Reg. No. :

Answer ALL Questions

PART A - (5 x 1 = 5 Marks)

1. Which of the following is the example for an array of structure?

    (a) struct emp { char name[10]} e;   (b) struct emp { char name[10]} e[10];
    (c) both (a) and (b)   (d) none of these

2. *ptr++ means

    (a) Increment the pointer   (b) Increment the value of the pointer
    (c) Both increment pointer and value   (d) Multiply the pointer

3. Which of following function is used to store a structure into a file?

    (a) fread ( )   (b) fscanf ( )   (c) fprintf ( )   (d) fwrite ( )

4. _____ is the useful data structure for playing video or sound files in a "looping" mode.

    (a) Single linked list   (b) Circular linked list
    (c) Queue   (d) List

5. Balancing the parenthesis is one of the application of

    (a) stack   (b) list   (c) queue   (d) dequeue

PART - B (5 x 3 = 15 Marks)

6. Defne a structure to store the details of 100 employees with the following fields: Name, Id, Date of Join and salary.

7. What is pointer to a function? Explain with example.

8. Explain the following file commands. (i) fseek ( ), (ii) ftell ( ) and (iii) rewind ( ).

9. List out any three applications of linked list.

10. Differentiate stack and queue.

PART - C (5 x 16 = 80 Marks)

11. (a) An examination result system of a college has details of Student name, register number, subject code, subject name and grade. Design the above system using structures to store details of 10 students. The system should get the register number as input and retrieve result details. (16)

Or

(b) The pay slip record for an employee is maintained with employee name, employee id, department name and salary. Write a program to read the details of 5 employees and to sort list based on salary. Sorting should be done by passing the details to a function. (16)

12. (a) Write a C program to sort the elements of an array using pointers. (16)

Or

(b) Given an array of integer, write a function to count the occurrences of a particular element in the array. (16)

13. (a) Write a program to do the following: (i) Write and read the integers from a file named as "Input" (ii) if the integer is an odd number then store it into a file named as "Odd" (iii) Else store that into another file named as "Even". (16)

Or

(b) Write a program to read a file containing characters. Count the number of characters, words and lines in that file. (16)

14. (a) Write the algorithm for creating a doubly linked list and to delete the front element in it. Develop relevant coding in C. (16)

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(b) Write the algorithm for creating a circular linked list and to update an element in it. Develop relevant coding in C. (16)

15. (a) Write an algorithm to implement the operations of circular queue in array. (16)

Or

(b) Write an algorithm to convert an infix expression to postfix expression. Show the simulation using stack to convert the expression: a+b*c+(d*e+f)*g. (16)

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