Roll No. ☐☐☐☐☐☐☐☐☐☐☐☐☐   Total No. of Pages : 2

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B.Tech.(CSE/ECE/ETE/IT) (Sem.–3)

OBJECT ORIENTED PROGRAMING USING C++

Subject Code : BTCS–305 (2011 Batch)

Paper ID : [A1129]

Time : 3 Hrs.   Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students has to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students has to attempt any TWO questions.**

SECTION-A

1. Answer briefly :

   a. What are container classes?

   b. What is the use of command line arguments?

   c. What is explicit constructors?

   d. Draw a flowchart for a program which adds two matrices of the Order 2×2 ?

   e. What is the concept of late binding and early binding?

   f. What is the role of classes in C++?

   g. What is the difference between call by reference and call by parameter?

   h. What are operators $<<$ and $>>$ used for?

   i. What function can be used to open a file in C++?

   j. What are pure virtual functions?

SECTION-B

2. Write a program to Sort a list of strings into alphabetical order using an array of pointers.

3. How are structures in C different from a class? What is meant by dynamic initialization of a variable? Explain how memory is allocated to classes & objects.

4. Explain class objects. With the help of example explain how data hiding and encapsulation characteristics are achieved in C++

5. How do namespace help in preventing pollution of the global namespace?

6. Explain how new and delete operators manage memory allocation/deallocation dynamically?

SECTION-C

7. How does C++ uses concept of reusability? Write a program in C++ to illustrate use of Polymorphism. What are various types of files? What are the various modes in which a file can be opened? Explain by giving examples.

8. What are the various types of inheritance in C++? Give an example of each. What are virtual functions and pure virtual functions? Explain the use of having abstract classes.

9. What are pure virtual functions? Explain the mechanism of virtual functions. Briefly describe the class hierarchy provided by C++ for stream handling.