in C
6. Write about undef command in C language with example.
7. Define recursive function?
8. Write any two differences between call by value and call by reference?
9. List the number of comparisons to search {21,12,73,44,85,67} using linear search?
10. Write the differences between linear search and binary search techniques?

PART-B

5x10=50 Marks

11. Explain different storage classes available with examples in C-language. [10]

(or)

12. Explain various control structures available in C Language. [10]

13. Explain various string functions available in 'C ' with program . [10]

(or)

14. a). Define pointer and explain how to initialize pointers? [5+5]

    b). How switch statement used as multi-way selection statement.?

15. Explain any five file handling functions in C language with example? [10]

(or)

16. Demonstrate about the ftell(), fseek() and rewind() functions in C. [10]

17. a). What is a function? How to declare a function?
    b). Develop a C program to find the factorial of a given number using recursive function ? [3+7]

(or)

18. Explain how to pass an array using functions. Give example. [10]

19. Explain selection sort algorithm with example? [10]

(Or)

20. Develop a 'C' program to demonstrate Bubble Sort in ascending order? [10]

****

Course Code: CS103ES

BR22

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

UGC Autonomous Institution and Affiliated to JNTUH, Hyderabad

B.Tech I Year I Semester Examinations, August/ September -2023

X3

PROGRAMMING FOR PROBLEM SOLVING

(Common to CSE, CSE (AI&ML), CSE (IOT), AI&DS, CSE (CS), CSE (DS))

Time: 3 Hours

Max.Marks: 60

Note: This question paper contains two parts A and B.
i) **Part- A** for 10 marks, ii) **Part - B** for 50 marks.

- Part-A is a compulsory question which consists of ten questions from all units carrying equal marks.
- Part-B consists of **ten questions** (numbered from 11 to 20) **carrying 10 marks each**. From each unit, there are two questions and the student should answer one of them. Hence, the student should answer five questions from Part-B.

PART-A

10x1=10Marks

1. List the arithmetic operators in C. Give example for each
2. Write the syntax for while – loop. Give example
3. Define Union data type.
4. What are Basic string functions available in C?
5. Define string and write the syntax to read string in C.
6. Write about fopen() with example
7. What are storage classes. Give example
8. Define function, function prototype and return type.
9. Write the steps to sort using bubble sort for the given numbers : 10, 3, 43, 56
10. Give example to search using binary search?

PART-B

5x10=50 Marks

11. Explain with C-program to find maximum and minimum number among three numbers? [10]

(or)

12. Explain about for –loop, while loop and do- while loop in C with example. [10]

13. Define an array and its declaration, initialization, how to access array elements in C and Develop C program using two dimensional array? [10]

(or)

14 (a). Define pointer and explain how to initialize pointers?
(b). Explain any two string handling functions in C with syntax [5+5]

15. Explain any five file handling functions in C language with example? [10]

(or)

16. (a). Explain preprocessor directive statements in C. give example for each.
(b). Write the syntax to read text file in C. [5+5]

17 (a). Write the differences between call by value and call by reference.

(b). Explain malloc() and calloc() with example? [5+5]

(or)

18. Explain how to pass an array using functions. Give example. [10]

19. Explain insertion sort algorithm with example? [10]

(or)

20. What is linear search? Apply linear search for the given sequence of numbers : {21, 17, 46, 81, 19, 75, 58, 63}.? [10]

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X3 | **BR22** | **Set – I**

I B.Tech I - Mid Examinations, Dec-2022/Jan-2023

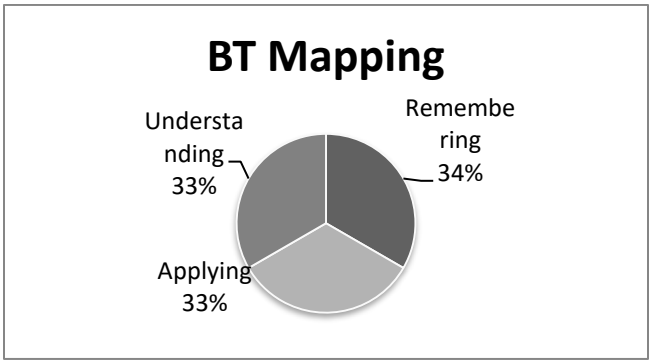
Branch: CSE,CSE(CS),CSE (AI&ML),CSE(DS),CSE (IOT)& AI&DS Date: 31-12-2022 (FN)

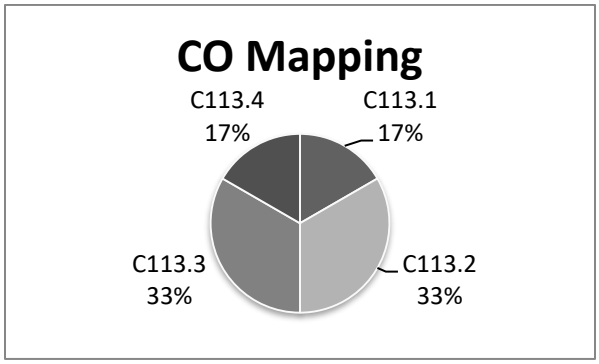
Subject: Programming for problem solving Marks: 20 Time: 2 Hrs

Part-B

Answer any **FOUR** Questions. All Question Carry Equal Marks 4*5=20 Marks

1. List and brief various operators in C – language. [C113.1] (Remembering(L1))
2. Develop a C- program to check whether a given number is palindrome or not. [C113.2] (Applying (L3))
3. Explain various control structure available in C. [C113.2] (Understanding(L2))
4. Using 2 dimensional array, write a C program to find the transpose of a matrix. [C113.3] (Applying(L3))
5. Explain about pointers, discuss pointer to arrays. [C113.3] (Understanding(L2))
6. List and explain various preprocessing directives in c language. [C113.4] (Remembering(L1))





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I B.Tech I - Mid Examinations, Dec-2022/Jan-2023

Branch: CSE, CSE(CS), CSE (AI&ML),CSE(DS), CSE(IOT), AI&DS Date: 31-12-2022 (FN)

Subject: Programming for problem solving Marks: 10

Student Name: ..... H.T.No.: | | | | | | | | | | |

Part-A

Objective/Quiz Paper

The objective/quiz paper is set with multiple choice, fill-in the blanks and match the following type of questions for a total of 10 marks.

Multiple choice:

1. Conditional operators are [ ]
   a) ? , : b) ? , ; c) : , ? d) : , ?

2. What is a structure in C language? [ ]
   a) structure is a collection of elements that can be of same data type
   b) A structure is a collection of elements that can be of different data type
   c) Elements of a structure are called members
   d) All of the these

3. A C structure or User defined data type is also called _____. [ ]
   a) Derived data type
   b) Secondary data type
   c) Aggregate data type
   d) All the above

4. The C-pre-processors are specified with _____ symbol. [ ]
   a) # b) $ c) " " d) &

Fill in the blanks:

5. Format Specifier for int _____ and float _____

6. Mention any two storage class specifier in C _____, _____

7. Structure is collection of elements of different _____

8. Keywords for union _____ and structure _____

Match the following:

9.

I.	Algorithm	( )	a)	"W+"
II.	2-D	( )	b)	*P
III.	File	( )	c)	a[10][10]
IV.	Pointer	( )	d)	Step-by-step

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Set – II

I B.Tech II - Mid Examinations, March-2023

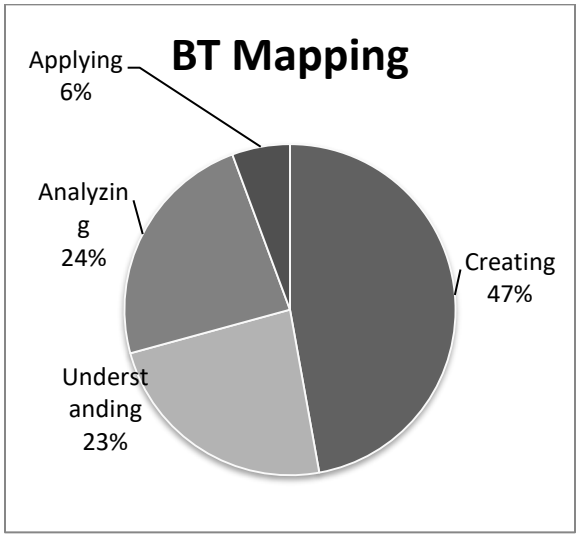
Branch: CSE,CSE(CS),CSE (AI&ML),CSE(DS),CSE (IOT)& AI&DS Date: 06-03-2023 (FN)

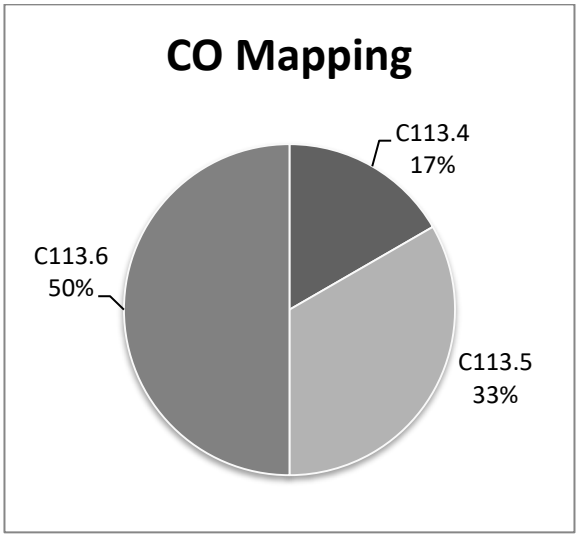
Subject: PROGRAMMING FOR PROBLEM SOLVING Marks: 20 Time: 2 Hours

Part-B

Answer any **FOUR** Questions. All Question Carry Equal Marks 4*5=20 Marks

1. Discuss how to create and read a text file with a program. [C113.4](Creating (L6))
2. Illustrate parameters and return type of a function with syntax [C113.5] (Understanding (L2))
3. Distinguish malloc() and calloc()? [C113.5] Analyzing(L4))
4. Develop a program in 'C' to print list of integers in ascending order using bubble [C113.6] (Applying (L3))
5. Apply linear search on {18,22,34,48,75,98} [C113.6] (Applying (L3))
6. Discuss insertion sort with a code. [C113.6] (Creating (L6))





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I B.Tech II - Mid Examinations, March-2023

Branch: CSE, CSE(CS),CSE (AI&ML),CSE(DS), CSE (IOT)& AI&DS Date: 06-03-2023 (FN)

Subject: PROGRAMMING FOR PROBLEM SOLVING Marks: 10

Student Name: ..... H.T.No.: | | | | | | | | | | |

Part-A

Objective/Quiz Paper

The objective/quiz paper is set with multiple choice, fill-in the blanks and match the following type of questions for a total of 10 marks.

Multiple choices:

1. Which of the following true about FILE *fp [ ]
   a. FILE is a keyword in C for representing files and fp is a variable of FILE type
   b. FILE is a stream
   c. FILE is a buffered stream
   d. FILE is a structure and fp is a pointer to the structure of FILE type
2. Iteration requires more system memory than recursion. [ ]
   a. True b. False c. Can be True or False d. Cannot say
3. The keyword used to transfer control from a function back to the calling function is [ ]
   a. Switch b. goto c. goback d. return
4. In binary search, the list of elements must be:
   a. Unsorted b. Sorted in ascending order
   c. Sorted in descending order d. Sorted in any order

Fill in the blanks:

5. EOF is an integer type defined in stdio.h and has a value_____
6. What is the rewind() function will do _____
7. Binary search is_____ then the linear search.
8. How many passes are required for sorting 8 elements list using bubble sort _____

Match the following:

9.

i.	fprintf ( )	( )	a) standard library
ii.	fseek ( )	( )	b) read a text line
iii.	stdlib.h	( )	c) display the content
iv.	fgets ( )	( )	d) change the position of file pointer

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MID-I KEY

LINK:

https://drive.google.com/file/d/1ndejCf0I_enP2f9fCx9K0ERoL0AB1fmz/view?usp=sharing

OBJECTIVE KEY LINK:

https://drive.google.com/file/d/1BU_ZcLM7NTpsMOGtWjv3tjLM9te2GP-p/view?usp=sharing

MID-II KEY LINK:

https://drive.google.com/file/d/1KD7aQjcowFVi0qtg0pWV69iBbxyrt4MR/view?usp=sharing

OBJECTIVE KEY LINK:

https://drive.google.com/file/d/1vL4FgvCTJwpVubSq6nTFKZRkeSrnGvZl/view?usp=sharing

SAMPLE SCRIPT LINK:

MID-I:

https://drive.google.com/file/d/1YOYgy20kPhwt7Ip0CDv3lP2I9k0-FQFn/view?usp=sharing

MID-II:

https://drive.google.com/file/d/1SuxQPsFFXLglhptJW2nJBj_MXBcbcgJK/view?usp=sharing

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I-MID PPS ASSIGNMENT

1. How is switch used as a multiway selection statement? Explain with suitable example.
2. Explain about different operators used in C with example programs. [C113.1] (Understanding(L2))
3) Develop a algorithm and flowchart to find the roots of quadratic equation considering all cases. [C113.1] (Creating (L6))
4) Develop a algorithm and flowchart to find biggest of given numbers set. [C113.1] Creating(L6))
5) List and explain the different types of storage class. [C113.2] (Remembering(L1))
6) List and explain all loop statements with example programs. [C113.2] (Remembering(L1))
7) Demonstrate various control structures available in C. [C113.2] (Understanding(L2))
8) Define flowchart? Explain different symbols in flowchart. [C113.1] (Remembering(L1))
9) Explain different type conversion with an example program. [C113.2] (Understanding(L2))
10) Discuss any four string handling functions in detail. [C113.3] Creating(L6))
11) Distinguish between structure and union in C. [C113.3] (Analyzing(L4))
12) Define pointer. Discuss pointers to array and with example program. [C113.3] Remembering(L1))
13) Develop a C program to check whether a given number is palindrome or not. [C113.3] (Creating(L6))
14) Define array? Explain array declaration and initialization and how to access array elements with example. [C113.3] (Remembering(L1))
15) Explain two dimensional array? Write a C program to find the transpose of matrix. [C113.3] (Understanding(L2))
16) Develop a program to demonstrate addition of two matrix. [C113.3] (Creating(L6))
17) Define pointer? How to declare and initialize pointers and with an example program. [C113.3] (Remembering(L1))
18) Define Structure? How to declare a structure with an example program. [C113.3] (Remembering(L1))
19) List and explain various preprocessing directives in C language. [C113.4] (Remembering(L1))

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II-MID PPS ASSIGNMENT

1) Demonstrate the following functions with correct syntax and example
   a. fseek() b. ftell() c.frewind() [C113.4] (Understanding(L2))
2) Discuss how to create and read a textfile with a program. [C113.4] (Creating(L6))
3) Discuss recursion and write a c program to find the factorial of a number using recursive function. [C113.5] (Creating(L6))
4) Explain about different parameter passing mechanisms with examples. [C113.5] (Understanding (L2))
5) How to declare a function and explain signature of a function. [C113.5] (Remembering (L1))
6) Discuss allocating memory of arrays of different data types with an example. [C113.5] (Creating (L6))
7) Explain insertion sort with an example. [C113.6] (Understanding(L2))
8) Develop a program in C to print list of integers in ascending order using bubble sort [C113.6] (Applying(L3))
9) Apply linear search on {18,22,34,48,75,98} [C113.6] (Applying(L3))
10) Develop a C program for Binary search. [C113.6] (Applying(L3))
11) Illustrate parameters and return type of a function with syntax. [C113.6] (Understanding (L2))
12) List functions used in dynamic memory allocation and explain with example program. [C113.6] (Remembering(L1))

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I-MID & II-MID PPS ASSIGNMENT PROOFS

MID-I link :

https://drive.google.com/file/d/1e7_2SEDlu4MD8hKkI3vsXC-jAek4b4Wc/view?usp=sharing

MID-II link :

https://drive.google.com/file/d/1oIVqxsk3vJxzssPMtT0eVsVsxhnP6Kgi/view?usp=sharing

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SCHEME OF EVALUATION WITH CO and BTL MAPPING

SCHEME OF EVALUATION-PROGRAMMING FOR PROBLEM SOLVING
(MID-I) (SET-I)

Instructions:

a) Any answer by alternate method should be valued and suitably awarded.
b) All answers (including extra, stuck off and repeated) should be valued. Answers with maximum marks must be considered.

Qn No	Description of Answer	Marks
1.	List operators	1
	All operators explanation	4
2.	Program for palindrome number	5
3.	If	1
	If else	2
	Switch case	2
4.	program to find the transpose of a matrix	5
5.	Pointers	2
	Pointers to arrays	3
6.	List various preprocessing directives in c language	1
	explain various preprocessing directives in c language	4
	TOTAL	**20**

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SCHEME OF EVALUATION-PROGRAMMING FOR PROBLEM SOLVING
(MID-II) (SET-I)

Instructions:

a) Any answer by alternate method should be valued and suitably awarded.
b) All answers (including extra, stuck off and repeated) should be valued. Answers with maximum marks must be considered.

Qn No	Description of Answer	Marks
1.	create a text file with a program	2.5
	Read a text file with a program	2.5
2.	List parameters and return type	1
	With no parameters and no return value	1
	With parameters and no return value	1
	With no parameters and return value	1
	With parameters and return value	1
3.	Difference between malloc and calloc	5
4.	program in 'C' to print list of integers in ascending order using bubble	5
5.	Apply linear search	5
6.	insertion sort with a code	5
	TOTAL	**20**

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Result Analysis: IOT

Course Title	**PROGRAMMING FOR PROBLEM SOLVING**
Course Code	**CS103ES**
Programme	B.Tech
Year & Semester	I year I- semester
Regulation	BR22
Course Faculty	G.KALYANI, Assistant Professor

Slow Learners:

S No	Roll no	Intermediate Marks	MID-I	MID-II
1	22X31A6907	55.6	17	21
2	22X31A6932	60	19	21
3	22X31A6941	60	17	17
4	22X31A6955	55	18	20
5	22X31A6959	54	19	22
6	22X31A6960	51	19	24
7	22X31A6962	60	18	21

Advance Learners:

S No	Roll No	Intermediate Marks	Gate Material
1	22X31A6903	93.8	**For searching and sorting techniques using data structures, recursion**
2	22X31A6910	96.2	
3	22X31A6929	97	
4	22X31A6931	96.2	
5	22X31A6942	94	
6.	22X31A6943	96	
7.	22X31A6954	94	

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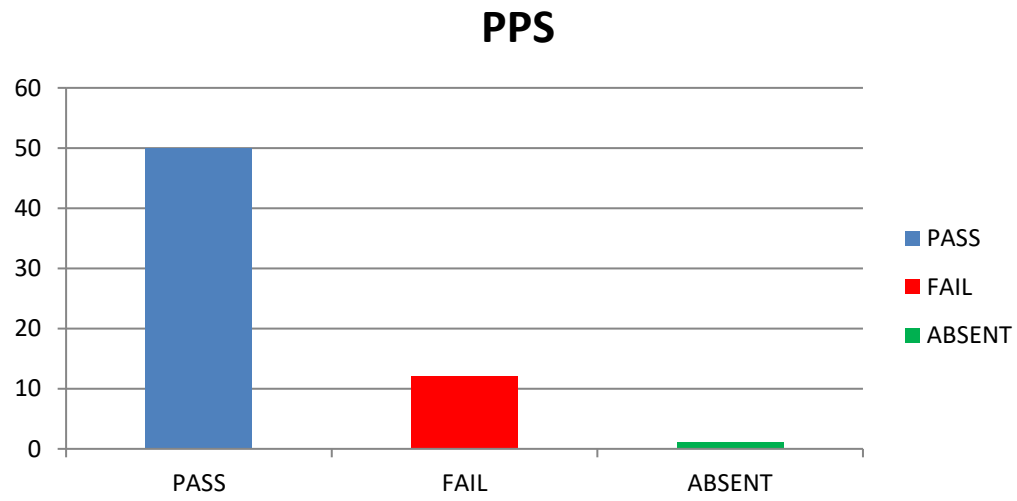
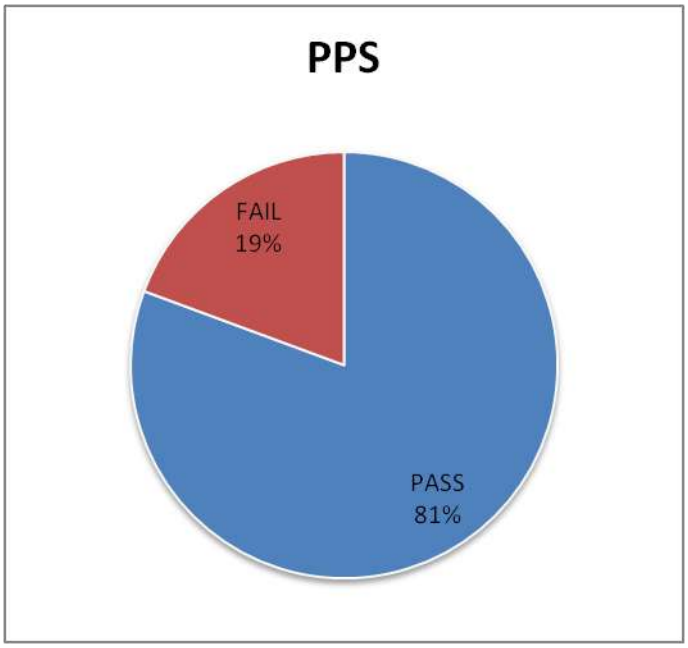
(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)

Khalsa Ibrahimpatnam, Sheriguda(V), Ibrahimpatnam(M), Ranga Reddy Dist., Telangana – 501510

RESULT ANALYSIS AT END OF SEMISTER

Branch : IOT **Subject: PROGRAMMING FOR PROBLEM SOLVING**





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Khalsa Ibrahimpatnam, Sheriguda(V), Ibrahimpatnam(M), Ranga Reddy Dist., Telangana – 501510

REMEDIAL CLASSES TIME TABLE

DAY/ PERIOD	MON 4.00-5.00	TUE 4.00-5.00	WED 4.00-5.00	THUR 4.00-5.00	FRI 4.00-5.00	SAT 4.00-5.00
CSE-A	M&C	PPS	BEE	EG	EC	M&C
CSE-B	BEE	M&C	EG	PPS	EC	BEE
CSE-C	EC	EG	BEE	M&C	PPS	EC

DAY/ PERIOD	MON 4.00-5.00	TUE 4.00-5.00	WED 4.00-5.00	THUR 4.00-5.00	FRI 4.00-5.00	SAT 4.00-5.00
DS	M&C	EC	BEE	PPS	EG	EC
CYBER	PPS	M&C	EC	EG	BEE	M&C

DAY/ PERIOD	MON 4.00-5.00	TUE 4.00-5.00	WED 4.00-5.00	THUR 4.00-5.00	FRI 4.00-5.00	SAT 4.00-5.00
AIML-A	AP	PPS	M&C	ENG	AP	M&C
AIML-B	M&C	EG	PPS	AP	M&C	EG

DAY/ PERIOD	MON 4.00-5.00	TUE 4.00-5.00	WED 4.00-5.00	THUR 4.00-5.00	FRI 4.00-5.00	SAT 4.00-5.00
AI&DS	M&C	ENG	AP	PPS	AP	PPS
IOT	PPS	AP	M&C	EG	M&C	EG

DAY/ PERIOD	MON 4.00-5.00	TUE 4.00-5.00	WED 4.00-5.00	THUR 4.00-5.00	FRI 4.00-5.00	SAT 4.00-5.00
ECE	AP	ENG	M&C	PPS	AP	PPS
CIVIL	EG	AP	M&C	PPS	M&C	EG

Head of the Department
Department of H&S
SRI INDU INSTITUTE OF ENGG & TECH
Sheriguda(V), Ibrahimpatnam (M), R.R. Dist-501 510

PRINCIPAL
Sri Indu Institute of Engineering & Tech.
Sheriguda(Vill), Ibrahimpatnam
R.R. Dist. Telangana-501 510.

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

Department of Humanities & Sciences

Course Outcome Attainment (Internal Examination-1)

Name of the faculty: G KALYANI | Academic Year: 2022-2023

Branch & Section: IOT | Examination: I Internal

Course Name: PROGRAMMING FOR PROBLEM SOLVING | Year: I | Semester: I

S.No	HT No.	Q1a	Q1b	Q1c	Q2a	Q2b	Q2c	Q3a	Q3b	Q3c	Q4a	Q4b	Q4c	Q5a	Q5b	Q5c	Q6a	Q6b	Q6c	Obj1	A1
Max. Marks ==>		**5**			**5**			**5**			**5**			**5**			**5**			**10**	**5**
1	22X31A6901	5			4						4						4			9	**5**
2	22X31A6902	2												1			3			9	**5**
3	22X31A6903	5			5						5						5			9	**5**
4	22X31A6904																3			10	**5**
5	22X31A6905				1									2			1			8	**5**
6	22X31A6906	2									5			5			5			10	**5**
7	22X31A6907																3			9	**5**
8	22X31A6908										2						3			7	**5**
9	22X31A6909	5															5			10	**5**
10	22X31A6910	5			4												5			9	**5**
11	22X31A6911	1									3						5			8	**5**
12	22X31A6912	1									1			1			1			8	**5**
13	22X31A6913	5						2									5			9	**5**
14	22X31A6914	1			1						1						2			8	**5**
15	22X31A6915	4															3			10	**5**
16	22X31A6916	4									1						4			9	**5**
17	22X31A6917	2			1						2									9	**5**
18	22X31A6918				2						1									9	**5**
19	22X31A6919				4						4									10	**5**
20	22X31A6920	3			4						2						3			9	**5**
21	22X31A6921																				**5**
22	22X31A6922	4									2						3			9	**5**
23	22X31A6923	5			4			3									1			9	**5**
24	22X31A6924	1									3						5			10	**5**
25	22X31A6925	2									2									9	**5**
26	22X31A6926	3			3			2						1						9	**5**
27	22X31A6927	4																		9	**5**
28	22X31A6928	5			2						4						4			8	**5**
29	22X31A6929	4			4												5			8	**5**
30	22X31A6930	2			2												2			9	**5**
31	22X31A6931	5			4									4			4			10	**5**
32	22X31A6932	1															4			9	**5**
33	22X31A6933				4						2			1			1			8	**5**
34	22X31A6934	5			2						1									9	**5**
35	22X31A6935	5						4									4			10	**5**
36	22X31A6936	5			3						3						2			9	**5**
37	22X31A6937	3			1															9	**5**
38	22X31A6938	3			2									2			2			9	**5**
39	22X31A6939	1			4			3									3			9	**5**
40	22X31A6940	3			1												1			9	**5**
41	22X31A6941	2			1			1												8	**5**
42	22X31A6942	3			3												3			8	**5**
43	22X31A6943	4			4			5			2									8	**5**
44	22X31A6944				4			1			1						5			8	**5**
45	22X31A6945	3			2															9	**5**
46	22X31A6946	4																		8	**5**
47	22X31A6947	3			3															10	**5**
48	22X31A6948	2			1			1									2			9	**5**
49	22X31A6949	2			2												1			9	**5**
50	22X31A6950	1			4						2						2			8	**5**
51	22X31A6951	4															2			10	**5**
52	22X31A6952				4			2			1						4			9	**5**
53	22X31A6953	2			4						5						2			9	**5**
54	22X31A6954	5			4															10	**5**

55	22X31A6955	2			1														10	**5**
56	22X31A6956	2														2			9	**5**
57	22X31A6957	3			2											1			10	**5**
58	22X31A6958	5			4											4			9	**5**
59	22X31A6959	4																	10	**5**
60	22X31A6960	1			1											2			10	**5**
61	22X31A6961	2			4						1								10	**5**
62	22X31A6962	2			1														10	**5**
63	22X31A6963	4			2						3								9	**5**
Target set by the faculty / HoD		3.00	0.00	0.00	3.00	0.00	0.00	3.00	0.00	0.00	3.00	0.00	0.00	3.00	0.00	0.00	3.00	0.00	0.00	6.00	3.00
Number of students performed above the target		32	0	0	22	0	0	4	0	0	10	0	0	2	0	0	26	0	0	62	63
Number of students attempted		53	0	0	41	0	0	10	0	0	26	0	0	8	0	0	43	0	0	62	63
Percentage of students scored more than target		60%			54%			40%			38%			25%			60%			100%	100%

CO Mapping with Exam Questions:

CO - 1	**Y**																	**Y**	**Y**
CO - 2				**Y**			**Y**											**Y**	**Y**
CO - 3										**Y**			y					y	y
CO - 4																**Y**		Y	Y
CO - 5																			
CO - 6																			

>Target %	60%			54%			40%			38%			25%			60%			100%	100%

CO Attainment based on Exam Questions:

CO - 1	60%																	100%	100%
CO - 2				54%			40%											100%	100%
CO - 3										40%			40%					100%	100%
CO - 4																40%		100%	100%
CO - 5																			
CO - 6																			

CO	**Subj**	obj		Asgn	Overall	Level
CO-1	60%	100%		100%	87%	3.00
CO-2	47%	65%		100%	70%	3.00
CO-3	40%	60%		100%	67%	3.00
CO-4	40%	70%		100%	70%	3.00
CO-5						
CO-6						

Attainment Level	
1	40%
2	50%
3	60%

Attainment (Internal 1 Examination) = **3.00**

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

Department of Humanities & Sciences

Course Outcome Attainment (Internal Examination-2)

Name of the faculty : G KALYANI Academic Year: 2022-2023

Branch & Section: IOT Examination: II Internal

Course Name: PROGRAMMING FOR PROBLEM SOLVING Year: I Semester: I

S.No	HT No.	Q1a	Q1b	Q1c	Q2a	Q2b	Q2c	Q3a	Q3b	Q3c	Q4a	Q4b	Q4c	Q5a	Q5b	Q5c	Q6a	Q6b	Q6c	Obj	A2	viva/ ppt
Max. Marks ==>		5			5			5			5			5			5			10	5	5
1	22X31A6901	5			5			5			5									10	5	5
2	22X31A6902	1			1			1			1									9	5	5
3	22X31A6903	5			5						4						3			10	5	5
4	22X31A6904				3						3			4			3			8	5	5
5	22X31A6905							3			3			2			3			8	5	5
6	22X31A6906	5			4			3			5									10	5	5
7	22X31A6907	2			2						2						2			8	5	5
8	22X31A6908				3			2									3			9	5	5
9	22X31A6909	4			3			1									3			10	5	5
10	22X31A6910				4			4			4						3			10	5	5
11	22X31A6911	3			4			1									4			10	5	5
12	22X31A6912	4			2						2						1			9	5	5
13	22X31A6913	4			4						4						4			10	5	5
14	22X31A6914				2			1						3						10	5	5
15	22X31A6915				2			2			2						2			8	5	5
16	22X31A6916	3			3			3			3									10	5	5
17	22X31A6917	2			3			2			1									9	5	5
18	22X31A6918	3						2			4									9	5	5
19	22X31A6919				3			5						2			4			10	5	5
20	22X31A6920	3						2			3			2						10	5	5
21	22X31A6921	2			3						2						4			10	5	5
22	22X31A6922							3			2			3			3			10	5	5
23	22X31A6923	5			5			5						5						10	5	5
24	22X31A6924	2									2			3			3			10	5	5
25	22X31A6925	2									2			3			2			10	5	5
26	22X31A6926	3						3			3						3			10	5	5
27	22X31A6927				2			1			3						2			10	5	5
28	22X31A6928							4			4			4			5			10	5	5
29	22X31A6929	4			4						3						4			10	5	5
30	22X31A6930	1			1			1			2									10	5	5
31	22X31A6931				4						4			4			5			10	5	5
32	22X31A6932	2						1			1						2			10	5	5
33	22X31A6933	2			1			2			2									10	5	5
34	22X31A6934	4			4						1						4			10	5	5
35	22X31A6935	3						3			3						5			10	5	5
36	22X31A6936	3			4			2												10	5	5
37	22X31A6937	3						1			2						3			10	5	5
38	22X31A6938							2			2			2			3			10	5	5
39	22X31A6939	1			4			2						1						10	5	5
40	22X31A6940	3			4									3			4			10	5	5
41	22X31A6941							1			2									9	5	5
42	22X31A6942	3			4						3						2			10	5	5
43	22X31A6943	3			4			1			3									9	5	5
44	22X31A6944	2						1			3						4			9	5	5
45	22X31A6945	2									2			2						10	5	5
46	22X31A6946	1									3									8	5	5
47	22X31A6947	1			4						3						3			10	5	5
48	22X31A6948	1															4			9	5	5
49	22X31A6949	3			4						2			2						10	5	5
50	22X31A6950	1												1			3			10	5	5
51	22X31A6951	1									3						1			10	5	5
52	22X31A6952	2			3			2			3									9	5	5
53	22X31A6953	3			4			3			2									10	5	5
54	22X31A6954	1						1			3						3			8	5	5
55	22X31A6955				1						1						4			9	5	5
56	22X31A6956	2									3						1			10	5	5
57	22X31A6957	3			3						2						3			10	5	5
58	22X31A6958	3			4			4												10	5	5
59	22X31A6959	2						2			1						2			10	5	5
60	22X31A6960	1			4												4			10	5	5
61	22X31A6961				3									2			2			10	5	5

62	22X31A6962	1			2											3			10	**5**	**5**
63	22X31A6963				3						4			3			4			10	**5**	**5**
Target set by the faculty / HoD		3.00	0.00	0.00	3.00	0.00	0.00	3.00	0.00	0.00	3.00	0.00	0.00	3.00	0.00	0.00	3.00	0.00	0.00	6.00	3.00	3.00
Number of students performed above the target		24	0	0	31	0	0	13	0	0	26	0	0	10	0	0	31	0	0	63	63	63
Number of students attempted		47	0	0	41	0	0	36	0	0	48	0	0	19	0	0	42	0	0	63	63	63
Percentage of students scored more than target		51%			76%			36%			54%			53%			74%			100%	100%	100%

CO Mapping with Exam Questions:

CO - 1																				
CO - 2																				
CO - 3																				
CO - 4	**Y**																	Y	Y	**y**
CO - 5				**Y**			**Y**											Y	Y	**y**
CO - 6										**Y**			**Y**			**y**		Y	Y	**y**

% Students Scored >Target %		51%			76%			36%			54%			53%			74%			100%	100%	100%

CO Attainment based on Exam Questions:

CO - 1																				
CO - 2																				
CO - 3																				
CO - 4	51%																	100%	100%	100%
CO - 5				51%			51%											100%	100%	100%
CO - 6										51%			51%			51%		100%	100%	100%

CO	**Subj**	obj	aasgn	ppt	Overall	Level
CO-1						
CO-2						
CO-3						
CO-4	51%	100%	100%	100%	88%	3.00
CO-5	51%	100%	100%	100%	88%	3.00
CO-6	51%	100%	100%	100%	88%	3.00

Attainment Level	
1	40%
2	50%
3	60%

Attainment (Internal Examination-2) = **3.00**

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

Department of Humanities & Sciences

Course Outcome Attainment (University Examinations)

Name of the faculty : G KALYANI Academic Year: 2022-2023

Branch & Section: IOT Year / Semester: I / I

Course Name: PROGRAMMING FOR PROBLEM SOLVING

S.No	Roll Number	Marks Secured
1	22X31A6901	45
2	22X31A6902	21
3	22X31A6903	33
4	22X31A6904	13
5	22X31A6905	1
6	22X31A6906	40
7	22X31A6907	21
8	22X31A6908	9
9	22X31A6909	35
10	22X31A6910	35
11	22X31A6911	30
12	22X31A6912	22
13	22X31A6913	28
14	22X31A6914	7
15	22X31A6915	3
16	22X31A6916	26
17	22X31A6917	11
18	22X31A6918	A
19	22X31A6919	33
20	22X31A6920	39
21	22X31A6921	31
22	22X31A6922	23
23	22X31A6923	48
24	22X31A6924	23
25	22X31A6925	28
26	22X31A6926	33
27	22X31A6927	37
28	22X31A6928	41
29	22X31A6929	50
30	22X31A6930	47
31	22X31A6931	56
32	22X31A6932	27
33	22X31A6933	21
34	22X31A6934	51
35	22X31A6935	46
Max Marks		60

S.No	Roll Number	Marks Secured
36	22X31A6936	35
37	22X31A6937	15
38	22X31A6938	38
39	22X31A6939	34
40	22X31A6940	22
41	22X31A6941	21
42	22X31A6942	32
43	22X31A6943	38
44	22X31A6944	43
45	22X31A6945	24
46	22X31A6946	22
47	22X31A6947	24
48	22X31A6948	30
49	22X31A6949	31
50	22X31A6950	21
51	22X31A6951	21
52	22X31A6952	29
53	22X31A6953	43
54	22X31A6954	34
55	22X31A6955	14
56	22X31A6956	10
57	22X31A6957	28
58	22X31A6958	39
59	22X31A6959	6
60	22X31A6960	23
61	22X31A6961	11
62	22X31A6962	5
63	22X31A6963	21
64		
65		
66		
67		
68		
69		
70		

Class Average mark	28
Number of students performed above the target	33
Number of successful students	63

Attainment Level	% students
1	40%
2	50%

Percentage of students scored more than target	52%
Attainment level	**3**

3	60%

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

Department of Humanities & Sciences

Course Outcome Attainment

Name of the faculty G KALYANI Academic Year: 2022-2023

Branch & Section: IOT

Course Name: PROGRAMMING FOR PROBLEM Year: I

Semester: I

Course Outcomes	1st Internal Exam	2nd Internal Exam	Internal Exam	University Exam	Attainment Level
CO1	3.00		3.00	3.00	3.00
CO2	3.00		3.00	3.00	3.00
CO3	3.00		3.00	3.00	3.00
CO4	3.00	3.00	3.00	3.00	3.00
CO5		3.00	3.00	3.00	3.00
CO6		3.00	3.00	3.00	3.00
Internal & University Attainment:			3.00	3.00	
Weightage			40%	60%	
CO Attainment for the course (Internal, University			1.20	1.80	
CO Attainment for the course (Direct Method)			3.00		

Overall course attainment level **3.00**

SRI INDU INSTITUTE OF ENGINEERING & TECHNOLOGY

Department of Humanities & Sciences

Program Outcome Attainment (from Course)

Name of Faculty:	G KALYANI	Academic Year:	2022-2023
Branch & Section:	IOT	Year:	I
Course Name:	PROGRAMMING FOR PROBLEM SC	Semester:	I

CO-PO mapping

PO/PSO/ CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C113.1	2	-	3	-	-	-	-	-	-	-	-	-	-	-
C113.2	2	3	-	-	-	-	-	-	-	-	-	-	-	3
C113.3	2	3	2	-	-	-	-	-	-	-	-	-	-	3
C113.4	2	3	-	-	-	-	-	-	-	-	-	2	-	3
C113.5	2	3	3	-	-	-	-	-	-	-	-	2	3	3
C113.6	3	3	2		-	-	-	-	-	-	-	3	-	2
C113	2.1	3	2.5	-	-	-	-	-	-	-	-	2.3	3	2.8

CO	Course Outcome Attainment
CO1	3.00
CO2	3.00
CO3	3.00
CO4	3.00
CO5	3.00
CO6	3.00
Overall course attainment level	**3.00**

PO-ATTAINMENT

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO Attainment	**2.10**	**3.00**	**2.50**	**#####**	**######**	**#####**	**######**	**#####**	**#####**	**#######**	**#####**	**2.30**

CO contribution to PO - 33%, 67%, 100% (Level 1/2/3)

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

(UGC AUTONOMOUS INSTITUTION)

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(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)

Khalsa Ibrahimpatnam, Sheriguda(V), Ibrahimpatnam(M), Ranga Reddy Dist., Telangana – 501510

ATTENDANCE REGISTER:

https://drive.google.com/file/d/1AaMVHmgmwBNZAI0KjmhfATcvA4Md4y3m/view?usp=sharing