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**B.C.A. (Under Faculty of Commerce) (Part - II) (Semester - III)****Examination, May - 2018****Object Oriented Programming With C++ (Paper - 304)****Sub. Code : 63399****Day and Date : Saturday, 12 - 05 - 2018****Total Marks : 80****Time : 03.00 p.m. to 06.00 p.m.**

- Instructions :**
- 1) Attempt any four from Q. No. 1 to Q. No. 7
  - 2) Q. No. 8 is compulsory.
  - 3) Figures to the right indicate marks to the question.

- Q1)** a) What are the advantages of object oriented approach over procedure oriented approach? [8]
- b) What is a friend function? What are the merits and demerits of using the friend function? Explain with an example. [8]
- Q2)** a) Illustrate the concept of function overloading with example. [8]
- b) What is class and object? Discuss declaration of class and instantiation of objects with syntax and example. [8]
- Q3)** a) Define constructors? Explain different types of constructors with examples. [8]
- b) Write a program to overload the binary operator + to perform addition of two numbers. [8]
- Q4)** a) What is inheritance? Explain different types of inheritance in details. [8]
- b) Write a program defining a class student, having roll number, name and functions getinfo(), putinfo() and another class exam derived from student and with marks of five subjects and another class result derived from exam with total marks. The program must accept the data at runtime and display them along with the percentage of marks. [8]

- Q5)** a) What is polymorphism? Differentiate between early binding and late binding. [8]
- b) What is virtual function? What is need of virtual function. Explain with a suitable example. [8]
- Q6)** a) What is a stream? Explain with a neat diagram the C++ class hierarchy for stream handling. [8]
- b) Explain the read () and write () function with suitable example. [8]
- Q7)** a) Explain different types of access specifiers in C++ with example [8]
- b) What do you mean by Operator? Explain different types of operators in C++? [8]
- Q8)** Write short note on (any four) [16]
- a) Inline function
  - b) Array of objects
  - c) Data types
  - d) Pure virtual function
  - e) File opening modes

