E 3950 (Pages : 2) Reg. No. 1239822

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B.C.A./B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, OCTOBER 2016

Third Semester

Core Course—OBJECT ORIENTED PROGRAMMING AND C++

(Common for B.C.A. and B.Sc. Computer Applications)

[2013 Admission onwards]

Time : Three Hours Maximum : 80 Marks

Part A (Short Answer Questions)

Answer **all** *questions.*
Each question carries 1 *mark.*

1. What are objects ?
2. Define a pointer.
3. What is the purpose of new operator ?
4. List at least three C++operators which cannot be overloaded.
5. What is enumerated data type ?
6. Explain pure virtual functions ?
7. What is an association ?
8. Explain Generalization.
9. Define an object.
10. Define an abstract class.

(10 × 1 = 10)

Part B (Brief Answer Questions)

Answer any **eight** *questions.*
Each question carries 2 *marks*

11. What is the different between break and continue statements ?
12. State two advantages of using operator overloading in C++.
13. Define inheritance.
14. Why are virtual functions needed ?
15. What is a statics class member ? Explain its characteristics.

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16. Distinguish between structure and union.
17. Write an example to highlight the benefit of operator overloading.
18. How member function differ from other global functions ?
19. What is meant by exception handling ?
20. Explain a nested class ?
21. Define polymorphism.
22. List the advantages of Object Oriented Methodology.

(8 × 2 = 16)

Part C (Descriptive/Short Essay Type Questions)

Answer any **six** *questions*
Each question carries 4 *marks*

23. What is function overloading ? Explain with an example.
24. What is encapsulation ? What are its advantages ?
25. Explain the use of friend function in C++
26. What are the advantages and disadvantages of inline function ?
27. What is run time polymorphism ? How it is achieved ?
28. Write a C++ program to calculate the factorial of a number using functions.
29. Define an array. Explain the use of array of objects with an example.
30. What are characteristics of object oriented languages ?
31. Write a program to add two complex numbers using class.

(6 × 4 = 24)

Part D (Essays)

Answer any **two** *questions.*
Each question carries 15 *marks*

32. 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.
33. Why is destructor function required in class ? What are the special characteristics of destructors ? Can a destructor accept arguments ?
34. Define a class Rectangle which has a length and a breadth. Define the constructors and the destructor and member functions to get the length and the breadth. Write a global function which creates an instance of the class Rectangle and computes the area using the member functions.
35. The keyword 'virtual' can be used for functions as well as classes in C++. Explain the two different uses. Give an example each.

(2 × 15 = 30)