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Question Paper Code :R1207

B.E./B.Tech. DEGREE EXAMINATION, NOV/DEC 2024

First Semester

Computer Science and Engineering

R21UCS107- PROBLEM SOLVING AND C PROGRAMMING

(Common to ECE, IT, CSBS, AI&DS, CSD, CSE(AIML), IOT & CYBER SECURITY)

(Regulations R2021)

Duration: Three hours

Maximum: 100 Marks

Answer All Questions

PART A - (5 x 1 = 5 Marks)

1. A declaration float a, b; occupies ____ of memory? CO1- U
(a) 1 byte (b) 4 bytes (c) 8 bytes (d) 16 bytes
2. Which is the definition of pseudo code? CO1- U
(a) Sequential action (b) Imitation of Program
(c) Pictorial representation (d) Step-by-step action
3. In an-----, a condition is checked after executing the body of a loop. CO1- U
(a) Switch (b) exit controlled loop
(c) entry controlled loop (d) None of the above
4. What will be the output of the program? CO4- App
void main()
{
 charstr[] = "online\0exam\l;
 printf(—%s\l,str);
}
(a) online\0exam (b) online (c) online exam (d) exam

5. What will be the output of the following C program?

```
#include <stdio.h>
int add(int a, int b) {
    return a + b;
}
void main() {
    int result = add(5, 3);
    printf("%d\n", result);
}
```

CO4- App

- (a) 8 (b) 53 (c) Compiler Error (d) done

PART – B (5 x 3= 15 Marks)

6. Explain the Basic Organization of a Computer? CO1- U
7. Draw the flowchart to explain the working of nested if condition CO3- App
8. Write the syntax for nested if statement CO1- U
9. Write a C program using arrays. CO4- App
10. What is the use of strcpy() andstrupr() functions.? CO1- U

PART – C (5 x 16 = 80 Marks)

11. (a) (i) Write a C program which takes as input p,n,r. Compute the simple interest and display the result. CO2- App (8)
- (ii) Write a C program in C to find the area and Circumference of a circle CO2- App (8)
- Or
- (b) (i) Write a C program to perform arithmetic operations CO2- App (8)
- (ii) Write a C program to find the average of three numbers. CO2- App (8)
12. (a) (i) Write a C program to determine the Largest of Two Numbers using if-else condition statements CO3- App (8)
- (ii) Write a C program for calculating the Sum of Numbers from 1 to 10 using a for Loop CO3- App (8)
- Or
- (b) (i) Write a C program to print the numbers from 1 to 5 using while, do-while and for loop statements CO3- App (8)
- (ii) Write a C program to print a multiplication table using for loop CO3- App (8)

13. (a) (i) Write a C Program to find the average of n numbers using arrays CO4- App (8)
(ii) Write a C program using all String Handling Functions CO4- App (8)
Or
- (b) Write a C program for Matrix addition using 2D-Array. CO4- App (16)
14. (a) (i) Write a C program to calculate the area of the square using functions CO4- App (8)
(ii) To find the Factorial of a given number using recursion in C. CO4- App (8)
Or
- (b) Write a C program to swap two numbers using pass by value and pass by reference. CO4- App (16)
15. (a) Write a C Program to find the sum of two numbers using the all four aspects of Function call. CO4- App (16)
Or
- (b) (i) Find the sum of natural numbers using recursion in C CO4- App (8)
Programming
(ii) Write a C Program to find the nth term of the Fibonacci series CO4- App (8)
using recursion in C.

