

COMPUTER SCIENCE	CSC-201C	2018-'19	B.Sc. (MPCs, MCCs.)
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SEMESTER – II PAPER – II Max. Marks 70 Pass Marks 28 Total Hrs: 60

Syllabus PROGRAMMING IN C NO. Of. Hours: 4 Credits: 3

UNIT- I **15Hrs**

Introduction to Algorithms and Programming Languages: Algorithm – Key features of Algorithms -Some more Algorithms – Flow Charts – Pseudo code – Programming Languages – Generation of Programming Languages – Structured Programming Language.

Introduction to C: Introduction – Structure of C Program – Writing the first C Program – File used in C Program – Compiling and Executing C Programs – Using Comments – Keywords – Identifiers – Basic Data Types in C – Variables – Constants – I/O Statements in C- Operators in C- Programming Examples – Type Conversion and Type Casting

UNIT- II **15Hrs**

Decision Control and Looping Statements: Introduction to Decision Control Statements – Conditional Branching Statements – Iterative Statements – Nested Loops – Break and Continue Statement – Goto Statement **Functions:** Introduction – using functions – Function declaration/ prototype – Function definition – function call – return statement – Passing parameters – Scope of variables –Storage Classes Recursive functions – Type of recursion – Towers of Hanoi – Recursion vs Iteration

UNIT -III **10Hrs**

Arrays: Introduction – Declaration of Arrays – Accessing elements of the Array – Storing Values in Array – Calculating the length of the Array – Operations on Array – one dimensional array for inter-function communication – Two dimensional Arrays –Operations on Two Dimensional Arrays - Two Dimensional Arrays for inter-function communication – Multidimensional Arrays – Sparse Matrices **Strings:** Introduction –Suppressive Input – String Taxonomy – String Operations – Miscellaneous String and Character functions

UNIT- IV **10Hrs**

Pointers: Understanding Computer Memory – Introduction to Pointers – declaring Pointer Variables – Pointer Expressions and Pointer Arithmetic – Null Pointers – Generic Pointers - Passing Arguments to Functions using Pointer – Pointer and Arrays – Passing Array to Function – Difference between Array Name and Pointer – Pointers and Strings – Array of pointers – Memory Allocation in C Programs – Memory Usage – Dynamic Memory Allocation – Drawbacks of Pointers

Structure, Union, and Enumerated Data Types: Introduction – Nested Structures – Arrays of Structures – Structures and Functions – Self referential Structures – Union – Arrays of Unions Variables – Unions inside Structures – Enumerated Data Types

UNIT -V **10Hrs**

Files: Introduction to Files – Using Files in C – Reading Data from Files – Writing Data from Files – Detecting the End-of-file – Error Handling during File Operations – Accepting Command Line Arguments – Functions for Selecting a Record Randomly - Remove() – Renaming a File – Creating a Temporary File

REFERENCE BOOKS

1. Introduction to C programming by REEMA THAREJA from OXFORD UNIVERSITY PRESS
2. E Balagurusamy: —COMPUTING FUNDAMENTALS & C PROGRAMMING – Tata McGraw-Hill, Second Reprint 2008, ISBN 978-0-07-066909-3.
3. Ashok N Kamthane: Programming with ANSI and Turbo C, Pearson Edition Publ, 2002.
4. Henry Mullish & Huubert L.Cooper: The Spirit of C An Introduction to modern Programming, Jaico Pub. House,1996.

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<u>Syllabus</u>	PROGRAMMING IN C	NO. Of. Hours: 4	Credits:
	3		

Section- A

Answer **FOUR** Questions. Each Question carries **FOUR** Marks.

4*5=20M

1. Write a short note on Flowchart?
2. Explain about input and output Statements?
3. Explain storage classes?
4. Explain one dimensional array with example?
5. Explain dynamic memory allocation?
6. How to open a file?

Section- B

Answer **FIVE** the Questions. Each Question carries **EIGHT** Marks

5*10=50M

7. Explain different types of programming languages?
8. Explain about different Categories of Operators in 'C'?
9. Explain decision making Looping statements with examples?
10. Explain different categories of functions?
11. Write about two dimension arrays? Give an example program?
12. Explain briefly about string function in 'C'?
13. Difference between structures and unions?
14. Explain different file modes?

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SEMESTER – II

PAPER – II

Max. Marks 70

Guidelines for paper setting '**PROGRAMMING IN C**'

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	1	2
Unit-3	1	2
Unit-4	1	1
Unit -5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

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SEMESTER – II	PAPER – II	Max. Marks 50	Pass Marks 25

LABLIST

PROGRAMMING IN C

No. of Hours per week: 2

External: 25

Internal: 25

Credits: 2

1. Find out the given number is perfect number or not using c program.
2. Write a C program to check whether the given number is Armstrong or not.
3. Write a program to find roots of quadratic equation.
 $\text{Root 1} = (-b + \sqrt{b^2 - 4ac}) / 2a$ $\text{Root 2} = (-b - \sqrt{b^2 - 4ac}) / 2a$
4. Write a C program to find the sum of individual digits of a positive integer.
5. Write a C program to print the Fibonacci series
6. Write a C program to generate the first n terms of the Fibonacci sequence.
7. Write a program to find factorial of a given number using recursion
8. Write a program to perform all arithmetic operations using switch case
9. Write a C program to generate all the prime numbers between 1 and n, where n is a Value supplied by the user.
10. Write a C program to find both the largest and smallest number in a list of integers.
11. Write a C program that uses functions to perform the following:
 - a. Addition of Two Matrices
 - b. Multiplication of Two Matrices
12. Write a program to perform various string operations
13. Write a program to swap two numbers using pointers.
14. Write C program that implements searching of given item in a given list
15. Write a C program to sort a given list of integers in ascending order

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COMPUTER SCIENCE	ICT-I-201	2018-'19	B.A, B.Com, B.Sc.
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SEMESTER – II PAPER – I Max. Marks 50 Pass Marks 20 Total Hrs: 30

Syllabus Computer Fundamentals & Office Tools NO. Of Hrs: 2 Credits: 2

Unit-I : Basics of Computers 6Hrs

Definition of a Computer - Characteristics and Applications of Computers – Block Diagram of a Digital Computer – Classification of Computers based on size and working Central Processing Unit – Input, Output and I/O Devices

Unit-II: Memory Devices & Operating Systems 6Hrs

Primary, Auxiliary and Cache Memory – Memory Devices – Software, Hardware, Firmware and People ware –Definition and Types of Operating System – Functions of an Operating System – MS-DOS MS-Windows – Desktop, Computer, Documents, Pictures, Music, Videos, Recycle Bin, Task Bar – Control Pane

Unit-III: MS-Word 6Hrs

Features of MS-Word – MS-Word Window Components – Creating, Editing, Formatting and Printing of Documents – Headers and Footers – Insert/Draw Tables, Table Auto format – Page Borders and Shading – Inserting Symbols, Shapes, Word Art, Page Numbers, Equations – Spelling and Grammar – Thesaurus – Mail Merge

Unit-IV: MS-PowerPoint 6Hrs

Features of PowerPoint – Creating a Blank Presentation - Creating a Presentation using a Template - Inserting and Deleting Slides in a Presentation – Adding Clip Art/Pictures - Inserting Other Objects, Audio, Video - Resizing and Scaling of an Object – Slide Transition – Custom Animation

Unit-V : MS-Excel 6Hrs

Overview of Excel features – Creating a new worksheet, Selecting cells, Entering and editing Text, Numbers, Formulae, Referencing cells – Inserting Rows/Columns – Changing column widths and row heights, auto format, changing font sizes, colors, shading and attributes – Data Sorting and Filters – Functions – Functions requiring Addins, Functions by category Creating different types of Charts

Reference Books :

1. Fundamentals of Computers by V.Raja Raman, Publishers : PHI
2. Fundamentals of Computers by Reema Thareja, Publishers : Oxford University Press, India
3. Microsoft Office 2010 Bible by John Walkenbach, Herb Tyson, Michael R.Groh and Faithe Wempen, Publishers : Wiley

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SEMESTER – II

PAPER – I

Max. Marks 50

Pass Marks 20

Model paper

Computer Fundamentals & Office Tools

NO. Of Hrs: 2

Credits: 2

SECTION-A

Answer FOUR of the following questions

4x5=20M

1. Explain characteristics of Computer?
2. Explain any five Input devices?
3. Write about Desktop, Computer, Documents, Recycle Bin?
4. Explain about Cache Memory?
5. Explain inserting Headers and Footers in MS-Word?
6. How to Insert/Draw table in MS-Word?
7. Inserting and Deleting slides in presentation?
8. Explain inserting charts in MS-Excel?

SECTION-B

Answer THREE of the following questions

3X10=30M

9. Explain Block diagram of a Digital Computer?
10. Explain Classification of Computers?
11. Explain Computer Memory?
12. Explain MS-Word Window Components with neat Diagram?
13. Creating power point presentation using Template?
14. Explain Excel Functions

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SEMESTER – II

PAPER – I

Max. Marks 50

Guidelines for paper setting '**COMPUTER FUNDAMENTALS & OFFICE TOOLS**'

Unit wise weightage of Marks

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