**SESSION DECEMBER 2022**

**PROGRAM MCA**

**SEMESTER III**

**COURSE CODE & NAME DCA7102 & PROGRAMMING IN JAVA**

**CREDITS 4**

**SET-I**

**1. Explain the java architecture with the help of suitable diagram. Provide technical specification for all the components used in the architecture.**

**Ans: Architecture-Neutral: -** All programmers want their code to satisfy - code longevity and portability. Byte code helps Java to achieve portability. There is no guarantee with other programming language that if you write a program today, it will run tomorrow – even on the same machine. Operating system upgrades, processor upgrades, and changes in core system resources can all Its Half solved only

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**2. How java handles strings? Explain. Discuss any 3 string manipulation classes in details.**

**Ans:-** Java handles all input and output in the form of streams. A stream is a sequence of bytes travelling from a source to a destination over a communication path. If a program writes into a stream, it is the stream’s source. Similarly, if it is reading from a stream, it is the stream’s destination. Streams are

**3. Explain the use of super keyword in context to the java programming. Write a java program to show at least two uses of super keyword.**

**Ans:** The super keyword refers to super class (parent) objects.

It is used to call super class

**SET-II**

**4. Why multithreading is important in java? Explain the life cycle of a thread with the help of suitable diagram. Provide technical specification for all the thread life cycle components.**

**Ans: Various benefits of multithreading in the operating system are as follows:**

**1. Responsiveness**

Multithreading in an interactive application enables a program to continue running even if a section is blocked or executing a

**5. Explain the following in detail:**

**Hibernate and JPA.**

**Ans:** Hibernate is a lightweight and open-source ORM i.e., object relational mapping tool. It is a Java framework. It simplifies the development of Java in applications and enables it to interact with

**6. Explain the life cycle of the Servlet Life Cycle? Discuss the overview of Spring framework of java.**

**Ans:** Servlet is a Java code that is invoked by a web server (e.g. Tomcat). Let’s review the process by which a server invokes a servlet.

**This process can be**