

Reg. No.

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Question Paper Code : 21148

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2014.

Fifth Semester

Electrical and Electronics Engineering

CS 1312 — OBJECT ORIENTED PROGRAMMING

(Common to Electronics and Instrumentation Engineering/Instrumentation and Control Engineering)

(Regulation 2008)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define static data member.
2. What is a pointer? If ia is an integer array, what is the differences between *(ia+4) and *ia+4.
3. What is meant by call by reference?
4. What is the use of a constructor function in a class? Give a suitable example of a constructor function in a class.
5. What is the difference between overloading an operator using a member function and using a friend function?
6. Differentiate between compile time polymorphism and run time polymorphism.
7. What is meant by exception handling?
8. What are templates?
9. What is the use of preprocessor directive #include<iostream>?
10. What are various approaches by which we can detect the end of file condition?

PART B — (5 × 16 = 80 marks)

11. (a) What is object oriented programming? How is it different from structured programming? Explain the features of OOPS.

Or

- (b) Write a class declaration in C++ to create a class 'Time' with hours, minutes and seconds as integer type data members and member function to set the time to user supplied values. Print the Time in Words.

12. (a) What is constructor? How it is different from destructor? Write a C++ program to implement the concept of copy constructor. Give the use of constructor with an example.

Or

- (b) Discuss on the use of pointers to derived classes and pointers to class members.
13. (a) Write a C++ program to accept 2 complex numbers, multiply them and display their output using operator Overloading.

Or

- (b) Write a program that has a class called MATRIX. Check the 2 matrices by using `==` overloaded operator. Perform the following operations. If $(m1 == m2) \{m3 = m1 + m2 \text{ else } m4 = m1 - m2\}$ where $m1, m2, m3, m4$ are MATRIX objects. Display the result by overloaded operator `<<`.
14. (a) What is virtual function? How it is different from pure virtual function? Write a program in C++ to implement the concept of pure virtual function.

Or

- (b) What is inheritance ? Explain the different types of inheritances with examples.
15. (a) What is random access file? Write a program in C++ to count the number of vowels in a file.

Or

- (b) Discuss in detail about File Stream Classes and Error handling functions for Files.