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**Question Paper Code : 75534**

5 Year M.Sc. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2013.

Second Semester

Computer Technology

XCS 125/ 10677 SW 205 — PROGRAMMING IN C

(Common to 5 Year M.Sc. Software Engineering/ M.Sc. Information Technology)

(Regulation 2003/ 2010)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. List the different ways of stating Algorithms.
2. What is pseudo-code? List its advantages.
3. What are the data types available in C?
4. What is the need of unsigned char?
5. What is the difference between the prefix and postfix forms of the ++ operator?
6. What is EOF?
7. What is the difference between a break and continue statement?
8. What is the difference between character array and string?
9. What is the difference between a buffered output stream and an unbuffered output stream?
10. What is an array of pointer? How it is declared?

PART B — (5 × 16 = 80 marks)

11. (a) Write an algorithm and flowchart to find the prime factors of a number given by the user. (16)

Or

- (b) (i) Discuss the differences between linker and loader. (8)
- (ii) Discuss the difference between High level language and Low level language. (8)

12. (a) (i) Write a 'C' program to print the ASCII value of a character. (8)  
(ii) Write a 'C' program to swap two numbers without using a temporary variable. (8)

Or

- (b) Explain the different operators available in C with examples. (16)
13. (a) (i) Write a 'C' program to find whether the given number is an Armstrong number or not. (8)  
(ii) Write a 'C' program using switch case to display a menu that offers five options: read three numbers, calculate total, calculate average, display the smallest and display. (8)

Or

- (b) (i) Write a 'C' program to find the second biggest number using an array of n numbers. (8)  
(ii) Write a 'C' program to add two M×N matrices. (8)
14. (a) (i) Write a 'C' program to copy a string into another using strcpy function. (8)  
(ii) What is meant by 'pass by value' and "pass by reference" in functions? Explain with example. (8)

Or

- (b) Design a structure named employee to print names and numbers of employee who have 5 years or more experience and salary less than Rs 10,000 using array of structure. (Name, Employee Number, Experience and salary as member). (16)
15. (a) (i) What is Linked list? Discuss the dynamic memory allocation in C. (8)  
(ii) What is the importance of pre-processor directives? Explain any two pre-processor directives with example. (8)

Or

- (b) Explain the different file functions in C with an example. (16)