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(2064)

14609

**B. Tech 2nd Semester Examination**

**Principles of Computer Programming and 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 one question each from Sections A, B, C and D. Section E is compulsory.

**SECTION - A**

1. (a) What are the basic components of a computer system?  
Explain Volatile and Non-Volatile memory. (10)
- (b) Explain in brief about the different generations of computers. Give a brief introduction of operating system and define RAM and ROM. (10)

OR

2. (a) Give a brief introduction of the following,
  - (i) Dot Matrix printer
  - (ii) Line printer
  - (iii) Laser printer (10)
- (b) Give a general introduction about virus and anti-virus. Explain the different pointing devices. (10)

**SECTION - B**

3. (a) Differentiate between High level and Low level languages with suitable examples. What are testing and debugging of a program? (10)

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- (b) What are Internal and External commands? Differentiate between External and Internal commands (10)

OR

4. (a) Differentiate among compiler, interpreter and assembler. Give a brief introduction to algorithm and Flow-chart. (10)
- (b) What is software? Explain System software and Application software. (10)

#### SECTION - C

5. Bring out the salient features of object oriented programming. What is its importance in software development? (20)

OR

6. (a) What is the difference between a class and an object in C++? Explain how to define a class in C++. Also give a brief introduction of basic data types in C++. (10)
- (b) Write a C++ program to find the sum of first n natural numbers using recursion. (10)

#### SECTION - D

7. (a) Discuss the following C++ operators
- (i) new
  - (ii) delete
  - (iii) goto (10)
- (b) Write a C++ program to swap the two numbers using argument passed by
- (i) call by value
  - (ii) call by reference (10)

OR

8. Discuss in detail about text and binary files. How these files can be read and written? (20)

**SECTION - E**

9. Short answer type questions
- (i) What is pseudo code?
  - (ii) What are the different programming errors?
  - (iii) Give the name of five input and output devices.
  - (iv) What is an operating system?
  - (v) What is procedure oriented programming?
  - (vi) What are user defined data types?
  - (vii) Give an example of pre and post increment operators.
  - (viii) Explain argument passing by value.
  - (ix) How to declare and initialize a pointer.
  - (x) Write a function of factorial in C++. (10×2=20)