

**Q. P. Code: 38716**

**[Total Marks: 80]**

**(3 Hours)**

- N.B.:**
- 1) Question No.1 is **compulsory**.
  - 2) Attempt any **three** from the remaining **five** questions.

- Q. 1. Attempt any four :- 20
- (a) Explain Custom tags in JSP
  - (b) Explain Wrapper Class
  - (c) Differentiate between Java and c++
  - (d) Explain concept of Object Serilization and Deserilization
  - (e) Explain Servlet Life cycle
- Q. 2. (a) What is Cookie? Write a servlet program to count number of page visits using cookie. (10)
- (b) Explain Lambda Expression with suitable example. (10)
- Q. 3. (a) Explain Event Delegation model. Explain ActionListener and MouseListener interface. (10)
- (b) Describe steps involved for User defined exception with suitable example. (10)
- Q. 4. (a) Why do we need Generics? Explain with an example of how Generics make a program more flexible? (10)
- (b) Describe Spring Framework in detail. (10)
- Q. 5. (a) Explain JSP architecture with diagram. (10)
- (b) List out available drivers in JDBC. Explain in detail. (10)
- Q. 6. (a) Explain Thread Lifecycle with neat labeled diagram. Write a program to demonstrate thread lifecycle. (10)
- (b) Why java doesn't support multiple inheritances? Write a program to demonstrate use of interface. (10)