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Reg. No.....

Name.....

B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, NOVEMBER 2022

Fourth Semester

Core Course—PROGRAMMING IN 'C'

[For the Programme B.Sc. Electronics]

(2013—2016 Admissions)

Time : Three Hours | Maximum Marks : 80

Part A

Answer **all** *questions.*
Each question carries 1 *mark.*

1. The statement a * = a is identical to ————.
2. A ———— is the name given to the memory location where data can be stored, accessed or manipulated.
3. A ———— data type does not occupy any space in the memory.
4. ———— field specification is used to refer int.
5. ———— is used to terminate a C program.
6. Each case statement in switch is separated by ————.
7. ———— 'C' statement branches unconditionally from one point to another point in the program.
8. The number of elements in array A[3][4] is ————.
9. When a function does not return any value, its return type is ————.
10. Parameter used in function call are ———— parameters.

(10 × 1 = 10)

Part B

Answer any **eight** *questions.*
Each question carries 2 *marks.*

11. What is a flowchart ? List any four shaped boxes used in it.
12. What is an application specific software ?

Turn over

13. What is a global variable ?

14. What is the relationship between an assignment statement and an expression ?

15. What is a unary operator ?

16. What is the minimum number of times do..while loop will execute ?

17. Explain Union with its syntax.

18. What is the difference between putc() and putw() ?

19. What is the need of header files ?

20. Mention the advantages of using pointers.

21. Define a recursive function.

22. What is a function prototype ?

(8 × 2 = 16)

Part C

Answer any **six** *questions.*
Each question carries 4 *marks.*

23. Compare interpreters and compilers.

24. Write an algorithm to find the sum of squares of 100 numbers. Draw the flowchart also.

25. Briefly discuss the various Data Types used in C programming.

26. What are the differences between the "do-while" loop and "while" loop in C programming language.

27. Explain how arrays are handled in C programming language.

28. Write a program to transpose a 3 × 3 matrix.

29. Write a C program using functions to find the factorial of a given positive number.

30. Discuss about C pre-processors.

31. Differentiate Structure and Unions.

(6 × 4 = 24)

Part D

Answer any **two** *questions.*
Each question carries 15 *marks.*

32. Write a C program to compute all possible roots of a quadratic equation.

33. Given are two one dimensional arrays A and B which are sorted in ascending order. Write a program to merge them into a single sorted array D that contains every item from arrays A and B, in ascending order.

34. Write a C program to maintain a record of "n" student details using an array of structures with four fields (Roll number, Name, Marks, and Grade). Each field is of an appropriate data type. Print the marks of the student given student name as input.

35. Write a C program to read n unsorted numbers to an array of size n and pass the address of this array to a function to sort the numbers in ascending order using bubble sort technique.

$(2 \times 15 = 30)$