Roll No. ☐☐☐☐☐☐☐☐☐☐☐☐☐   Total No. of Pages : 02

Total No. of Questions : 09

M.Sc.(IT) (2015 Onwards) (Sem.–1)
OBJECT ORIENTED PROGRAMMING IN C++
Subject Code : MSIT-102
Paper ID : [72518]

Time : 3 Hrs.   Max. Marks : 60

INSTRUCTION TO CANDIDATES :
1. **SECTIONS-A, B, C & D contains TWO questions each carrying TEN marks each and students has to attempt any ONE question from each SECTION.**
2. **SECTION-E is COMPULSORY consisting of TEN questions carrying TWENTY marks in all.**
3. **Use of non-programmable scientific calculator is allowed.**

SECTION-A

Q1. Explain various control statements of C++ with the help of suitable examples.   (10)

Q2. a) Compare functional and object oriented programming paradigms.   (5)

     b) Discuss various types of operators of C++ language.   (5)

SECTION-B

Q3. a) What is recursion? Write a recursive function to find the factorial of a number.   (6)

     b) Differentiate between Structure and union.   (4)

Q4. a) How pointers can be used to access elements of a one-dimensional array? Write a program using pointers to sort elements of an array.   (7)

     b) Discuss pointer arithmetic.   (3)

SECTION-C

Q5. What do you mean by Inheritance? Explain various types of inheritance with the help of suitable examples.   (10)

Q6. Define Constructor. Write main features of a constructor. Explain various types of constructors with examples.   (10)

SECTION-D

Q7.   What is Operator overloading? Write a program in C++ to overload binary operator.(10)

Q8.   a)   What is a virtual function? Why it is used? Explain with suitable example.   (6)

      b)   Discuss with examples how we can open, close, read and write a file.   (4)

SECTION-E

Q9.   Answer briefly :

      a)   What is the benefit of using inline functions?

      b)   Explain the use of new and delete operators in C++.

      c)   What is an identifier? What are the rules to declare identifiers in C++?

      d)   Discuss the declaration and usage of static data members.

      e)   What is the relationship between an object and class? Give example.

      f)   What are preprocessor directives? Give example.

      g)   What do you mean by friend function? Give example.

      h)   Define inheritance. Name its types.

      i)   Compare early and late binding.

      j)   What is enumeration? Give examples.   (10×2=20)