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S.E. (Computer) (Sem-IV) (Revised Course 2016-2017)
EXAMINATION MAY/JUNE 2019
Java Programming

[Duration : 3 Hours]

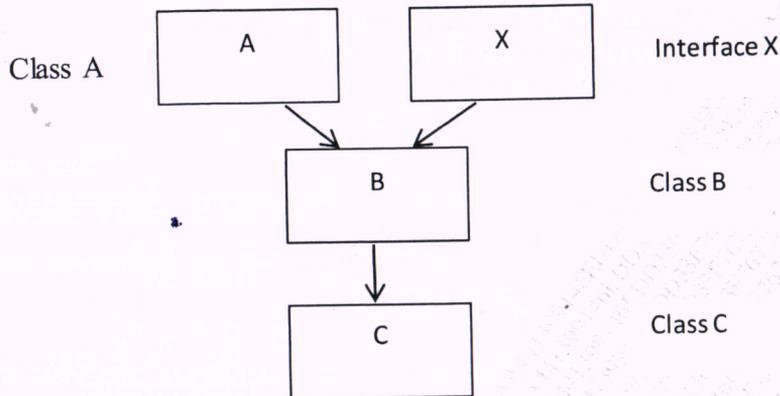
[Max. Marks : 100]

Instructions:

Attempt any two questions from PART-A, any two questions from PART-B and any one question from PART – C.

PART- A

- Q.1 a) Construct a Java program to accept a number from command line and find its cube. 06
- b) Compare instance variables and class variables. 02
- c) Compare interfaces and classes. Can an interface inherit from a class? 06
- d) Demonstrate autoboxing and unboxing with an example. 06
- Q.2 a) Compare method overriding and method overloading. 04
- b) How can you add one or more classes to a Java package? Demonstrate with an example. 06
- c) Write a Java program to display the following pattern 06
- ```
1
2 2
3 3 3
4 4 4 4
```
- d) Write a note on wrapper classes. 04
- Q.3 a) Write notes on i) Java and the world wide web 06  
ii) Java Development kit
- b) Describe the methods supported by StringBuffer class. 08
- c) Write a program to implement the following hierarchy 06



PART- B

- Q.4 a) Write an applet program to draw the following shapes 08
- i) Line
  - ii) Cube
  - iii) Circle
  - iv) Triangle
- b) Explain the life cycle of a thread with a neat diagram. 05
- c) Write a Java program to handle Divide by zero and Array index out of bounds exceptions with multiple catch statements. 07
- Q.5 a) Write an applet program to read 2 numbers from 2 textboxes and display the sum of the 2 numbers on the screen on click of "Add" button. 08
- b) Write a java program to read a file named input.dat and copy the characters from input.dat to output.dat. 07
- c) Write a java program to illustrate the following functions in a stack class. 05
- i) push
  - ii) pop
  - iii) peek
  - iv) search
- Q.6 a) What are the three methods by which a thread moves to blocked state. 04
- b) Define an exception called "NoMatchException" that is thrown when a string is not equal to "India". Write a program that uses this exception. 08
- c) Describe 3 ways of drawing a Polygon. 08

**PART- C**

- Q.7 a) List and explain the mathematical functions in java. **08**
- b) How do you pass parameters to a applet in java? Explain with a program. **08**
- c) What is the difference between string and StringBuffer class. List some methods of the String class. **04**
- Q.8 a) Explain static member function with the help of an example. **07**
- b) Create a class called Student with data members rollno, name, branch, semester and member function such as readdetails ( ) and printdetails(). **07**
- c) Explain any 6 functions of LinkedList class. **06**