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Reg. No. \_\_\_\_\_ Name: \_\_\_\_\_

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**  
FOURTH SEMESTER B.TECH DEGREE EXAMINATION, JUNE 2017

Course Code: **IT204**

Course Name: **OBJECT ORIENTED TECHNIQUES (IT)**

Max. Marks: 100

Duration: 3 Hours

**PART A**

*Answer any 2 questions.*

1.
  - a. Differentiate between procedural oriented programming and object oriented programming? (5)
  - b. How polymorphism is implemented in C++? (5)
  - c. Write a simple class Time with data members hour, minute and second and member functions SetValues() and ShowValues() (5)
2.
  - a. How can we implement unary and binary operators? Illustrate with sample code. (6)
  - b. Comment on the statement 'String is a primitive data type or not in C++? (3)
  - c. What are the different type Conversions? illustrate with suitable conversion routines? (6)
3.
  - a. What are the applications of copy constructor and static constructor? (5)
  - b. List out the operators that cannot be overloaded? (4)
  - c. Explain default argument functions with example? (3)
  - d. What is the difference between private data member and public data member? (3)

**PART B**

*Answer any 2 questions.*

4.
  - a. Write short note on virtual base class? Illustrate with sample code? (5)
  - b. What is multiple inheritance? Discuss the syntax and rules of multiple inheritance in C++. (6)
  - c. What is the application of function overriding? (4)
5.
  - a. What are the differences between pointers to constants and constant pointers? (5)
  - b. Write a C++ program using pointer array to store 5 strings and display the strings? (4)
  - c. Mention the advantages of passing pointers as function arguments? (3)

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- d. What are the advantages of using new operators as compared to the function malloc()? (3)
- 6.
- a. Explain how base class member function can be invoked in a derived class if derived class also has a member function with same name. (5)
  - b. What is the purpose of inheritance? Explain with examples. (3)
  - c. Write a C++ program to illustrate the use of new and delete operator. (4)
  - d. What is dangling reference? (3)

**PART C**

*Answer any 2 questions.*

- 7.
- a. What are friend functions? Explain the characteristics with a suitable example? (5)
  - b. Write a C++ program to copy the contents of one file to another file. (5)
  - c. What is pure virtual function? Why they are useful? (5)
  - d. What are the file pointer manipulating functions available in C++? (5)
- 8.
- a. Define a class template Queue with Put() and get() operations. Using this create a Queue of integers in main() and add two elements to the queue. (5)
  - b. Implement exception handling for handling both when the queue is empty and when the queue is full. (5)
  - c. Write short note on function template with sample code. (5)
  - d. Why we use multiple catch statements in exception handling? (5)
- 9.
- a. What are the various ways of handling exceptions? (5)
  - b. What is an abstract class? Declare an abstract class. (5)
  - c. Compare normal function and template function. (5)
  - d. Write a program to read and write a user defined class object to file. (5)

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