18CS111

Unit – III

7. a) Which are the two categories of C functions? Explain with a neat diagram. 8 L2 5

    b) Classify the different categories of user defined functions and explain any two. 8 L2 5

    c) With an example, explain how you can store the name, age and marks of a student in a structure. 4 L2 5

8. a) Explain how structure variables are compared. Illustrate with an example. 6 L2 5

    b) With an example, explain how pointer variables are declared and initialized. 4 L2 5

    c) Develop a program to read Name, Address and Age of a student into a file and display it on screen. 10 L2 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)
Second Semester B.E. ((Credit System) Degree Examinations
April - May 2019

18CS111 - C PROGRAMMING FOR PROBLEM SOLVING

Duration: 3 Hours **Max. Marks: 100**

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

		Marks	BT*	CO*	PO*
	Unit – I				
1. a)	Describe the various steps involved in program development with a neat diagram.	10	L2	1	1
b)	List and explain the types of programming languages.	06	L1	1	1
c)	Explain any four features that would make a programming language easy and efficient to use.	04	L1	1	1
2. a)	Outline the basic structure of a C program. Explain with an example.	10	L2	1	1
b)	Identify at least four limitations of computers.	04	L2	1	1
c)	What is the output of the following: (i) int break; break=break+1;printf("%d",break); (ii) int 1stno; 1stno=5; printf("%d",1stno++);	06	L2	2	1
3. a)	Explain the classification of constants in C with a neat diagram.	10	L2	2	1
b)	List and explain any six rules for forming variables.	06	L2	2	1
c)	What is the value of c and d below: (i) int a,b,c; a=17; b=4 ; c=a/b; (ii) int a,b,d; a=17; b=4; d=a%b;	04	L2	2	1
	Unit – II				
4. a)	List Unformatted Input – Output functions in C? Explain with examples.	06	L1	3	1
b)	What are character testing functions? Explain any four functions.	04	L1	3	1
c)	Build a C program to find if a given number is a palindrome or not.	06	L2	4	1
d)	Explain unconditional branching control statement with an example.	04	L2	3	1
5. a)	Illustrate the logic to find whether a string is a palindrome or not, using for - loop and while – loop.	06	L2	4	1
b)	Explain conditional operator with an example.	04	L1	3	1
c)	Describe while loop with syntax. Write a program to compute x to the power n using while loop.	10	L3	4	1
6. a)	Define array? Explain how you can access array elements.	06	L1	4	1
b)	Explain the following string manipulation functions with examples (i) strcpy(str1,str2) (ii) strncpy(str1,str2,n)	04	L1	4	1
c)	Build a C program to perform Linear Search for an element in an array and display success or failure depending on whether element is found or not. Also, give its flow chart.	10	L3	4	1

18CS111

Make up/Supplementary – July 2019

ration: 3 Hours

Note: Answer Fi

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d) Explain the different types and categories of Programming Languages.   6   L2   1

Unit – II

4. a) Illustrate with an example how to declare single dimensional arrays and different ways of assigning values to arrays.   6   L2   4
   b) List the different methods of reading and writing a string.   3   L1   3
   c) Develop a menu-driven program using Switch case to calculate the following:
   1. Area of circle
   2. Area of rectangle
   3. Area of triangle   8   L3   3

   d) Explain the syntax of else-if ladder.   3   L2   3

5. a) Explain with examples the use of following statements in C?
   i) goto statement
   ii) break statement   6   L2   3
   b) Develop C program to print prime numbers between 1 to n.   6   L3   3
   c) Illustrate and Explain the following built-in string functions.
   i) strlen()
   ii) strcmp()
   iii) strcpy()
   iv) strrev()   8   L2   4

6. a) Develop a C program to find transpose of a matrix and also find its trace if it is a square matrix.   8   L3   4
   b) Interpret the output of following statements in C, considering the following:
   ```
   int integer = 9876;
   float decimal = 987.6543;
   ```
   i) printf(" %6d ", integer);
   ii) printf(" %6.2f ", decimal);
   iii) printf(" %f ", decimal);   3   L2
   c) Give the syntax of while, do..while and for-looping statements.   5   L1
   d) How are strings declared and initialized in C?   4   L1

Unit – III

7. a) Define a function. Show where formal and actual parameters are used in a function.   5   L2
   b) Develop and Write a C program to create a structure employee for n number of employees with members Employee id, name, designation and salary.
   Program must output the list of all the employees whose salary is less than 15000/-.   8   L3
   c) List the need of pointers in C. Explain pointers with steps involving their declaration and usage.   7   L2

8. a) Explain the following file handling functions:
   1. fprintf()
   2. fopen()
   3. getc()   6   L2
   b) Explain the two ways of passing parameters to functions. When do you prefer to use each of them, Illustrate with relevant examples?   8   L2
   c) Outline and Write a C program to read N integers into an array A and find the sum of elements using pointers.   6   L2

BT* Bloom's Taxonomy, L* Level;   CO* Course Outcome; PO* Program Outcome
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a) Describe
   a neat dia
b) List and e
c) Explain a
   language

a) Outline t
   example.
b) Identify a
c) What is t
   (i) in
   (ii) in

a) Explain tl
   example:
b) List and e
c) What is t
   (i) int a, b
   (ii) int a, b

a) List Unfo
   example:
b) What are
c) Build a C
d) Explain
   example.

a) Illustrate
   using for
b) Explain c
c) Describe
   the powe

a) Define ar
b) Explain th
   (i) st
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c) Build a C
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   element i

NMAM INSTITUTE OF TECHNOLOGY, NITTE

(An Autonomous Institution affiliated to VTU, Belagavi)

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

Make up/Supplementary Examinations – July 2019

18CS111 / 17CS111 – C PROGRAMMING FOR PROBLEM SOLVING / COMPUTER CONCEPTS AND 'C' PROGRAMMING

Max. Marks: 100

Duration: 3 Hours

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

Unit – I

		Marks	BT*	CO*	PO*
a)	What are primitive datatypes and user defined datatypes in C? List and Explain primitive datatypes.	8	L*2	2	1
b)	Outline and Write a C program to swap value of variables a and b without using a temporary variable.	6	L2	2	2
c)	Compare the following operators of C with examples for each. i) Logical AND and Bitwise AND ii) = and == operator iii) a++ and ++a	6	L2	2	2

a)	Outline the structure of C program. Describe with an example a program for performing arithmetic operations (+, -, *, / and %) on two integer values.	8	L2	2	1
b)	Solve the following expressions: i) a + 2 > b && !c || a != d && a - 2 <= e where a=11, b=6, c=0, d=7, e=5 ii) a += b * = c - = 5 where a=1, b=3, c=7	6	L3	2	2
c)	List all the rules for naming identifiers in C. Name the following identifiers listed below as valid or invalid with reasons. i) int ii) s-num1 iii) s_num1 iv) s num1	6	L1	2	2

a)	Define constants in C. List and Explain with examples each type of constants.	6	L2	2	1
b)	What is the output of the following programs given below? i) #include<stdio.h> int main() { printf("%f", (float)9/5) ; return 0; } ii) #include<stdio.h> int main() { int a = 5, b = 2; printf("%d", a++ + b); return 0; }	4	L1	2	2
c)	Outline the differences between declaration and definition of a variable.	4	L2	2	1

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NMAM INSTITUTE OF TECHNOLOGY, NITTE

(An Autonomous Institution affiliated to VTU, Belagavi)

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

November - December 2019

19CS111 – 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*.

Unit – I

			Marks	BT*	CO*	PO*
1.	a)	Explain the basic structure of C program with example.	10	L*2	1	1
	b)	Define data type. Explain primitive datatypes supported by C language with examples.	10	L2	1	1
2.	a)	Define a variable. Explain the rules for constructing variables in C language.	6	L2	1	1
	b)	Write a C program to compute simple interest. Draw flowchart for the same.	8	L3	1	1
	c)	Describe various types of computers.	6	L2	1	1
3.	a)	List all the operators used in C language and evaluate following expression.	10	L3	1	1
		i) x = a – b|3 + c * 2 -1 when a = 9, b = 12, c = 3				
		ii) 10! = 10 || 5 < 4 & 8	5	L3	1	2
	b)	Write a C program to add two numbers.	5	L2	1	1
	c)	Write a note on type conversion.				

Unit – II

a)	Explain the formatted I/O functions of C language with syntax and example.		6	L2	2	1
b)	Construct C program to implement commercial calculator using switch statement.		10	L3	2	2
c)	Differentiate between while loop and do while loop.		4	L3	2	1
a)	Develop the syntax of different branching statements and explain their writing.		10	L3	2	2
b)	Develop a program to find the sum of N natural number using for loop.		6	L3	2	2
c)	Illustrate the use of break statement with example.		4	L2	2	1
a)	Define array. Write the syntax for declaring and initializing 1-D and 2-D array with suitable example.		10	L2	2	1
b)	Define string. List all string manipulation functions. Explain any two with example.		10	L2	2	1

Unit – III

a)	Interpret a function. Explain different type of functions based on parameter.		10	L2	3	1
b)	Write a program to swap two numbers using function.		10	L3	3	1
a)	What is a structure? Explain the syntax of structure declaration in C with example.		8	L2	3	1
b)	What is a pointer? Show how pointer variable is declared and initialized.		6	L2	3	1
c)	Describe opening and closing of files.		6	L2	3	1

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

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