

**ANNA UNIVERSITY, CHENNAI**

**AFFILIATED INSTITUTIONS**

**R - 2009**

**M.C.A. (MASTER OF COMPUTER APPLICATIONS)**

**I SEMESTER (FULL TIME) CURRICULUM AND SYLLABI**

**SEMESTER I**

<b>SL. NO</b>	<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
<b>THEORY</b>						
1	MC9211	<a href="#">Computer Organization</a>	3	0	0	3
2	MC9212	<a href="#">Problem Solving and Programming</a>	3	0	0	3
3	MC9213	<a href="#">Database Management Systems</a>	3	0	0	3
4	MC9214	<a href="#">Data Structures</a>	3	1	0	4
5	MC9215	<a href="#">Accounting and Financial Management</a>	3	1	0	4
<b>PRACTICAL</b>						
6	MC9217	<a href="#">Programming and Data Structures Lab</a>	0	0	3	2
7	MC9218	<a href="#">DBMS Lab</a>	0	0	3	2
<b>TOTAL</b>			<b>15</b>	<b>2</b>	<b>6</b>	<b>21</b>



<b>UNIT I</b>	<b>INTRODUCTION TO PROGRAMMING</b>	<b>9</b>
Introduction to computing – building blocks for simple programs – problem to program – Decision structures – loop structures – problem analysis – programming style – documentation and testing.		
<b>UNIT II</b>	<b>PROGRAMMING PARADIGMS</b>	<b>9</b>
Procedural – functional – recursive – rule-based – structured programming.		
<b>UNIT III</b>	<b>PROBLEM SOLVING TECHNIQUES</b>	<b>9</b>
Programming life cycle phases – problem solving – implementation – maintenance – pseudo code representation – flow charts - algorithms – algorithmic efficiency – complexity of algorithms.		
<b>UNIT IV</b>	<b>C PROGRAMMING FUNDAMENTALS</b>	<b>9</b>
Structured program development – Data types – operators – expressions – control flow – arrays and pointers – functions – Input – output statements – storage classes.		
<b>UNIT V</b>	<b>ADVANCED FEATURES</b>	<b>9</b>
Strings - Recursion – structures – unions – bit manipulations – enumerations – file processing – fundamental data structures.		

**TOTAL : 45 PERIODS****REFERENCES:**

1. Kernigan Brian W., and Dennis M. Ritchie, "The C Programming Language", Seconde Edition, Prentice Hall, 1988.
2. Deitel and Deitel, "C How to program", Prentice Hall, 1994.
3. Cormen, Leiserson, Rivest, Stein "Introduction to algorithms", McGraw Hill publishers, 2002.

<b>UNIT I</b>	<b>INTRODUCTION</b>	<b>9</b>
Historical perspective - Files versus database systems - Architecture - E-R model - Security and Integrity - Data models.		
<b>UNIT II</b>	<b>RELATIONAL MODEL</b>	<b>9</b>
The relation - Keys - Constraints - Relational algebra and Calculus - Queries - Programming and triggers		
<b>UNIT III</b>	<b>DATA STORAGE</b>	<b>9</b>
Disks and Files - file organizations - Indexing - Tree structured indexing - Hash Based indexing		





**MC9217**

**PROGRAMMING AND DATA STRUCTURES LAB**

**L T P C**

**0 0 3 2**

1. Stack and Queue
2. Binary tree Traversals
3. Merge Sort
4. DFS and BFS
5. Warshall's Algorithm
6. Dijkstra's Algorithm
7. Huffman's Algorithm
8. Insertion Sort

**TOTAL : 45 PERIODS**

**MC9218**

**DBMS LAB**

**L T P C**

**0 0 3 2**

1. Creation of base tables and views.
2. Data Manipulation  
INSERT, DELETE and UPDATE in tables  
SELECT, Sub Queries and JOIN
3. Data Control Commands
4. High level language extensions – PL/SQL. Or Transact SQL
5. Use of Cursors, Procedures and Functions
6. Embedded SQL or Database Connectivity.
7. Oracle or SQL Server Triggers.
8. Working with Forms, Menus and Reports.
9. Front-end tools – Visual Basic/Developer 2000

**TOTAL : 45 PERIODS**