Reg. No. : | | | | | | | | | | |

Question Paper Code: 31084

B.E. / B.Tech. DEGREE EXAMINATION, APRIL 2015.

Second Semester

Information Technology

01UIT304 - OBJECT ORIENTED PROGRAMMING

(Common to Computer Science and Engineering)

(Regulation 2013)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions.

PART A - (10 x 2 = 20 Marks)

1. What do you mean by Data Abstraction?
2. Define polymorphism with an example.
3. How does a constructor differ from normal functions?
4. What is a default constructor? When is it invoked?
5. What are the various ways of handling exceptions?
6. What is the need for template function in C++? What are the advantages?
7. What is a pure virtual function?
8. What is multiple inheritance?
9. What are the manipulators available in C++?
10. Name the different modes in which file can be opened in C++.

PART - B (5 x 16 = 80 Marks)

11. (a) (i) Describe the concepts of Object oriented programming with examples. (8)

(ii) Explain about function overloading with examples. (8)

Or

(b) (i) Define Scope and explain the different storage classes available in C++. (8)

(ii) What are friend functions? Explain there characteristics with a suitable example. (8)

12. (a) (i) Define constructor and destructor with a sample program. (8)

(ii) Explain about copy constructor with suitable example. (8)

Or

(b) (i) What is meant by overloading? How is operator overloading works? (4)

(ii) Write a program to add 2 complex numbers using operator overloading. What are the operators that can't be overloaded in C++? (12)

13. (a) (i) What is meant by exceptions? How an exception is handled in C++? Explain with the help of an example. (8)

(ii) How are template functions overloaded? Explain with a suitable example. (8)

Or

(b) Create an abstract base class shape with two members base and height, a member function for initialization and a pure virtual function to compute area ( ). Derive two specific classes Triangle and Rectangle which override the function area ( ). Use these classes in a main function and display the area of a triangle and a rectangle. (16)

14. (a) What is multiple inheritance? Discuss the syntax and rules of multiple inheritance in C++.How can you pass parameters to the constructors of base classes in multiple inheritance? Explain with suitable example. (8)

Or

(b) (i) Explain in detail about the virtual and pure virtual function with an example. (8)

(ii) How does visibility mode control the access of members in the derived class? Explain with an example. (8)

15. (a) (i) Explain the following:

(a) ios class (b) setf( ) function

(c) rdstate() function (d) writing of objects to files (8)

(ii) What are the basic differences between manipulators and ios member functions in implementation? Give examples. (8)

Or

(b) What are the two methods of opening a file? Explain with examples. What is the difference between the two methods? (16)