Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 30883

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2019.

Fifth Semester

Electrical and Electronics Engineering

CS 2311 — OBJECT ORIENTED PROGRAMMING

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

(Regulation 2008)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Differentiate procedural programming and OO programming.
2. What is a destructor?
3. Distinguish class and object.
4. What is the use operator overloading?
5. What is a namespace?
6. What is the difference between throw and throws?
7. Is JVM's platform independent? Justify.
8. How do we allocate an array dynamically 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) Define polymorphism. Describe the type of polymorphism with example. (8)

(ii) Explain the order in which constructors are called when an object of a derived class is created. (8)

Or

(b) Write a complete C++ program to do the following: (16)

(i) 'Student' is a base class, having two data members entryno and name; entryno is integer and name of 20 characters long. The value of entryno is 1 for Science student and 2 for Arts student, otherwise it is an error.

(ii) Science' and 'Arts' are two derived classes, having respectively data items marks for Physics, Chemistry, Mathematics and marks for English, History, Economics.

(iii) Read appropriate data from the screen for 3 science and 2 arts students.

(iv) Display entryno, name, marks for science students first and then for arts students.

12. (a) Explain the use of virtual functions with an example program.

Or

(b) Write a program to overload "+" operator to perform string concatenation operation and polynomial addition operation.

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 about Java features. (6)

(ii) Discuss about Java command line arguments. (4)

(iii) Write a Java program to find the sum of the following series.

$1-2+3-4+...+n$. (6)

Or

(b) (i) Distinguish between

(1) Abstract class and class.

(2) Interface and class. (4)

(ii) Discuss about benefits of abstract class. (3)

(iii) Explain dynamic method dispatch with an example. (9)

15. (a) (i) Write a Java program to implement multiple inheritance using interface. (8)

(ii) What is multithreading? Explain with an example. (8)

Or

(b) (i) Write a java program to add 2 integers and raise exception when any other character except number (0- 9) is given as input. (8)

(ii) Write short notes on various I/O streams in java. (8)