[Total No. of Questions - 9]   [Total No. of Printed Pages - 3]

May-24-0378

CS-302 (Object Oriented Programming Using C++)

[CSE, IT]

B.Tech. 3rd (CBCS)

Time : 3 Hours   **Max. Marks : 60**

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 question in all. Question no. 9 in Section E is compulsory. Rest attempt one question each from the Section A, B, C and D.

SECTION - A

1. (a) Differentiate between object-oriented programming and procedure-oriented programming.   (5)

    (b) Write a C++ program to illustrate I/O formatted and unformatted I/O using stream functions.   (5)

2. Explain the following concepts.

    (a) Abstract classes.

    (b) Static objects.

    (c) Container classes.

    (d) Member function of I/O stream classes.   (4×2½=10)

SECTION - B

3. (a) Define the role of operator overloading and also explain various type of operator overloading.   (5)

    (b) Differentiate between default constructor and construction with default and argument.   (5)

4. What is inheritance? How does inheritance influence the size and functionality of derived classes objects?   (10)

SECTION - C

5. Write a C++ program demonstrating use of pure virtual function with the use of base and derived class.   (10)

6. What do you mean by dynamic memory allocation? Write a C++ program to elaborate the concept of new delete operator.   (10)

SECTION - D

7. (a) Write a program to count the number of lines in file. (5)

    (b) Discuss briefly various exceptions handling options. (5)

8. (a) Create a class template for queue operations.   (5)

    (b) Explain the following file functions with examples.

         i.   f open ()

         ii.   f close ()

         iii. f print f ()

         iv.   f scan f ()   (5)

SECTION - E (Compulsory)

9. Explain the following.

    (a) Discuss C++ stream classes.

    (b) State the use of cin and cout.

    (c) Describe the terms-inheritance and data abstraction.

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(d) What is class? Give its examples.

(e) Give syntax and use of f close () function.

(f) What do you mean by data encapsulation?

(g) State use of scope resolution operator.

(h) What is the use of friend function?

(i) Compare and contrast the following library functions.

    i. Strcmp ()

    ii. Strncmp ()

    iii. Strcat ()

    iv. Strncat ()

(j) Define typedef and its syntax.   (10×2=20)