USIT506 / 02 / 2022

(Time 2½ hours)

Total Marks: 75

N.B.: (1) **All** questions are **Compulsory.**
(2) Make **suitable assumptions** where ever necessary and **state the assumption made.**
(3) Answers to the **same questions** must be **written together** .
(4) Numbers to the **right** indicates **marks.**
(5) Draw **neat labeled diagrams** wherever **necessary** .
(6) Use of **Non-programmable** calculators is **allowed.**

Q1. Attempt any three of the following : 15

a. Write a note on Java EE Server?
b. Explain Web Application Technologies in detail?
c. Write a short note on Java Servlet API.
d. List and explain 7 steps of JDBC
e. Explain CGI architecture in detail.
f. Write a Program to Create a simple calculator application using Servlet.

Q2. Attempt any three of the following : 15

a. Write a short note on RequestDispatcher Interface.
b. What is a Cookie? Explain its types
c. Write a short note on HttpSession
d. Explain the working of Non-Blocking I/O?
e. Write a Note on Multipart Config
f. List and explain important methods of cookie in java Servlet?

Q3. Attempt any three of the following : 15

a. Write a short note on life cycle of JSP.
b. Explain types of directives in JSP.
c. What are the implicit objects in JSP?
d. Develop a simple JSP application to accept values from html page and display on next page. (Name-txt, age-txt, hobbies-checkbox, email-txt, gender-radio button).
e. What is JSTL? What are its benefits over JSP Scriptlets?
f. What is wrong in using JSP Scriptlet tag? How JSTL fixes JSP Scriptlet shortcomings?

Q4. Attempt any three of the following : 15

a. What is EJB? Explain its architecture?
b. What is Session bean? What are the types of Session Beans?
c. Write short note on JNDI?
d. Define and explain Interceptors.
e. Explain life cycle of message driven beans.
f. Write a note on package EJB JAR and WAR Module?

Q5. Attempt any three of the following : 15

a. Explain using suitable diagram architecture of Java Persistence API.
b. Explain architecture of Hibernate?
c. How JPA works?
d. What is Persistence? Explain
e. What is Impedance Mismatch? How it can be solved?
f. What are the different components of Hibernate?