C

Question Paper Code :R1207

B.E./B.Tech. DEGREE EXAMINATION, NOV 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. Identify the Valid Identifier?   CO1- U

   a) @@@123   b) @123   c)_123$ d) Keyword

2. _____ keyword transfers control to a labeled statement?   CO1- U

    (a) goto   (b) break   (c) auto   (d) continue

3. In an array x[10], the x represents the ?   CO1- U

   (a) base address   (b) base value   (c) void pointers   (d) None of the above

4. What will be the output of the following C program?   CO4- App

   ```c
   #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. Which of the following is the collection of different data types? CO1- U

   (a) structure   (b) string   (c) array   (d) All of the above

<center>PART – B (5 x 3= 15 Marks)</center>

6. Write the differences between an algorithm and a flowchart.?   CO1- U

7. Write the syntax for SWITCH statement.   CO3- App

8. Write a C program to get a string and print the string.   CO1- U

9. Write a C program to add two numbers without using return type.   CO4- App

10. Define malloc() in C.   CO1- U

<center>PART – C (5 x 16 = 80 Marks)</center>

11. (a) (i) Write a Pseudo code to perform basic arithmetic operations.   CO2- App   (8)

     (ii) Write a C program to find the area of the circle using the define keyword for declaration of PI value   CO2- App   (8)

<center>Or</center>

  (b) (i) Write a C program to get the 2 integers value from the user and print the same value   CO2- App   (8)

     (ii) Draw a flowchart and Write a C Program to find the biggest of three numbers   CO2- App   (8)

12. (a) (i) Write a C program to read the age of a candidate and determine whether he is eligible to cast his/her own vote.   CO3- App   (8)

     (ii) Write a C program to print the numbers from 1 to 5 using while, do-while and for loop statements.   CO3- App   (8)

<center>Or</center>

  (b) (i) Write a C program to Check whether the number is Prime or not using do-while loop.   CO3- App   (8)

     (ii) Write a C program to print the numbers in Fibonacci Series using a while loop.   CO3- App   (8)

13. (a) (i) Write a C Program to print the elements of 2D-array   CO4- App   (8)

     (ii) Write a C program Find the Length and size of the String using String Functions   CO4- App   (8)

<center>Or</center>

  (b) Write a C program to take 5 string from the user and store them in a string and print the elements stored in the string   CO4- App   (16)

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14. (a) (i) Write a C program to find the Factorial of a given number   CO4- App   (8)
using recursion in C.

(ii) Write a C program to calculate the area of the square using   CO4- App   (8)
functions.

Or

(b) Write a C program to swap two numbers using pass by value and   CO4- App   (16)
pass by reference.

15. (a) Create a Union called Book to store information about a book. The   CO4- App   (16)
Union should include the following members:
title: A character array to store the book's title
author: A character array to store the book's author
isbn: An integer representing the book's ISBN
numberOfPages: An integer representing the book's number of pages

Or

(b) Create a C programming using an Structure called Student with name,   CO4- App   (16)
class, rollnum, total marks as members. Find and display the grade of
each student.
>80 – Grade A
>60 – Grade B
> 50 – Grade C
<50 - Fail

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