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F.E. Semester-II (Revised Course 2019-20)
EXAMINATION AUGUST 2021
Computer Programming

[Duration: Two Hours] **[Total Marks:60]**

Instructions:
i) Answer THREE FULL QUESTIONS with ONE QUESTION FROM EACH PART.
ii) Draw neat diagram wherever necessary.
iii) Assume suitable data if required.

Part A

Q.1
a) Explain the graphical method used for representing the logic of a program. (4)
b) Write an algorithm and draw a flowchart to accept 'n' numbers from the user and count the number of positive and negative numbers in the entered set. (6)
c) Write an algorithm and draw a flowchart to reverse an entered number. (6)
d) Distinguish between iteration and recursion. (4)

Q.2
a) What is a data type? Describe the various data types supported by C. (6)
b) Write a C program to compute the factorial of an entered number using recursion. (8)
c) Write the output of the following C codes: (6)

(a)#include<stdio.h>
Void main()
{
int a=500,b=500,c;
c=a/b;
c--;
printf("%d%d%d"a,b,c);
}
	(b)#include<stdio.h>
	Void main()
	{
	Int a=5,b;
	b=a%(a-a/2)*(a-3)+a;
	printf("b=%d",b);
	}

Q.3
a) Explain the elements of C function with an example. (6)
b) Explain switch-case with the help of an example. (8)
c) Write a C program to find the sum of numbers between 1 to 100 that are not divisible by 5. (6)

Part B

Q.4
a) What is an array? Explain the two methods for initialization of 1D array. (6)
b) Write a C program to insert an element at a specific position in a 1D array. (6)
c) Write a C program to multiply two matrices. (8)

Q.5
a) Write a C program using a structure to accept the details of n employees with the fields such as employee id, name, identification and salary.
Print the details of the employees having salary greater than 40,000 (8)
b) Distinguish between structures and unions. (4)

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c) Define a structure giving an example. Can members of two different structures within the same program have same names. Justify your answer. (8)

Q6 a) Write a C program to accept marks of 'n' students in an array and compute the average by passing the array to a function. (8)

b) Explain pointer declaration and initialization. Also explain advantages of pointers. (6)

c) Write a program to read content from a file and display the content to the user. (6)

Part C

Q.7 a) Write an algorithm and draw a flowchart to find the sum of squares of first 'n' natural numbers. (5)

b) Explain the feature of block structured languages. (5)

c) Write a C program to check if the entered number is even or odd. (5)

d) Explain the structure of a do-while loop with an example. (5)

Q.8 a) Write a C program to add two numbers using pointers. (5)

b) Explain the following String handling functions with examples: (10)

i) strrev()
ii) strcmp()
iii) strlen()
iv) strstr()
v) strcat()

c) Explain dynamic memory allocation. (5)

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