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Question Paper Code: R4226

B.E. / B.Tech. DEGREE EXAMINATION, APRIL /MAY 2025

Fourth Semester

Civil Engineering

R21UCS426 - FUNDAMENTALS OF C PROGRAMMING

(Regulations R2021)

(Common to EEE, BME, AGRI, Biotech & Chemical Engineering branches)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (5 x 1 = 5 Marks)

1. Which of the following is not a characteristic of a computer? CO1-U
(a) Speed (b) Intelligence (c) Automation (d) Versatility
2. Select the correct test condition for finding the ODD or EVEN numbers. CO1-U
(a) (num % 2 = 0) (b) (num / 2 == 0) (c) (num % 2) (d) (num % 2 == 0)
3. What is the right way to initialize array? CO1-U
(a) int n[6]={2,4,12,5,45,5}; (b) int n[]={2,4,12,5,45,5}
(c) int n{6}={2,4,12}; (d) int n(6)={2,4,12,5,45,5}
4. What will be the output of the following C program? CO2-App

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


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

5. Comment on the following pointer declaration? `int *p, x;` CO1-U
- (a) p is a pointer to integer, x is not (b) p and x, both are pointers to integer
- (c) p is pointer to integer, x may or may not be (d) p and x both are not pointers to integer

PART – B (5 x 3= 15 Marks)

6. Draw a flow chart to find the biggest of two numbers. CO2-App
7. Write a C program for if-else statement. CO2-App
8. Differentiate arrays and strings. CO1-U
9. Write a program in C to calculate the sum of numbers from 1 to n using recursion CO2-App
10. Define a structure type personal that would contain person name, date of joining and salary. Write a program to initialize one person data and display the same. CO2-App

PART – C (5 x 16= 80 Marks)

11. (a) Explain basic organization of Computer Hardware in detail. CO1-U (16)
- Or
- (b) Explain about Operators with example. CO1-U (16)
12. (a) (i) Write a C program to check whether a given number is even or odd.(8) CO2-App (16)
- (ii) Write a C program to print the numbers in Fibonacci Series using a while loop.(8)
- Or
- (b) (i) Write a C program to read the age of a candidate and determine whether he is eligible to cast his/her own vote. CO2-App (16)
- (ii) Write a C program to Check whether the number is Prime or not using do-while loop.(8)
13. (a) (i) Write a C Program to find the average of n numbers using arrays.(8) CO2-App (16)
- (ii) Write a C program to find the largest and smallest number in an array(8)
- Or
- (b) (i) Write a C program to take 5 values from the user and store them in an array and print the elements stored in the array.(8) CO2-App (16)
- (ii) Write a C program to print reverse of the given string.(8)

14. (a) Write a C Program to find the sum of two numbers using the all four aspects of Function call. CO2-App (16)
- (b) Write a C program to swap two numbers using pass by value and pass by reference. CO2-App (16)
15. (a) Create a C programming using an Structure called Student with name, class, rollnum, total marks as members. Find and display the grade of each student. CO2-App (16)
- >80 – Grade A
>60 – Grade B
> 50 – Grade C
<50 - Fail
- Or
- (b) Create a C programming using Union called Employee which stores the name, id, basic pay, HRA and DA as members. Find the total pay of the employee. CO2-App (16)

