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Reg. No................................

Name....................................

B.Sc./B.C.A DEGREE EXAMINATION, SEPTEMBER 2024

First Semester

Core Course—METHODOLOGY OF PROGRAMMING AND PROGRAMMING IN C

(Common for B.Sc. Computer Science and B.C.A)

[2013—2016 Admissions]

Time : Three Hours   Maximum Marks : 80

Part A (Short Answer Questions)

Answer all questions.
Each question carries 1 mark.

1. What is an algorithm ?

2. What is modular programming ?

3. What is recursion ?

4. What is cohesion ?

5. What is a qualifier ?

6. What is typecasting ?

7. What is a function ?

8. What is call by reference ?

9. What is a structure ?

10. What is a pointer ?

(10 × 1 = 10)

Part B (Brief Answer Questions)

Answer any eight questions.
Each question carries 2 marks.

11. What is a flowchart ?

Turn over

12. What is a header file ?

13. What is operator precedence in C ?

14. What are the relational operators in C ?

15. What is the use of increment operator in C ?

16. What is coupling ?

17. How do you declare a function in C ?

18. What is the syntax for declaring an array in C ?

19. What is call by value ?

20. What is type conversion ?

21. What is an external storage class ?

22. What is dynamic memory allocation in C ?

(8 × 2 = 16)

Part C (Descriptive/Short Essay Type Questions)

Answer any **six** *questions.*

Each question carries 4 marks.

23. What are the advantages and disadvantages of top-down programming ?

24. Explain assignment operators in C.

25. Explain debugging tools in C.

26. Write a C program in C to find the area and perimeter of a rectangle.

27. Write a C program which takes as input p. t. r. Compute the simple interest and display the result.

28. Write a C program to find both the largest and smallest number in a list of integers.

29. What are single dimensional arrays ?

30. Write a C program to find the greatest number from two dimensional array.

31. Explain how a pointer variable is declared and initialized ?

(6 × 4 = 24)

Part D (Long Essay)

Answer any **two** *questions.*

Each question carries 15 marks.

32. In detail, explain arithmetic, unary, and bitwise operators in C with examples.

33. In detail, explain various conditional and looping statements in C with examples.

34. Write a C program to compute factorial of a number using recursion.

35. In detail, explain searching and sorting of arrays in C with examples and programs.

(2 × 15 = 30)