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P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

Second Semester, B.E. - Semester End Examination; May/June - 2018

Computer Concepts and C Programming

(Common to All Branches)

Time: 3 hrs   Max. Marks: 100

Note: Answer **FIVE** full questions, selecting **ONE** full question from each unit.

UNIT - I

1 a. Explain the basic data types supported by C language with examples.   10

 b. Define flowchart. Draw a flowchart to find the largest of three numbers.   6

 c. With suitable examples, explain the operators that can be performed on integer in C.   4

2 a. Explain the following operators in C :   10

  i) Relational Operators   ii) Bitwise Operators

 b. Write an algorithm to find the roots of a Quadratic equation.   10

UNIT - II

3 a. Write a program to simulate a simple calculator using switch statement.   10

 b. Explain each of the following with examples :   10

  i) GOTO statement   ii) if-else ladder   iii) Ternary operator   iv) getchar( )

4 a. Write a program to find the GCM and LCM of given two numbers.   10

 b. With the help of examples, explain printf( ) and scanf( ) statements used in C language.   10

UNIT - III

5 a. What is an array? Describe how declaration and initialization can be done on a single   6
   dimension array with an example?

 b. Write a program to sort *N* integer's numbers using bubble sort.   10

 c. Differentiate between while and do-while statement, give the syntax for the same.   4

6 a. Write a C program to find the trace and norm of a given 3 x 3 matrix.   10

 b. Write a C program to find the product of two *n* x *m* matrices.   10

UNIT - IV

7 a. What is a function? Write a C program to sort *N* numbers using selection sort, using user 10
   defined function.

 b. Write a program to reverse a string and check, it is a palindrome or not, without using built 10
   in functions.

8 a. Explain the different ways of passing parameters to a function.   8

 b. Define a pointer. Write a C program to swap two numbers and print its value using   6
   function.

 c. Write a C program to find the reverse of 4-digit integer, using function.   6

UNIT - V

9 a. What is a structure, declare a structure considering book data, such as book name, author, price and number of pages. Write a C code to read and print the same from key board and on screen respectively. 10

 b. What is a file? Explain the high-level I/O operations. 6

 c. Explain how files are handled in C using Open and Close functions? 4

10 a. Distinguish between the following with example :

 i) Structure and Array

 ii) fopen( ) and fclose( )

 iii) fscanf( ) and fprint( )

 iv) Structure and Union

 10

 b. Write a C program to open a text file, read the data, perform the operation on data and display the result. Assume content of the file suitably. 10

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