

MCA (Revised) / BCA (Revised)

Term-End Examination

December, 2014

11620

**MCS-024 : OBJECT ORIENTED TECHNOLOGIES AND
JAVA PROGRAMMING**

Time : 3 hours

Maximum Marks : 100

(Weightage 75%)

Note :

- (i) *Q. No. 1 is compulsory.*
- (ii) *Attempt any three questions from the rest.*
- (iii) *Attempt all parts of a question together.*

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- 1. (a) Define the concept of inheritance. Explain the advantage of inheritance with the help of an example. 7
 - (b) What is classpath ? Explain the use of classpath in Java programming. 4
 - (c) What is multithreading ? How is thread synchronization implemented in Java ? Explain with an example. 8
 - (d) What is an event in GUI programming ? Explain different components of an event. 6
 - (e) What is inner class ? Explain whether inner class is secure and useful. Justify your answer. 6

- (f) What is *final* keyword ? Explain different uses of *final* in Java. 4
- (g) What is exception ? Explain difference between checked and unchecked exceptions with an example of each. 5
2. (a) Differentiate the following, with the help of example : $4 \times 3 = 12$
- (i) Application and Applet
 - (ii) Structure Approach and Object Oriented Approach
 - (iii) String and String Buffer
 - (iv) Abstract Class and Interface
- (b) Write a class *complex* to represent complex numbers, with suitable constructor and function to find the sum of two complex numbers. 8
3. (a) What is *StreamTokenizer* ? Explain the different instance variables defined in *StreamTokenizer*. Also, explain use of *StreamTokenizer* with the help of an example. 10
- (b) "Java is architecture neutral, secure and distributed programming language." Justify the statement. 5
- (c) What is *private* access specifier ? Explain with an example, how it is different from *public* and *protected* access specifiers. 5

4. (a) What is finalize() method in Java. Give an example to demonstrate its use. 5
- (b) Define package in Java. Explain the need of 'user created package' in Java. Also, explain the procedure of creating a package in Java. 5
- (c) What is the difference between *throw* and *throws* keywords used in Java ? Explain with an example. 5
- (d) Explain use of *super* keyword in Java, with an example. 5
5. (a) What is stateless protocol ? Is HTTP a stateless protocol ? What are the various ways through which you can maintain the 'State' while using HTTP ? 8
- (b) Differentiate between TCP client and TCP server socket with the help of an example. 4
- (c) What is RMI ? Explain advantages of using RMI. 3
- (d) Briefly explain the life cycle of a servlet. 5
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