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Make up – January 2017

16CS111 Unit – V

9. a) What are structures? Explain using code snippet, how to store and retrieve values from a structure. 6

b) What are pointers? How do you declare and initialize pointer variable? Write a simple program to read elements into an array using a pointer variable and print it. 6

c) Explain the following C functions by giving the syntax and example. 8

a. fprintf b. fscanf
c. fseek d. fopen

10. a) Differentiate between structures and unions. 4

b) Write a function named *swap* to swap two numbers using pointers. Write a C program that reads two numbers from the user and uses the *swap* function to swap them. Print the variable values before and after swapping. 6

c) Consider a record containing elements id, name and age. Write a C program to read a record from the user and write it to a file. Then read it from the file and print it. 10

BT* Bloom's Taxonomy, L* Level

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NMAM INSTITUTE OF TECHNOLOGY, NITTE

(An Autonomous Institution affiliated to VTU, Belagavi)

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

Make up Examinations – January 2017

16CS111 – 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		
1.	a)	Explain how computer processes data?	8	L*2
	b)	Describe the concept of keyboard interaction with CPU.	6	L2
	c)	Outline why a solid state storage devices are unique among storage devices.	6	L1
2.	a)	Describe the working of a cathode ray tube monitor with a neat diagram.	8	L1
	b)	Outline information processing cycle.	6	L2
	c)	Explain how a computer uses a speaker to generate sound signal.	6	L2
		Unit – II		
3.	a)	Explain Implicit and explicit type conversions in C. Give examples.	7	L2
	b)	Define variables in C. Write the syntax for variable declaration and list four rules for declaring the variables.	7	L2
	c)	Design a flowchart and algorithm to find the area and circumference of a circle.	6	L5
4.	a)	Explain in brief the basic data types in C along with its range.	8	L2
	b)	Evaluate the following expressions: I) 2* ((i/3) +4 *(j - 2)) given i=8 , j=5. II) a && b || c && (! b) given a=2, b=4, c=3. III) a += b *= c -= 5 given a=3, b=5, c=8.	6	L5
	c)	Distinguish between procedural and object oriented programming language.	6	L2
		Unit – III		
5.	a)	Explain the various formatted input statements used in C.	5	L2
	b)	Describe the syntax of switch statement with an example.	8	L2
	c)	Write a program to find x^n using while loop.	7	L5
6.	a)	Explain conditional operator with an example.	5	L1
	b)	Write a c program to check whether a character is vowel or consonant.	7	L5
	c)	Describe how break statement is used in Loops.	8	L3
		Unit – IV		
7.	a)	Define a function. What are the advantages of using them in the program?	4	L1
	b)	Briefly explain different ways to initialize 2-dimensional array while declaring it with example.	4	L3
	c)	Explain each of the following with example i) return statement with values and their types ii) Function declaration. iii) Function call iv) Category of functions	12	L4
8.	a)	Define global and local variable. With examples explain how and where they are declared.	5	L2
	b)	Write a function to find and return largest of three integer values with suitable comments.	5	L4
	c)	Define string. How to initialize a string? Explain any four string manipulation function with syntax.	10	L2

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16CS111

8. a) Compare the following string functions with example. 6
   i) strcmp() and strncmp()
   ii) strcat() and strncat()
   iii) strcpy() and strncpy()
   b) Explain different elements of user defined functions with proper syntax and example. 6
   c) Write a C program to perform binary search for a given key integer in a single dimensional array of numbers in ascending order and report success or failure in the form of a suitable message. 8

Unit – V

9. a) Explain the following file handling functions with example 6
   i) fprintf() and fscanf()
   ii) getw() and putw()
   b) Define pointer. Explain declaration and initialization of pointer variables with suitable example. 6
   c) Explain the following terms with suitable example. 8
   i) Nested structures
   ii) Array of structures

10. a) What are structures in C? Write the structure definition and structure variable declaration with suitable example. 6
   b) List out the benefits of using pointers to programmer and write a program to swap two numbers using pointers. 8
   c) Write a C program to copy the contents of one file into another. 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 2017

16CS111 – COMPUTER CONCEPTS AND 'C' PROGRAMMING

Duration: 3 Hours | Max. Marks: 100

*Note: 1) Answer **Five** full question choosing **One** full question from **each Unit.***
2) Draw diagrams wherever necessary.

			Marks	BT*
		Unit – I		
1.	a)	List out the computers for individuals and briefly explain each.	6	L*3
	b)	Illustrate the standard keyboard layout with a neat diagram.	8	L4
	c)	Write short notes on the following optical storage devices.		
		i) CD-ROM	6	L1
		ii) DVD-ROM	8	L2
2.	a)	Describe Ink Jet printers and Dot Matrix printers.	6	L3
	b)	Summarize the information processing cycle.	6	L4
	c)	What is an operating system? Explain its functions.		
		Unit – II		
3.	a)	Explain the algorithm with its characteristics. Write an algorithm and flowchart to find the sum of even and odd numbers in a given range.	10	L4
	b)	Explain type conversions in C with suitable example.	6	L3
	c)	What is a conditional operator? Write a program to find the largest of three numbers using conditional operator.	4	L2
4.	a)	What are 'C tokens'? Explain various types of C tokens with example.	8	L4
	b)	List out the rules for writing an identifier in C.	4	L2
	c)	What is a short-hand operator? List out the advantages of using short-hand operator.	4	L1
	d)	Evaluate the following expression where a=10, b=2, c=4, d=7, e=3, f=0 **(a/b-c) && (d%e) || (f/a) != d< !f** (Note: show the precedence of operators in each step)	4	L5
		Unit – III		
5.	a)	Explain switch statement in C. Write a C program to implement simple calculator to perform addition, subtraction, multiplication and division using switch statement.	10	L6
	b)	Write short notes on the following with suitable example.		
		i) break and continue ii) getchar() and putchar()	6	L2
	c)	Differentiate between while and do-while loop with syntax and example.	4	L4
6.	a)	Illustrate different forms of **if** statement with example.	8	L3
	b)	What is formatted output? Explain output of integer and real numbers using an example for each.	8	L4
	c)	Write a C program to find the factorial of a given number using while loop.	4	L3
		Unit – IV		
7.	a)	Illustrate the different category of functions with example.	10	L3
	b)	Explain the initialization and declaration of one dimensional array with example.	6	L4
	c)	Write a C program to find the reverse of a given string.	4	L2

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NMAM INSTITUTE OF TECHNOLOGY, NITTE

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

Make up / Supplementary Examinations – July 2017

16CS111 – COMPUTER CONCEPTS AND 'C' PROGRAMMING

Duration: 3 Hours | Max. Marks: 100

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

Unit – I

1.	a)	How do you classify the computer systems based on individual? Explain each category.	12	
	b)	Classify the differences between system software and application software.	4	
	c)	Write a note on optical input devices.	4	
2.	a)	Explain the different types of monitors.	6	
	b)	Explain the different types of printers.	10	
	c)	How do you represent data in computer systems? Explain.	4	

Unit – II

3.	a)	Define a variable. How do you declare a variable? Explain with examples.	6	
	b)	Write a C program to convert the temperature in Fahrenheit to Celsius.	6	
	c)	Write the algorithm and flow chart to find whether the number is even or odd.	8	
4.	a)	Explain the classification of operators in C. Discuss relational, logical and bitwise operators.	10	
	b)	Explain the conditional operator with an example.	6	
	c)	Explain how type conversion takes place in C.	4	

Unit – III

5.	a)	Develop a C program to find the second biggest of 3 integer values.	4	
	b)	Explain the significance of printf and scanf statements.	10	
	c)	Differentiate between the else….if ladder and the switch statement.	6	
6.	a)	What is the use of goto statement in C? Explain with an example.	5	
	b)	Differentiate between while and do….while statements.	8	
	c)	Design a program to find sum of n natural numbers using for loop.	7	

Unit – IV

7.	a)	Explain how a function returns a value to a calling function with an example.	8	
	b)	Develop a C program that will demonstrate how a string of characters are copied to another string using arrays.	8	
	c)	Explain how you can pass array as parameters to functions.	4	
8.	a)	Write a C program to read two matrices A(MXN) and B (PXQ) and perform addition of two matrices. Display the result in matrix form.	10	
	b)	"Functions saves memory and time" How do you justify this?	4	
	c)	How do you initialize two dimensional arrays? Explain with examples.	6	

Unit – V

9.	a)	Bring out the differences between a structure and union.	4	
	b)	Write a C program using structures to maintain student records. Use necessary functions to read and display student details.	10	
	c)	Write a note on array of structures.	6	
10.	a)	What is a pointer? How pointers are used to access the structure members? Explain with examples.	10	
	b)	Write a C program to copy contents of one file to another file.	10	

BT* Bloom's Taxonomy, L* Level

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