b) Write a C program to transpose a matrix of order M x N and find the trace resultant matrix.

c) What is an array? Explain the declaration and initialization of 1-dimentional and 2-dimentional array with example.

8. a) Explain the two categories of argument passing techniques with examples.

b) What are the advantages of using user defined functions?

c) Write a C function is Prime(num) that accepts an integer and return '1' if the argument is a prime or a '0' otherwise. Write a program that invokes this function to generate prime number between the given range.

Unit – V

9. a) What is a structure? Explain the syntax of structure declaration with example.

b) What is a file? Explain fopen() and fclose() function in C .

c) Write a C program to enter the information like name, register number, marks in 6 subjects of N students into an array of structures, find the average & display grade based on average for each student.

Grade	Distinction	First Class	Second Class	Fail
Average	80 - 100	60-79	40-59	<40

10. a) What is a pointer? Explain how the pointer variable is declared and initialized.

b) Explain how structure variable passed as a parameter to a function with example.

c) Explain the concept of array of structure with a suitable example.

BT* Bloom's Taxonomy, L* Level

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NMAM INSTITUTE OF TECHNOLOGY, NITTE

(An Autonomous Institution affiliated to VTU, Belgaum)

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

Make up/Supplementary Examinations – July 2018

17CS111 – COMPUTER CONCEPTS AND 'C' PROGRAMMING

Duration: 3 Hours | Max. Marks: 100

*Note: Answer **Five full** questions choosing **One full** question from **each Unit.***

		Marks	BT*
	Unit – I		
a)	Explain phases involved in Program Development Life Cycle in 'C'.	6	L*2
b)	Define Programming language. List any five programming language.	6	L1
c)	Define an Operating System. Explain the types of Operating Systems.	8	L2
a)	Define Computer. Explain how data is processed in computer.	6	L1
b)	Design a flow chart to find the roots of quadratic equation. ($ax^2+bx+c = 0$)	4	L4
c)	What is an Algorithm? Write an Algorithm to find largest of three numbers.	6	L2
d)	List the differences between RISC and CISC processors.	4	L1
	Unit – II		
a)	What are Data types? Mention the different data types supported by 'C' language giving an example to each.	6	L1
b)	Explain the structure of C program with an example.	7	L2
c)	Here is the list of possible names for variables in C language. Which are valid names and invalid names? If names are invalid explain why? i) 1999_space ii) _apple iii) One-2 iv) for v) #12 vi) help+me vii) $price viii) group one	7	L2
a)	List and explain any 5 operators used in 'C' programming language.	8	L1
b)	Explain with example the various constants available in C program.	6	L2
c)	Convert the following mathematical expression into C expressions. i) $\frac{x}{b+c}+\frac{y}{b-c}$ ii) $area = \sqrt{s(s-a)(s-b)(s-c)}$ iii) $x = \frac{-b+\sqrt{b^2-4ac}}{2a}$	6	L4
	Unit – III		
a)	Explain with examples formatted input and formatted output statements in C.	6	L2
b)	Explain switch statement with an example.	6	L2
c)	List the type of loops with syntax. Explain the working of any one type of loop with example.	8	L1
a)	Write a C program to find if a given string is a palindrome or not.	6	L3
b)	Explain how break and continue statement are used in a C Program with example.	4	L2
c)	Explain the syntax of nested if else statement. Write a C program to find largest of three numbers using nested if-else statement.	10	L3
	Unit – IV		
a)	Explain any four string manipulation functions with example.	8	L2

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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 2018

18CS111 – 'C' PROGRAMMING FOR PROBLEM SOLVING

ion: 3 Hours | Max. Marks: 100

*te: 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				
a)	Briefly Explain the complete steps to execute a program in C.	8	L*2	1	1
b)	With an example, explain the terms keywords, identifiers, Variables and constants.	8	L2	1	1
c)	Develop a C program to print your home address.	4	L3	1	1
a)	Explain the structure of a C program in detail.	8	L2	1	1
b)	With an example, explain conditional operator, increment and decrement operator and bitwise operator.	8	L2	1	1
c)	Develop a program in C to print your branch, name and email address.	4	L3	1	1
a)	Solve the following: a) (2+ 3 / 4)*(3 – 2 % 2) b) 2 & 3 | 4	8	L3	1	1
b)	List the rules for variable declaration. Explain with an example.	6	L2	1	1
c)	Develop a program in C to show the use of all arithmetic operators.	6	L3	1	1
	Unit – II				
a)	Outline the syntax of if–else and nested-if statement. Explain with an example.	8	L2	2	1
b)	Describe the two varieties of looping statements with an example.	4	L2	2	1
c)	Develop a program in C to add two matrices.	8	L3	2	1
a)	List any 4 string handling functions in C and explain them.	8	L2	2	1
b)	Illustrate the use of the following statements: The *goto* statement, break and continue statements.	6	L2	2	1
c)	Build a program in C to find the average of *n* numbers stored in an array.	6	L3	2	1
a)	Illustrate the use of while and do-while loop with an example.	6	L2	2	1
b)	Explain the declaration and initialization of arrays.	6	L2	2	1
c)	Build a program in C to find the product of two matrices.	8	L3	2	2
	Unit – III				
a)	Define structures. Explain Declaration and Accessing the Structured Variable with a suitable example.	6	L2	3	1
b)	Write a program in C to store the marks of 3 subjects and to display the average and total marks of *n* students. Use concepts of structures.	8	L3	3	1
c)	Compare call by value and call by reference.	6	L2	3	1
a)	What are pointers. Explain the basic operations of a pointer with a program.	10	L2	3	1
b)	Build a program in C to input 10 names to a file and print the same.	10	L3	3	1

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

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Unit – IV

7. a) Define an array. Explain the declaration and initialization of single dimensional array. 6
   b) Explain any four string manipulation library function with proper syntax and example. 8
   c) Explain the categories of user defined functions with an example for each. 6

8. a) Define a function. Explain the elements of user defined function with suitable example. 8
   b) Write a C program to find length of a string without using the library function. 6
   c) Write a C program to find the smallest element in an array. 6

Unit – V

9. a) What is structure? Explain the syntax of structure declaration and initialization with example. 6
   b) Explain the different modes of opening a file. Explain the following file I/O functions.
      i) fopen( ) ii) fscanf( ) iii) fgets( ) iv) fprintf( ) v) fputs( ) 10
   c) Explain how pointers and arrays are related with an example. 4

10. a) Explain nested structure with an example. 4
    b) Define file. Write a C program to read data from a file and write data to a file. 10
    c) Write a C program to swap two numbers using pointers. 6

BT* Bloom's Taxonomy, L* Level

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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 2018

17CS111 – COMPUTER CONCEPTS AND 'C' PROGRAMMING

uration: 3 Hours

Max. Marks: 100

*Note: Answer **Five full** questions choosing **One full** question from **each Unit.***

		Marks	BT*
	Unit – I		
a)	What is problem solving? Explain the steps involved in program development.	10	L*2
b)	What is an operating system? Explain types of operating systems.	6	L2
c)	Briefly explain the important factors affecting processing speed.	4	L2
a)	Define program. Explain the types of programming languages.	6	L2
b)	Explain the components required for processing of data.	8	L2
c)	Explain the various functions of an operating system.	6	L2
	Unit – II		
a)	Evaluate the following expressions assuming a=8, b=15, c=4. Specify the operators that are evaluate in each step. i) 2<0::((a*5)>= (6+(b-3)/ (c+2))) ii) 11÷2>6 && !5::2!=7 && 11-2<=5	10	L4
b)	Explain the type conversion in C.	4	L2
c)	What is an identifier? What are the rules to construct an identifier? Classify the following as valid/invalid identifiers. i) num2 ii) num$1 iii) -2a.@c iv) a_2	6	L4

a)	i) Indicate the output of the following code segment
	`main( )`
	`{`
	`int x=25, y=10, e, d;`
	`float g;`
	`g=x*2/(float)2-13;`
	`e=++x + y++;`
	`d=x++ + e;`
	`printf (" %d %d %d %d\n", x, y, e, d);`
	`printf ("value of g=%f", g);`
	`}`		

	ii) Write a C program to find minimum of two numbers using ternary operator.	10	L5
b)	List all the operators used in C with one example for each.	4	L1
c)	Explain the structure of a C program with an example.	6	L2
	Unit – III		
a)	List all branching statements. Explain any two with proper syntax and example.	6	L1
b)	Explain switch case statement with syntax and example.	6	L2
c)	Write a C program to find factorial of a number using all looping statements.	8	L3
a)	Write the syntax of all looping control statements. Explain how break and continue statements are used in C program with example.	6	L2
b)	List the differences between while and do-while loop. Write a C program to find sum of 'N' natural numbers using while loop.	8	L4
c)	List all the conditional control statements used in C. Write a C program to find the maximum of three numbers.	6	L3

P.T.O.