



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

(An Autonomous Institution affiliated to VTU, Belagavi)

First Semester, B.E. – Semester End Examination; Dec. - 2019

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 factors affecting processing speed of a computer. | 5 |
| b. | Write algorithm and flowchart to find the roots of a quadratic equation. | 10 |
| c. | List and explain the different data types in 'C' language. | 5 |
| 2 a. | Explain the basic structure of a 'C' program with an example. | 10 |
| b. | Evaluate the following expressions: | |
| | i) $a/b < = c - d + a \% c - b = = d > = e ! = b$ where $a = 100$ $b = 20$ $C = 10$ $d = 5$ $e = 1$ | 4 |
| | ii) $a - = (- - a) - (a - -) - (a - -)$ given $a = 5$ | |
| c. | Define C token. List the rules to be followed while framing identifiers. | 6 |

UNIT - II

- | | | |
|------|---|----|
| 3 a. | Explain the syntax of switch. Write a program to print the given digit in words [example : 2 two] using switch. | 10 |
| b. | Explain the syntax of goto statement with an example program. | 6 |
| c. | Explain the formatted input and formatted output functions. | 4 |
| 4 a. | Write a program to generate prime numbers within a given range. | 8 |
| b. | Differentiate between while and do while loop. | 5 |
| c. | Write a program to find GCD of two numbers. | 7 |

UNIT - III

- | | | |
|------|---|----|
| 5 a. | Write a program to sort the elements of an array in ascending order using bubble sort. | 8 |
| b. | Write a program to multiply two matrices. | 12 |
| 6 a. | Explain the string handling functions with example. | 10 |
| b. | Write a program to copy the contents of one string to another string without using string handling functions. | 6 |
| c. | Explain initialization of one dimensional array with example. | 4 |

UNIT - IV

- | | | |
|------|--|----|
| 7 a. | Explain the different categories of functions with example for each. | 10 |
| b. | Write programs to exchange the contents of two variables using, | |
| | i) Call by value | 10 |
| | ii) Call by reference | |

- 8 a. Write a program using functions to search for an element in the array by linear search method. 10
- b. Explain the elements of user defined functions. 6
- c. Differentiate between actual parameters and formal parameters. 4

UNIT - V

- 9 a. Differentiate between structures and unions. Write a program to add two complex numbers using structures. 10
- b. Write a program to concatenate the contents of two files and store it in a third file. 10
- 10 a. Explain the following: 10
- i) fseek ii) fscanf iii) fprintf
- iv) fopen v) fclose
- b. Create a structure employee, with members as name, eid, salary and blood group. Write a program to search for details of an employee using eid. 10

* * *