	<b>ANNA UNIVERSITY</b> <b>BHARATHIDASAN INSTITUTE OF TECHNOLOGY</b> <b>TIRUCHIRAPPALLI – 620 024.</b> <b>DEPARTMENT OF INFORMATION TECHNOLOGY</b>		<b>Year: Dec'18 – April'19</b>
			<b>Semester: EVEN</b>


## COURSE FILE

### *Faculty Details*

Name of the Faculty	ASIR ANTONY GNANA SINGH D
Designation	TEACHING FELLOW
Department	IT

### *Course Details*

Name of the Programme	B. Tech IT	Batch	2018-2022
Semester & Year	II & I	No. of Students	54
Subject Code & Name	CS8251-PROGRAMMING IN C		


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	<p><b>DEPARTMENT OF INFORMATION TECHNOLOGY</b></p>	<p><b>Semester: EVEN</b></p>

### **PROGRAMME EDUCATIONAL OBJECTIVES (PEO's)**

- PEO-1** Provide proficiency in technical knowledge to responsibly and critically analyze to solve the technological problems
- PEO-2** Motivate research and development activities to develop novel products and provide sustainable solutions to meet the societal needs
- PEO-3** Provide high professionalism to work in diverse and innovative environments with Modern tools
- PEO-4** Develop ethical attitude, provide communication and managerial skills, and induce the ability for life-long learning.

### **PROGRAMME OUTCOMES (PO's)**

- PO1:** Apply the knowledge of mathematics, science, and engineering.
- PO2:** Analyze, design, implement and evaluate a computer-based product to meet desired need.
- PO3:** Demonstrate technical competency in information technology with environmental consideration.
- PO4:** Identify requirements, formulate, analyze and provide sustainable solutions for technological problems.
- PO5:** Conduct the experiment and evaluate the results for providing valid conclusions.
- PO6:** Communicate and Function effectively as an individual and as a part of diverse groups.
- PO7:** Recognize the recent technological changes to effectively meet the present needs by independent and lifelong learning.
- PO8:** Apply ethical principles and professionalism in engineering practice to solve the societal, health, safety, legal, and cultural issues in the global environment.
- PO9:** Conduct the research and development activities to develop the innovative products for satisfying the societal needs.
- PO10:** Play different roles in project development and participate in multidisciplinary teams.
- PO11:** Enhance the necessary skills with the available resources for life-long learning.
- PO12:** Design documentation and make effective reports, effective presentations about the developed product or project.

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		<p align="right"><b>Semester: EVEN</b></p>

## **SYLLABUS**

### **UNIT I**

#### **BASICS OF C PROGRAMMING**

Introduction to programming paradigms - Structure of C program - C programming: Data Types – Storage classes - Constants – Enumeration Constants - Keywords – Operators: Precedence and Associativity - Expressions - Input/Output statements, Assignment statements – Decision making statements - Switch statement - Looping statements – Pre-processor directives - Compilation process

### **UNIT II**

#### **ARRAYS AND STRINGS**

Introduction to Arrays: Declaration, Initialization – One dimensional array – Example Program: Computing Mean, Median and Mode - Two dimensional arrays – Example Program: Matrix Operations (Addition, Scaling, Determinant and Transpose) - String operations: length, compare, concatenate, copy – Selection sort, linear and binary search.

### **UNIT III**

#### **FUNCTIONS AND POINTERS**

Introduction to functions: Function prototype, function definition, function call, Built-in functions (string functions, math functions) – Recursion – Example Program: Computation of Sine series, Scientific calculator using built-in functions, Binary Search using recursive functions – Pointers – Pointer operators – Pointer arithmetic – Arrays and pointers – Array of pointers – Example Program: Sorting of names – Parameter passing: Pass by value, Pass by reference – Example Program: Swapping of two numbers and changing the value of a variable using pass by reference.

### **UNIT III**


#### **FUNCTIONS AND POINTERS**

Introduction to functions: Function prototype, function definition, function call, Built-in functions (string functions, math functions) – Recursion – Example Program: Computation of Sine series, Scientific calculator using built-in functions, Binary Search using recursive functions – Pointers – Pointer operators – Pointer arithmetic – Arrays and pointers – Array of pointers – Example Program: Sorting of names – Parameter passing: Pass by value, Pass by reference – Example Program: Swapping of two numbers and changing the value of a variable using pass by reference.

### **UNIT IV**

#### **STRUCTURES**

Structure - Nested structures – Pointer and Structures – Array of structures – Example Program using structures and pointers – Self referential structures – Dynamic memory allocation - Singly linked list - typedef.

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## UNIT V FILE PROCESSING

Files – Types of file processing: Sequential access, Random access – Sequential access file - Example Program: Finding average of numbers stored in sequential access file - Random access file - Example Program: Transaction processing using random access files – Command line arguments

### TEXT BOOKS:

1. Reema Thareja, —Programming in C, Oxford University Press, Second Edition, 2016.
2. Kernighan, B.W and Ritchie,D.M, —The C Programming language, Second Edition, Pearson Education, 2006

### REFERENCES:

1. Paul Deitel and Harvey Deitel, —C How to Program, Seventh edition, Pearson Publication
2. Juneja, B. L and Anita Seth, —Programming in C, CENGAGE Learning India pvt. Ltd., 2011
3. Pradip Dey, Manas Ghosh, —Fundamentals of Computing and Programming in C, First Edition, Oxford University Press, 2009.
4. Anita Goel and Ajay Mittal, —Computer Fundamentals and Programming in C, Dorling Kindersley (India) Pvt. Ltd., Pearson Education in South Asia, 2011.
5. Byron S. Gottfried, "Schaum's Outline of Theory and Problems of Programming with C", McGraw-Hill Education, 1996.

## COURSE OBJECTIVES & OUTCOMES

### COURSE OBJECTIVES

#### OBJECTIVES:

- To develop C Programs using basic programming constructs
- To develop C programs using arrays and strings
- To develop applications in C using functions and pointers
- To develop applications in C using structures
- To do input/output and file handling in C

### COURSE OUTCOMES

**Upon completion of the course, the students will be able to**

- Develop simple applications in C using basic constructs
- Design and implement applications using arrays and strings
- Develop and implement applications in C using functions and pointers.
- Develop applications in C using structures.
- Design applications using sequential and random access file processing.



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	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	A	A	A		A							B
CO2	A	A	A		A							B
CO3	A	A	A		A							B
CO4	A	A	A		A							B
CO5	A	A	A		A							B

A – Excellent ; B – Good ; C - Average

## **METHOD OF EVALUATION AND INNOVATION**

### **1. METHOD OF EVALUATION**

1.1	Continuous Assessment Examinations (CAE 1, CAE 2, CAE 3)
1.2	Assignments / Seminars
1.3	Discussions on various techniques
1.4	Term End Examination
1.5	Others

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Name of the Faculty	D. ASIR ANTONY GNANA SINGH		
Designation	TEACHING FELLOW		
Name of the Programme	B. Tech IT	Batch	2015-2019
Semester & Year	VIII & IV	No. of Students	49
Subject Code & Name	CS6004 -CYBER FORENSICS		

### **INSTRUCTIONAL OBJECTIVES:**

#### **1. Teaching Aids: BB/LCD**

#### **2. Assignments / Questions**

- Comment on the role of Secure Electronic Transaction (SET) E-Commerce Transactions.
- Compare different Forensics Tools and identify the best tools that are suitable for Computer Crime.
- Recent trends in Cell Phone and Mobile Devices Forensics.

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### COURSE COMPLETION STATUS

Name of the Faculty	D. ASIR ANTONY GNANA SINGH		
Designation	TEACHING FELLOW		
Name of the Programme	B. Tech IT	Batch	2015-2019
Semester & Year	VIII & IV	No. of Students	49
Subject Code & Name	CS6004 -CYBER FORENSICS		

### Actual Date of Completion & Remarks, if any

Units	Remarks
<b>Unit 1</b>	
<b>Unit 2</b>	
<b>Unit 3</b>	
<b>Unit 4</b>	
<b>Unit 5</b>	