

Basavarajeswari Group of Institutions  
**BALLARI INSTITUTE OF TECHNOLOGY & MANAGEMENT**  
 (Autonomous Institute under Visvesvaraya Technological University, Belagavi)

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Course Code 

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First Semester B.E. Degree Examinations, March/April 2024

## INTRODUCTION TO C PROGRAMMING

Duration: 3 hrs

Max. Marks: 100

**Note:** 1. Answer any FIVE full questions, choosing ONE full question from each module.  
 2. Missing data, if any, may be suitably assumed

<u>Q. No</u>	<u>Question</u>	<u>Marks</u>	<u>(RBTL:CO:PI)</u>
<b><u>MODULE – 1</u></b>			
1.	a. Explain different generations of computers.	08	(2: 1: 1.3.1)
	b. With neat block diagram describe the different phases in Software Development life cycle (SDLC).	06	(2 : 1: 1.3.1)
	c. Explain the different types of error.	06	(2 : 1: 1.3.1)
<b>OR</b>			
2.	a. Mention the characteristics of C programs.	04	(2: 2: 1.3.1)
	b. Explain the procedure of compiling and execution of C program with neat block diagram.	06	(2 : 2: 1.3.1)
	c. Illustrate the use of scanf () and list the rules to be followed in using scanf ().	10	(2 : 2: 1.3.1)
<b><u>MODULE – 2</u></b>			
3.	a. List the different categories of operators supported by C and explain any two categories with examples.	08	(3: 2: 1.3.1)
	b. What is identifier? Explain the rules for identifiers.	06	(2 : 2: 1.3.1)
	c. Write a program to initialize the variables and perform the bitwise operations on these variables, then print the output for each of the bitwise operations.	06	(3 : 2: 2.4.1)
<b>OR</b>			
4.	a. List the different looping statements and explain ‘do while loop’ with flowchart and syntax.	06	(2: 2: 1.3.1)
	b. Write a C program that read a character and check whether given character is uppercase or lowercase or special character or digits.	08	(3 : 2: 2.4.1)
	c. Write a C Program to print the following pattern using nested for loop.	06	(3 : 2: 2.4.1)
<pre> 1   1 2 1     1 2 3 2 1       1 2 3 4 3 2 1         1 2 3 4 5 4 3 2 1           </pre>			
<b><u>MODULE – 3</u></b>			
5.	a. Write the function ‘to swap the contents of two variable using call by value, and call by reference.	08	(2: 5: 1.3.1)
	b. Explain different scope of a variable.	06	(2: 5: 1.3.1)
	c. Write a program to read and display n numbers using an array.	06	(3: 5: 1.3.1)

**OR**

Note: (RBTL - Revised Bloom's Taxonomy Level: CO - Course Outcome: PI - Performance Indicator)

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|-----------|-----------|---|-----------|---------------|
| <b>6.</b> | <b>a.</b> | What is an array? Explain with examples how to declare a 1 D-array. | <b>06</b> | (2: 3: 1.3.1) |
|           | <b>b.</b> | Explain the concept of recursive function with example program.     | <b>06</b> | (2: 3: 2.4.1) |
|           | <b>c.</b> | Write program to implement linear search in array.                  | <b>08</b> | (3: 3: 2.4.1) |

**MODULE – 4**

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|-----------|-----------|--|-----------|---------------|
| <b>7.</b> | <b>a.</b> | Write syntax for declaring 2D array and explain the initialization of 2D array with example. | <b>05</b> | (2: 3: 1.3.1) |
|           | <b>b.</b> | Explain the passing of 2D array to functions.  | <b>05</b> | (2: 3: 1.3.1) |
|           | <b>c.</b> | Write a program to transpose of a 3*3 Matrix.  | <b>10</b> | (3: 3: 2.4.1) |

**OR**

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|-----------|-----------|---|-----------|---------------|
| <b>8.</b> | <b>a.</b> | What are strings and explain different functions for reading of strings with example.                             | <b>08</b> | (2: 3: 1.3.1) |
|           | <b>b.</b> | Write a program to enter n numbers in an array and sort an array in descending order using Bubble sort technique. | <b>08</b> | (2: 3: 1.3.1) |
|           | <b>c.</b> | Write reading of string in C with example.  | <b>04</b> | (3: 3: 2.4.1) |

**MODULE – 5**

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|-----------|-----------|---|-----------|---------------|
| <b>9.</b> | <b>a.</b> | Write a short on the String Taxonomy.   | <b>05</b> | (2: 3: 1.3.1) |
|           | <b>b.</b> | Write an algorithm and program to calculate the length of string.                           | <b>06</b> | (3: 3: 2.4.1) |
|           | <b>c.</b> | Explain the following string functions with examples<br>(i) strcpy (ii) strcat (iii) strcmp | <b>09</b> | (2: 3: 2.4.1) |

**OR**

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|------------|-----------|---|-----------|---------------|
| <b>10.</b> | <b>a.</b> | Define structure and declare a structure to store customer information like customer ID, customer name, Address, contact Number, DOB. | <b>06</b> | (2: 4: 1.3.1) |
|            | <b>b.</b> | What is pointer and explain declaring a pointer variables with example.   | <b>06</b> | (3: 4: 1.3.1) |
|            | <b>c.</b> | Define the terms related to memory<br>(i) stack (ii) heap (iii) global memory   | <b>08</b> | (2: 4: 1.3.1) |

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