1712N994   Candidate's Seat No :_____

IMSc CS Sem-5 Examination

Java Programming

Time : 3-00 Hours]   December-2024   [Max. Marks : 70

Instructions: Draw Diagrams wherever necessary.
Make Assumptions wherever necessary.

SECTION - I

Q-1 Explain the following terms with an appropriate example: 11
   a. Dynamic method dispatch
   b. Functional Interface
   c. Multithreading

Q-2 Attempt the following :   12
   a. Explain JDK root directory with diagram   6
   b. How is platform independence achieved in java , Explain with the   6
      diagram

OR

Q-2 Attempt the following :   12
   a. Why Runtime Exceptions are not checked?   6
   b. Why do we need to use package in Java? Discuss at least 2 in built   6
      packages in Java

Q-3 Attempt the following :   12
   a. Compare String, Stringbuffer and Stringbuilder   6
   b. Draw the diagram of Collections hierarchy from the root, and explain   6
      any 2 classes

OR

Q-3 Attempt the following: 12
   a. How does java implement polymorphism?   6
   b. Compare Primitive Types Vs Reference Types   6

(P.T.o)

SECTION - II

Q-4   **Explain the following Terms with an appropriate example.**   **11**
- a. Daemon Threads
- b. Functional programming
- c. Main Thread/Application thread

Q-5   **Attempt the following:**   **12**
- a. Explain Thread Life-cycle with diagram   **6**
- b. When should you use abstract classes and when should you use interfaces?   **6**

OR

Q-5   **Attempt the following:**   **12**
- a. Even though console input and output is text-based, why does Java still use byte streams for this purpose? Justify the statement in detail with the example of predefined streams   **6**
- b. Discuss Lambda expressions and its implementation in Java.   **6**

Q-6   **Attempt the following:**   **12**
- a. List subclasses of InputStream and Explain any one in detail   **6**
- b. Discuss thread scheduling with example.   **6**

OR

Q-6   **Attempt the following:**   **12**
- a. List subclasses of OutputStream and Explain any one in detail   **6**
- b. Discuss the methods used in Inter-Thread communication   **6**