

(2½ Hours)

[Total Marks: 75]

- N.B: (1) All questions are compulsory.
 (2) Figures to the right indicate marks.
 (3) Illustrations, in-depth answers and diagrams will be appreciated.
 (4) Mixing of sub-questions is not allowed.

Q1. Attempt the following (any THREE): (15)

- (A) Explain the following methods i) getSession() ii) getCookie() with example.
- (B) Write a short note on ServletContext and ServletConfig.
- (C) What is session tracking? Explain how session tracking is done using HttpSession interface.
- (D) Explain the role of the following interfaces along with any two methods of them: HttpServletResponse
- (E) Write a Servlet that accepts a number from num.html page and print the sum of its digits.
- (F) Write a Servlet to accept a string sent from an html document and displays the string as a marquee in response.

Q2. Attempt the following (any THREE): (15)

- (A) Describe declaration and expression elements. Illustrate with example.
- (B) What is page directive tag and its attribute? .
- (C) Explain the action tags of JSP with example.
- (D) Create a JSP page to initialize an integer number and check whether the number is positive. If it is positive then display the factorial of that number.
- (E) What is JavaBean? How is it used in a JSP?
- (F) Write a JSP which will display two text boxes for name and age. On click of a submit button call another JSP which will take these values using setName() and setAge() property. And display the same.

Q3. Attempt the following (any THREE): (15)

- (A) What are the advantages of EJB any five?
- (B) Draw and explain the life cycle of MessageDriven bean.
- (C) What are the various ways of passing parameter in EJB?
- (D) Write a short note on session bean. What are its types.
- (E) What are annotations? Write and explain any two annotations used for developing EJB
- (F) Write a stateless EJB code to reverse a number.

Q4. Attempt the following (any THREE): (15)

- (A) Explain Web Service and advantages of it.
- (B) What is web service? Explain SOAP?
- (C) State and explain the use of -
 - i) @WebMethod ii) @WebParam iii) @WebService
- (D) Write a web service which will check String is palindrome or not.
- (E) List and explain the basic steps involved in creating simple web service & clients with JAX-WS.
- (F) What factors are considered for Remote or Local access of enterprise bean.

Q5. Attempt the following (any THREE): (15)

- (A) Write a short notes on HttpCookie and its methods.
- (B) What is a filter? Explain various parameters of doFilter().
- (C) List and explain the callback methods of stateful bean.
- (D) Explain the following term :-
 - i) UDDI, ii) WSDL, iii) XML
- (E) State and explain scopes of JSP objects.
- (F) Write a web service that will define a web method in which a number is passed as parameter and it will check whether the number is prime or not.