BE-II/6(A)

214185

COMPUTER PROGRAMMING   **COURSE NO. COM – 204**

(Computer Programming Using C)

Time Allowed: 3 Hours   *Maximum Marks – 100*

Note: Attempt **five** questions in all selecting at least two questions from each Section. Each question carries 20 marks.

Section – A

1.   Perform the following:

    (i) $101.11 - 11.110$ using 2's compliment method.
    (ii) $(A2.1B2)_{16} = (?)_{10} = (?)_2$
    (iii) $(1101.1110)_2 = (?)_{10} = (?)_{16}$
    (iv) -6×4 using Booth's Algorithm
    (v) $(123)_8 + (12.23)_8$

2.   (a)   What are the different data types available in C? What is the importance of qualifiers in data types?

    (b)   Write a program in C to generate first 10 tribonacci numbers which are prime in nature.   (10, 10)

3.   (a)   Write a program in C to merge two sorted arrays A and B such that the resultant array will also be sorted array. The program should not use any sorting technique to print the resultant array in sorted manner.

    (b)   What are the different storage classes in C? Explain their use in C language with suitable example.   (10, 10)

4.   (a)   Write program in C to print the following:

1	2	3	4	4	3	2	1
1	2	3			3	2	1
1	2					2	1
1							1

(b) Write a program in C to search a given number in an array (stored in descending order) using binary search technique.

(10, 10)

Section – B

5. (a) What are the different memory allocation techniques in C? Explain each with suitable example.

(b) Write a program in C using function, to encrypt a given string.

For example: I/P = CLASS

O/P = DKBRT

(10, 10)

6. Write a menu driven program to input an integer array of 'n' elements and perform the following:

(i) Sort the array using bubble sort technique

(ii) Print the highest in the array

(iii) Print the sum of prime numbers of the array.

Use switch-case and user defined functions in the program.

7. (a) A file named DATA contains a series of integers numbers. WAP to read these numbers and then write all 'odd' numbers to a file to be called ODD and all 'even' numbers to a file to be called EVEN.

(b) Write a program using function to print the GCD of three numbers. Use pass by reference method to pass the arguments in the function.

(10, 10)

8. (a) Differentiate between:

(i) Structure and Union

(ii) Call by vale and Call by reference method

(b) Write a function in C to print the norm of a matrix. (10, 10)

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