B.Tech Even Semester (CBCS) Exam. July 2021

Computer Science & Engineering / Agricultural Engineering / Electronics & Communication Engineering

(2nd Semester)

Course No: ASH-203/SOTCF-08

(Programming for Problem Solving / Computer Systems and Programming)

Full Marks: 50
Pass Marks : 25/15

Time: 2 hours

1. Answer any five questions.
2. Begin each answer in a new page.
3. Answer parts of a question at a place.
4. Assume reasonable data wherever required.
5. The figures in the right margin indicate full marks for the question.

1. (a) Broadly classify the computer system into two parts. Also, make a comparison between a human body and the computer system and thereby explaining what each part does. 07

   (b) Define programming. What do you mean by source code? 1.5+1.5=03

2. (a) Give a brief description of generation of programming languages. Highlight the advantages and disadvantages of languages in each generation. 08

   (b) Differentiate between syntax error and logical error. 02

3. (a) Write a short note on basic data types that the C language supports. 03

(b) Write a C program to read two floating point numbers. Add these numbers and assign the result to an integer. Finally display the values of all three numbers.Explain the result. 03

(c) Write a C program to print the count of even numbers between 1 and 200. Also print the sum of all even numbers from 1 to 200. 04

4. (a) List out the differences between while and do-whileloops. Also, explain the situation where it is most appropriate to use do-while loop rather than while loop. 01+02=03

(b) Write a program to find out the day for a given date using switch case. 07

5. (a) Briefly explain the storage classes of a variable. 03

(b) Write a C program to show the Roman representation of a given number. 07

6. (a) Explain call by value and call by reference using a C program to swap two numbers. 2.5+2.5=05

(b) Write a C program to merge two integer arrays using functions. Also display the merged array in reverse order. 05

7. Write a menu driven program to read and display an m x nmatrix by passing it to a function. Also find the sum, transpose and product of two m x nmatrices. 10

8. (a) Write a program to insert three new names in the string array STUD[][], assuming that names are sorted alphabetically. 05

(b) Write a program, using an array of pointers to a structure, to read and display the data of a student. 05

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