PART - B: DESCRIPTIVE ANSWER QUESTIONS

			Marks	BT*	CO*	PO*
		Unit – I				
1.	a)	Outline the basic structure of a C program with a neat diagram and example.	6	L2	1	1
	b)	Demonstrate any four Bitwise operators in C with example.	6	L3	2	1
	c)	Define flowchart. Illustrate with a neat flowchart to calculate the volume and surface area of a cube. [Volume=a^3 and surface area=$6s^2$, where s is the side length of a cube]	4	L2	1	1
2.	a)	Explain the various steps involved in program development with a neat diagram.	6	L2	1	1
	b)	Evaluate the following expressions: i) a+2>b&&!c||a!=d&&a-2<=e where a=11, b=6, c=0, d=7 and e=5 ii) 17-8/4*2+3-++a where a=5	6	L5	2	2
	c)	Identify the given variables are valid or not. i) int ph_value; ii) int 2005year; iii) float while; iv) int x2;	4	L3	2	1
3.	a)	Summarize various classification of digital computers on the basis of their size and capacity to access memory.	6	L2	1	1
	b)	Define C tokens and Identifiers with example. Develop a C program to swap two number.	6	L3	2	1
	c)	Explain symbolic constants with examples.	4	L2	1	1
		Unit – II				
4.	a)	Explain the unformatted input with example.	8	L2	3	1
	b)	Develop a C program to find the largest of 3 number.	4	L3	4	1
	c)	Compare and Contrast entry-controlled loop and exit controlled loop.	4	L2	3	1
5.	a)	Explain the different types of Function Call with example.	6	L2	5	1
	b)	Demonstrate switch statement with syntax, flowchart and example.	6	L2	3	1
	c)	Define array. Summarize types of array with example.	4	L2	4	1
6.	a)	Explain the various elements of User defined functions with an example.	6	L2	5	1
	b)	Write a C program to find the sum of all digits in a given number.	6	L3	4	1
	c)	Illustrate continue and go to statement with example.	4	L2	3	1
		Unit – III				
7.	a)	Explain the following with syntax and suitable example. i) Strcmp() ii) Strncpy() iii) Strncat() iv) Strlwr()	8	L2	5	1
	b)	Define Structure with syntax. Illustrate Declaration and Accessing the Structured Variable with example.	8	L2	5	1
8.	a)	Develop a C program to copy contents of one file to another file.	8	L3	5	1
	b)	Develop a C program to read N integers into an array A and find the sum of elements using pointers.	8	L3	5	1

BT* Bloom's Taxonomy, L* Level; CO* Course Outcome; PO* Program Outcome

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11. What is the way to suddenly come out of or Quit any Loop in C Language.?
    A) continue; statement
    B) break; statement
    C) leave; statement
    D) quit; statement
12. Which of the following is a post test loop?
    A) if else
    B) do while
    C) While
    D) for
13. What is the output of this program?

```
#include <stdio.h>
int main()
{
   int i;
   i = 1, 2, 3;
   printf("%d", i);
   return 0;
}
```

    A) 1
    B) 2
    C) 3
    D) Invalid Syntax
14. Choose a right C Statement
    A) Loops or Repetition block executes a group of statements repeatedly.
    B) Loop is usually executed as long as a condition is met
    C) Loops usually take advantage of Loop Counter
    D) All of these
15. Which loop is faster in C Language: for, while or Do While?
    A) for
    B) while
    C) do while
    D) All work at the same speed
16. What should be the output?

```
int main()
{
   int a = 10/3;
   printf("%d",a);
   return 0;
}
```

    A) 3.33
    B) 3.0
    C) 3
    D) 0
17. Which of the following function is appropriate for reading a multi-word string?
    A) printf()
    B) scanf()
    C) gets()
    D) puts()
18. What will strcmp() function do?
    A) compares the first n characters of the object
    B) undefined function
    C) copies the string
    D) compares the string
19. What is a String in C Language?
    A) String is a new Data Type in C
    B) String is an array of Characters with null character as the last element of array
    C) String is an array of Characters with null character as the first element of array
    D) String is an array of Integers with 0 as the last element of array
20. What is the Format specifier used to print a String or Character array in C Printf or Scanf function?
    A) %c
    B) %C
    C) %s
    D) %w

NMAM INSTITUTE OF TECHNOLOGY, NITTE

Off-Campus Centre of Nitte (Deemed to be University)

First Semester B.Tech. (CBCS) Degree Examinations

December 2022

CS1001-1 – PROBLEM SOLVING THROUGH PROGRAMMING

Max. Marks:100

Duration: 3 Hours

Note:
Part – A: Multiple Choice Questions: Answer all Twenty questions in the OMR Sheet provided. Each question carries equal marks.
Part – B: Descriptive Answer type Questions: Answer Five full questions choosing Two full questions from Unit – I & Unit – II each and One full question from Unit – III.

PART - A: MULTIPLE CHOICE QUESTIONS

20 Marks

1. Notebook PCs fall into a category of devices called
   A) mobile computers B) desktop computers
   C) hybrid computers D) tabulators
2. The binary system uses powers of
   A) 3 B) 2
   C) 10 D) 8
3. A computer program that converts assembly language to machine language is
   A) Compiler B) Interpreter
   C) Assembler D) Comparator
4. C was developed by
   A) Dennis Ritchie B) Devid Ritchie
   C) John Ritchie D) Robert Lafore
5. An assembly language is a
   A) Middle level programming language B) High level programming language
   C) Internet based programming language D) low level programming language
6. _____computers are lower to mainframe computers in terms of speed and storage capacity.
   A) Mini B) Super
   C) Mainframes D) Hybrid
7. A byte consists of
   A) One bit B) Four bits
   C) Eight bits D) Sixteen bits
8. C Language developed at _____?
   A) AT & T's Bell Laboratories B) IBM
   C) Sun Microsystems D) Cambridge University
9. What is the output of C Program?

```
int main()
{
  int k;
  for(;;)
  {
    printf("TESTING\n");
    break;
  }
  return 0;
}
```

   A) No Output B) TESTING
   C) Compiler error D) None of these
10. To print out *a* and *b* given below, which of the following *printf()* statement will you use?

```
#include<stdio.h>
float a=3.14;
double b=3.14;
```

   A) printf("%f %lf", a, b); B) printf("%Lf %f", a, b);
   C) printf("%Lf %Lf", a, b); D) printf("%f %Lf", a, b);

6.	a)	Which are the types of User-Defined Functions in C ? Explain any two.	8	L2	3
	b)	Explain how Arrays are organized in Memory with a diagram.	6	L2	3
	c)	Write a C program to find the sum of first N Natural numbers using for statement.	6	L3	3

Unit – III

7.	a)	With an example, explain how you can access structure members.	6	L2	5
	b)	Explain the functions for Opening a File with syntax and example.	6	L2	5
	c)	Write a C program to add two numbers using pointers.	8	L3	5
8.	a)	Give the syntax and example for defining a structure.	8	L2	5
	b)	How can you copy and compare structure variables? Explain with examples.	8	L2	5
	c)	Write a C program using structures to store 3 marks of a student and display total marks.	4	L3	5

BT* Bloom's Taxonomy, L* Level; CO* Course Outcome; PO* Program Outcome

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NMAM INSTITUTE OF TECHNOLOGY, NITTE

(An Autonomous Institution affiliated to VTU, Belagavi).

First Semester B.E. (Credit System) Degree Examinations

April - May 2022

21CS111 – C PROGRAMMING FOR PROBLEM SOLVING

Duration: 3 Hours

Max. Marks: 100

Note: Answer ***Five full questions*** *choosing* ***Two full questions from Unit – I & Unit – II each*** *and* ***One full question from Unit – III.***

	Marks	BT*	CO*	PO*
Unit – I				
a) Mention and explain any 5 applications of computers.	5	L*2	1	1
b) With a neat diagram, explain the Program Development steps.	10	L2	1	1
c) Given the length and breadth of a rectangle, write a C program to find its area.	5	L3	1	1
a) Explain the basic structure of a C program with a neat diagram.	10	L2	2	1
b) Mention the types of tokens in C and explain any one.	7	L2	2	1
c) Write a C program to display the largest of two numbers using conditional operator.	3	L3	2	1
a) What is explicit type conversion ? Explain with an example.	5	L2	2	1
b) Explain the character testing functions in C.	8	L2	2	1
c) Write a C program to read two numbers from the keyboard and find their sum/difference/product according to choice of the user.	7	L3	2	1
Unit – II				
a) Mention the Conditional branching statements and explain any two.	7	L2	3	1
b) With a neat diagram, explain the differences between entry-controlled and exit-controlled loops.	8	L2	3	1
c) Write a C program to find the length of a string without using built-in functions.	5	L3	4	1
a) Explain the following string functions with examples: (i) strcpy (ii) strcat (iii) strrev	6	L2	4	1
b) Explain the two types of Jump done using goto statements. Give example for each.	8	L2	3	1
c) Write a C program to find sum of odd numbers between x and y.	6	L3	3	1

P.T.O.

NMAM INSTITUTE OF TECHNOLOGY, NITTE

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First / Second Semester B.E. (Credit System) Degree Examinations

Supplementary Examination - September 2022

20CS111 - C PROGRAMMING FOR PROBLEM SOLVING

17CS111 - COMPUTER CONCEPTS AND 'C' PROGRAMMING

uration: 3 Hours | Max. Marks: 100

*'ote: Answer **Five full** questions choosing **Two full** questions from **Unit – I & Unit – II each** and **One full** question from **Unit – III.***

			Marks	BT*	CO*	PO*
		Unit – I				
1.	a)	Describe the structure of the C program. Build a program to print numbers from one to fifty.	10	L*2	1	1
	b)	Differentiate pre-Increment and post-increment operator with the help of example.	5	L2	1	1
	c)	List with examples any 5 rules for forming variables.	5	L2	1	1
2.	a)	Write a short note on i) sizeof() operator ii)program solving aspects.	10	L2	1	1
	b)	Explain type conversion in C.	5	L2	1	1
	c)	Illustrate Right shift and Left Shift operator with example.	5	L2	1	1
3.	a)	Define the terms keyword, constant and variable. Give examples.	10	L2	1	1
	b)	List and explain types of logical operators with examples.	4	L2	1	1
	c)	Solve the following expressions: where x=2, y=4, z=8, ^ is the power operator. i) a = x + y * z / 4 % 2 – 1 ii) b= x - z ^ 2 * y + z / 2	6	L3	1	2
		Unit – II				
4.	a)	Write a C program to calculate the sum of n natural numbers.	5	L2	2	2
	b)	Design a C program to sort n integer elements in ascending order.	10	L2	2	1
	c)	Differentiate between pass by value and pass by reference. Give examples.	5	L3	2	1
5.	a)	Write a C program to swap two numbers. Use a function to swap the numbers.	5	L3	2	2
	b)	Write a c program to reverse a string and check if it is a palindrome or not.	5	L2	2	1
	c)	With example, how one dimensional and 2 dimensional arrays can be declared, initialized and used?	10	L2	2	1
6.	a)	Write a C program to perform the operation of a calculator using switch statements.	5	L2	2	1
	b)	Write the following using ternary operator: if(a<b) then c = 34 else c++ ;	5	L3	2	2
	c)	Differentiate between continue and break statement with the help of examples.	10	L3	2	1
		Unit – III				
7.	a)	Write a program to create a structure of a book with book number, name, author, price as fields. Read and display the details.	10	L2	3	1
	b)	Show the declaration and usage of pointers with the help of an example.	5	L2	3	1
	c)	Write the syntax and explain the following: fopen() and fclose().	5	L1	3	1
8.	a)	Write a program to create a structure of students with USN, name, Sem as fields. Read and display the values.	10	L2	3	1
	b)	Write a program to add two numbers using pointers.	5	L2	3	1
	c)	List and explain the functions used in C to perform basic file operations.	5	L1	3	2

* Bloom's Taxonomy, L* Level; CO* Course Outcome; PO* Program Outcome

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NMAM INSTITUTE OF TECHNOLOGY, NITTE

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First / Second Semester B.E. (Credit System) Degree Examinations

September - October 2022

21CS111 – C PROGRAMMING FOR PROBLEM SOLVING

uration: 3 Hours | Max. Marks: 100

*ote: Answer **Five full** questions choosing **Two full** questions from **Unit – I & Unit – II each** and **One full** question from **Unit – III.***

		Marks	BT*	CO*	PO*
	Unit – I				
1. a)	Briefly explain the evolution of C and also list the characteristics of C language.	8	L*2	1,2	1
b)	Explain the following operators: i) Arithmetic ii) Bitwise iii) Relational iv) Logical	8	L2	1,2	1,2
c)	Discuss the significance of the scanf( ) function with the field width specifications. Give examples.	4	L1	1,2	1
2. a)	Explain the program development steps with a suitable diagram.	10	L3	1,2	1
b)	What are variables in C. Identify the rules for variable declaration.	6	L1	1,2	1
c)	What are Conditional operators? Give examples.	4	L1	1,2	1,2
3. a)	Explain in brief the basic data types in C with suitable examples.	8	L2	1,2	1
b)	Explain the basic structure of a C Program with a neat diagram.	8	L2	1,2	1
c)	Evaluate the following expressions: i) 2* ((i /3) + 4 *(j - 2)) given i=8 , j=5. ii) a += b *= c - = 5 given a=3 , b=5, c=8.	4	L3	1,2	1
	Unit – II				
4. a)	Write a C program to find the sum of first N natural numbers.	5	L1	3,4	1
b)	What are functions? List the advantages of user-defined functions.	5	L1	3,4	1
c)	Explain Switch statement with its syntax. Write a C program using a switch statement to simulate a basic arithmetic calculator.	10	L2	3,4	1
5. a)	Briefly explain call by value and call by reference with example.	6	L2	3,4	1,2
b)	Define loops in C. Write the syntax and flow diagram of while and do-while loop.	8	L3	3,4	1
c)	Write a C program to read elements into a one dimensional array and find the largest element in the array.	6	L1	3,4	1
6. a)	What are nested if statements. Give its syntax and write the flow diagram.	6	L1	3,4	1,2
b)	Write a C program to perform a linear search for a given key integer in a single-dimensional array of numbers and report success or failure in the form of a suitable message using functions.	6	L1	3,4	1
c)	Briefly describe any 8 string manipulation functions in C.	8	L1	3,4	1
	Unit – III				
7. a)	Develop a C program to store the student's information and display it using structures.	8	L3	5	1,
b)	What are files? List different file operations in C and explain any two basic file operations in C.	8	L1	5	
c)	Write a C program to add two numbers using pointers.	4	L1	5	
8. a)	Define structures in C. Explain the method for declaring and accessing structured variables. Give example.	8	L2	5	
b)	Write a C program for Reading and writing from File using fprintf( ) and fscanf( ).	6	L1	5	
c)	What are pointers? List the benefits of using pointers.	6	L1	5	

Bloom's Taxonomy, L* Level; CO* Course Outcome; PO* Program Outcome

NMAM INSTITUTE OF TECHNOLOGY, NITTE

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Second Semester B.E. (Credit System) Degree Examinations

Makeup Examination - November 2022

21CS111 - C PROGRAMMING FOR PROBLEM SOLVING

Duration: 3 Hours

Max. Marks: 100

*Note: Answer **Five full** questions choosing **Two full** questions from **Unit – I & Unit – II each** and **One full** question from **Unit – III.***

			Marks	BT*	CO*	PO*
		Unit – I				
1.	a)	What is Computer? Explain the block diagram of computer with diagram.	6	L*2	1	1
	b)	Build a C program to find largest of 3 numbers using conditional operator.	6	L3	2	2
	c)	Outline the structure of C program with a neat diagram.	8	L2	1	1
2.	a)	Define Variable. List the rules for declaring variables. Explain with example.	6	L3	2	1
	b)	What is token. Explain the types of token with examples.	6	L3	2	1
	c)	Define Operators in C. List the different operators in C. Explain any 2 operators.	8	L3	2	1
3.	a)	Explain any four Unformatted I/O function in C.	8	L3	2	1
	b)	Explain the implicit and explicit type conversion in C.	6	L3	2	1
	c)	Explain the data types in C.	6	L3	2	1
		Unit – II				
4.	a)	Explain else-if ladder with flow chart and example.	8	L3	3	1
	b)	Write a C program to demonstrate call by reference.	6	L3	4	1
	c)	Explain with syntax the following string manipulation functions in C. i) Strncpy ii) Strcmp iii) Strcat	6	L2	4	1
5.	a)	Differentiate between Do while and While Loop.	6	L3	3	1
	b)	Explain the methods of initialization 1D array.	6	L3	4	1
	c)	Explain the types of function based on arguments with example for each.	8	L3	4	1
6.	a)	Explain the Syntax of switch statement with example.	6	L3	3	1
	b)	Write a C program to find largest and smallest number in an array of n elements.	8	L3	4	1
	c)	Differentiate between Actual and Formal parameters.	6	L3	4	1
		Unit – III				
7.	a)	Define Structure. Explain the declaration and initialization of structure.	8	L5	5	1
	b)	Demonstrate a pointer with example.	6	L5	5	1
	c)	Define File Handling in C. List the operations that can be performed in file.	6	L5	5	1
8.	a)	Write a C program to read and print the details of employee using structures.	8	L5	5	1
	b)	Define Pointer. How to declare and initialize the pointer?	6	L5	5	1
	c)	Explain opening file and closing file operations in C.	6	L5	5	1

BT* Bloom's Taxonomy, L* Level; CO* Course Outcome; PO* Program Outcome

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