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Question Paper Code : 21389

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2015.

Fifth Semester

Electrical and Electronics Engineering

CS 2311/CS 59/10133 EE 604/10133 CS 304 – OBJECT ORIENTED
PROGRAMMING

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

(Regulations 2008/2010)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Write any two striking features of object oriented programming.
2. What are copy constructors? Give example.
3. Define function templates. Give an example.
4. Give an example to show the usage of `dynamic_cast` in C++.
5. Write any two stream classes and their functions for console operations.
6. Give an example for nested namespaces.
7. What gives Java its 'write once and run anywhere' nature?
8. Bring out the differences between static and dynamic binding in Java.
9. State the uses of interfaces in Java.
10. Mention the purpose of three categories of exceptions in Java.

PART B — (5 × 16 = 80 marks)

11. (a) (i) Compare and contrast procedure oriented and object oriented paradigm in brief. (8)
(ii) Write a C++ program to check if the substring is present in the given string. (8)

Or

- (b) (i) Explain how objects are passed as arguments to a function and returned from a function with suitable examples. (8)
(ii) Define a class student with related specifications. Use get_input and show_input methods to show the operations. (8)

12. (a) (i) Create a class MAT of size $m \times n$. Define all possible matrix operations for MAT type objects using operator overloading. (12)
(ii) Explain the friend functions and its advantages and disadvantages with an example. (4)

Or

- (b) (i) Write a detailed note on multiple and multilevel inheritance with examples. (10)
(ii) What is meant by virtual function? Explain with an example. (6)

13. (a) (i) What is meant by exception handling? Write a brief note on the standard exceptions in C++. (8)
(ii) Write a C++ program to create a file called input.dat and write 50 bytes of data into it. Open another already existing file exist.dat, copy all the bytes from it and append it to input.dat. (8)

Or

- (b) (i) What is standard template library? Explain how it is different from the C++ standard library. (8)
(ii) Write a C++ program to compare two string objects. (8)

14. (a) (i) Explain the structure of Java virtual machine with relevant diagrams. (8)
(ii) Discuss the significance of Java byte codes in detail. (8)

Or

- (b) (i) Define package. Write the steps in creating and using a package in a Java program and explain with an example. (10)
(ii) How do you create, initialize and access an array in Java? Illustrate with suitable examples. (6)

15. (a) Discuss the concept of interfaces and inner classes in detail. Provide examples wherever necessary. (16)

Or

- (b) Explain the concept of threads in Java. Write a Java program with threads to solve producer consumer problem. (16)
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