

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

M.Sc. (IT) (2015 Onwards) (Sem.-4)
ADVANCED JAVA PROGRAMMING
Subject Code : MSIT-401
Paper ID : [74113]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTIONS-A, B, C & D contains TWO questions each carrying TEN marks each and students have to attempt any ONE question from each SECTION.
2. SECTION-E is COMPULSORY consisting of TEN questions carrying TWENTY marks in all.
3. Use of non-programmable scientific calculator is allowed.

SECTION-A

1. Define Thread and Multithreading. Explain the states in the lifecycle of a thread in Java.
2. Explain the following with examples :
 - a) Daemon threads
 - b) Atomic variables

SECTION-B

3. What is a Stream in Java? What are the characteristics of a stream? Discuss the Input and Output Stream hierarchy in Java.
4. What is Serialization? What are its advantages? Explain serialization and deserialization with the help of Java code.

SECTION-C

5. What is JDBC? Explain various classes of JDBC drivers. Also write typical uses of JDBC.
6. What is Transaction? Explain with an example transaction management in JDBC using Prepared Statement.

SECTION-D

7. What is a Java Beans? What are the advantages of using Java Beans? Also explain JavaBeans API.
8. What are Generics in Java? What is its importance? Discuss the implementation of various types of generics with examples.

SECTION-E

9. Answer the following in brief :

- a) What do you mean by thread synchronization?
- b) What are Callables and Futures?
- c) What are Semaphores? What is their use?
- d) What is a Transaction? How is a transaction managed?
- e) Explain Java's Scanner class with an example.
- f) How security is provided in Object Serialization?
- g) What is Reflection API used for?
- h) What is the use of Type Erasure in a Java program?
- i) What are Marker annotations?
- j) How annotations are created in a Java program?