

[Total No. of Questions - 5] [Total No. of Printed Pages - 3]
(2123)

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B. Tech 1st Semester Examination

Introduction to Computer & Programming in C (O.S.)

CS-1001

Time : 3 Hours

Max. Marks : 100

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Attempt five questions in all, selecting one question each from section A, B, C & D. Section-E is compulsory.

SECTION - A

1. What is the difference between a machine dependent and machine independent OS? Give an example of a machine independent OS? (20)

OR

How does a color CRT monitor produce images on the screen? What are the two disadvantages of CRT monitors, compared to flat-panel displays? (20)

SECTION - B

2. A Fibonacci sequence is defined as follows:

The first and second terms in the sequence are 0 and 1. The subsequent terms are found by adding the preceding two terms in the sequence. A part of the sequence is: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89..... Obtain a flow chart to find all numbers in Fibonacci sequence less than 200. (20)

OR

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[P.T.O.]

Draw the flow chart to find the average height of boys and girls in a class. (20)

SECTION - C

3. Write a function to swap two numbers without using a temporary variable. What type of parameters would you use? (20)

OR

Write a program to input 10 integers and sort them. Use a menu system to determine whether the sort should be ascending or descending order. Also determine whether the elements have to be sorted by their actual value or absolute value. The process should continue till the user desires to exit. (20)

SECTION - D

4. Write a function to solve a quadratic equation $ax^2 + bx + c = 0$. The input to be the function are values a, b, c and x the outputs of the function should be stored in variable names p, q appropriately declared. (20)

OR

Construct a program for managing the membership of library. There are two kinds of members; those who can borrow

(a) 2 books at a time, for 7 days

(b) 4 books at a time for 15 days

Write a program that accepts the name, code number and duration of books borrowed and displays the names and other information of all those members having dues. (20)

SECTION - E

5. (a) What is the difference between primary memory and secondary memory?

- (b) What parts of a computer are accommodated on a motherboard?
- (c) Enumerate the different types of OS.
- (d) What is hypertext? What is hypertext-based browsing? Give an example of hypertext browsing.
- (e) Illustrate the initialization of a one dimensional array with an example.
- (f) Distinguish between local and global variables.
- (g) Explain the concept of call-by-value and call-by-reference parameters.
- (h) What are the three steps that are followed while accessing a file.
- (i) What are nested structures and how they are defined?
- (j) The scanf statement requires an & to precede variable names passed to it, but printf does not. Why?

(2×10=20)