

[Total No. of Questions - 9] [Total No. of Printed Pages - 3]
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B. Tech 1st Semester Examination

Principle of Computer Programming in C++ (N.S.)

BE-104

Time : 3 Hours

Max. Marks : 100

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Attempt five questions in all, select one question from each sections A, B, C and D. Section E (Question-9) is compulsory.

SECTION - A

1. (a) What are the parts of a Desktop computer such as IBM PC? Explain block diagram of such a computer. (10)
- (b) What are the main characteristics of a memory cell? Differentiate between Primary and secondary memory used in computer. (10)
2. (a) Give Block diagram of computer. Explain various input/output devices used in computer. (10)
- (b) What is the most important set of software in a PC? What application/services does it include? (10)

SECTION - B

3. (a) Give the differences between procedures oriented and object oriented programming techniques. (10)
- (b) What is assembly language? Is assembly language machine independent? Give advantages and disadvantages and applications of assembly languages. (10)

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4. (a) Differentiate Hardware, software and firmware. Explain three types of system software. (10)
- (b) Differentiate between Compiler, Interpreter and Assembler. (10)

SECTION - C

5. (a) Give the history of C++ language. Explain the syntax of general C++ program. (10)
- (b) Explain the concept of Inheritance with necessary example using a C++ program. (10)
6. (a) Explain decision making statements used in C++ with example. (10)
- (b) Write a program in C++ to read a line of text and delete all the vowels from it. (10)

SECTION - D

7. (a) Define a function. Write a recursive program to print Fibonacci Number in user defined range [Minimum - Maximum]. (10)
- (b) Write a program to multiply two $m \times n$, $p \times q$ matrices using pointer. (10)
8. (a) What is file? Explain different modes of operation on file. (10)
- (b) Write a note on storage classes and scope rules of variable in C++. (10)

SECTION - E

9. (a) Define fundamental unit of memory.
- (b) Differentiate between entry controlled loop and exit controlled loop.

- (c) Give the use of break; and continue; statement in C++.
- (d) Explain input/output streams.
- (e) What you understand by data binding?
- (f) Explain what the different types of errors in programming are?
- (g) Differentiate between structure and union.
- (h) Differentiate between character constant and sting constant.
- (i) What you understand by operate-assign operators?
- (j) Write a short note on data encapsulation. **(2×10=20)**