24U274 (Pages: 2) Name : .....

Reg. No : .....

SECOND SEMESTER UG DEGREE EXAMINATION, APRIL 2025

(FYUGP)

CC24UCSC2CJ101 - FUNDAMENTALS OF PROGRAMMING (C LANGUAGE)

(Computer Science - Major Course)

(2024 Admission - Regular)

Time: 2.0 Hours Maximum: 70 Marks

Credit: 4

Part A (Short answer questions)

Answer ***all*** questions. Each question carries 3 marks.

1. Describe the structure of a simple C program with an example program. [Level:2] [CO1]
2. Explain the working of getchar() and putchar() functions in C [Level:2] [CO1]
3. Explain how does the continue statement differ from the break statement? [Level:3] [CO2]
4. Explain the purpose of an if statement in programming. Provide an example. [Level:3] [CO2]
5. Determine what is function declaration (prototype) in C? [Level:3] [CO3]
6. Explain how you can dynamically allocate memory for a two-dimensional array [Level:3] [CO3]
7. Explain how can u declare and initialize a string. [Level:3] [CO3]
8. Explain about arrays? [Level:3] [CO3]
9. Discuss how do you declare a function that takes a pointer as an argument? Illustrate with an example. [Level:3] [CO4]
10. Compare the usage of auto, static, extern, and register storage classes in terms of scope, lifetime, and visibility. [Level:3] [CO4]

(Ceiling: 24 Marks)

Part B (Paragraph questions/Problem)

Answer ***all*** questions. Each question carries 6 marks.

11. Describe the role of keywords and identifiers in C programming with suitable examples. [Level:2] [CO1]
12. Describe the different primary data types in C with suitable exmple. [Level:2] [CO1]
13. Use the conditional operator to check if a number is even or odd. [Level:3] [CO2]

14. Implement the c program to demonstrate the use of function with and without argument. [Level:3] [CO3]

15. Describe about recursion in C? Explain with an example of a recursive function that calculates the factorial of a number. [Level:3] [CO3]

16. Explain the concept of function pointers. How can they be used to call a function indirectly? Provide a code example. [Level:3] [CO4]

17. Discuss the purpose of pointer increment operations? How does the scale factor affect pointer arithmetic? [Level:3] [CO4]

18. Explain how structures can be passed to functions in C. Discuss the differences between passing by value and passing by reference using examples. [Level:3] [CO4]

(Ceiling: 36 Marks)

Part C (Essay questions)

Answer any ***one*** question. The question carries 10 marks.

19. Describe the role of loop control statements (break, continue, and goto) in C. How do they affect the execution of loops and decision-making structures? [Level:3] [CO2]

20. Demonstrate a program to find the sum of two matrices using user defined functions? Pass arguments. [Level:3] [CO3]

(1 × 10 = 10 Marks)

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