



First/Second Semester B.E. Degree Examination, June/July 2019
Programming in C and Data structures

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions, selecting at least ONE question from each part.

Module – 1

- 1 a. Mention the types of input and output statements. Explain any two with example. (06 Marks)
- b. Mention types of operators based on the number of operands? Explain logical operators with example. (09 Marks)
- c. Evaluate the following expressions where $i = 3, j = 4, k = 2$:
i) $i++-j--$
ii) $++K%-j$ iii) $j+1/i-1$ iv) $j++/i--$ v) $++i/+ +j+1$ (05 Marks)
- 2 a. Mention the types of expressions. Explain with example. (06 Marks)
- b. Write a program in C to find the area of rectangle, triangle and circle. (06 Marks)
- c. Explain the steps of a C program. Explain each step. (08 Marks)

Module – 2

- 3 a. Mention the types of conditional branch statements. Explain else-if ladder with syntax and example. (08 Marks)
- b. Write a program in C to display color names depending on the code using switch statement. (08 Marks)
- c. Differentiate between while and do-while. (04 Marks)
- 4 a. Explain break, continue and exit statements with syntax and example. (08 Marks)
- b. Write a program in C to display multiplication table upto n number. (06 Marks)
- c. What is a loop? Why it is required? Explain. (06 Marks)

Module – 3

- 5 a. What is an array? Mention the types of array. Explain how it is declared, read and printed. (08 Marks)
- b. Explain any four string handling functions. (08 Marks)
- c. Write a program in C to find the factorial of a number using recursion. (04 Marks)
- 6 a. What is a string? Explain how it is declared, read and printed. (08 Marks)
- b. Write a program in C to find the transpose of a matrix. (06 Marks)
- c. What is a function? Mention types of functions. Explain any one with example. (06 Marks)

Module – 4

- 7 a. Explain array of structures with an example. (06 Marks)
- b. What is a file? Explain file mode operations. (06 Marks)
- c. Write a program in C to create a structure of employee with name, Ecode, dept and org as data members and using this structure read and write five employee information. (08 Marks)
- 8 a. Compare array with structure. What are the advantages of structure over array with an example? (08 Marks)
- b. Write the advantages of files. (04 Marks)
- c. Write a program to create a file to read and print 100 students information. (08 Marks)

Module – 5

- 9 a. Mention the types of data structure. Explain any two. (08 Marks)
- b. Explain the applications of stack and linked list. (08 Marks)
- c. What is a pointer? Write the advantages of pointers. (04 Marks)
- 10 a. Mention the types of preprocessors. Explain any two preprocessors. (06 Marks)
- b. What is dynamic memory allocation? Explain the functions of memory allocation. (06 Marks)
- c. Write a program in C to add n numbers using a pointer. (08 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.

