

U.G. 5th Semester Examination - 2021

COMPUTER SCIENCE

[HONOURS]

Course Code : COM.SC-H-CC-L-512

(Internet Technologies)

Full Marks : 60

Time : $2\frac{1}{2}$ Hours

The figures in the right-hand margin indicate marks.

Candidates are required to give their answers in their own words as far as practicable.

1. Answer any **ten** questions: $2 \times 10 = 20$
- a) Explain hosting in Java Script.
 - b) What is JVM?
 - c) Explain Implicit Type Coercion in JavaScript?
 - d) Explain 'this' keyword in java.
 - e) What is the return type of Class.forName() method?
 - f) How comments can be added to a JSP program?
 - g) How can you implement a thread-safe JSP page?
 - h) How can you forward the request from JSP page to servlet?

- i) What are the different scope values for the <jsp:useBean> tag?
- j) What is the difference in using request.getRequestDispatcher() and context.getRequestDispatcher()?
- k) What is the difference between include directive and include action in JSP?
- l) What are context initialization parameters?
- m) How can you register the driver class for using database connectivity in java?
- n) How to remove items from ArrayList in Java?
- o) What are the difference between an array and an ArrayList in Java?

2. Answer any **four** questions : $5 \times 4 = 20$
- a) What is the way to get reverse of an ArrayList?
How to sort ArrayList in ascending order in Java?
What is Array Index Out Of Bound Exception in Java? How can you create a multidimensional array of size MxN? $2+1+1+1$
 - b) In JavaScript, what are the differences between declaring variables using var, let and const? How to use external JavaScript file? What is the use of history object? $3+1+1$

- c) What are the two ways to include the result of another page? Explain them. 2+3
 - d) Explain the MVC framework for JSP applications with proper diagram. 5
 - e) What are the steps involved in executing database queries with java? How the connection is closed after execution of queries. 4+1
 - f) Explain all the JDBC API interfaces. 5
3. Answer any **two** questions: 10×2=20
- a)
 - i) How can you implement a thread-safe JSP page? What are the advantages and Disadvantages of using it?
 - ii) How can you prevent the output of your JSP or Servlet pages from being cached by the browser?
 - iii) What are the different types of literals available in JSP? (2+2)+3+3
 - b)
 - i) How to synchronize in ArrayList?
 - ii) How to remove duplicate elements from an ArrayList?
 - iii) What are the differences between array and ArrayList?

- iv) Design a java method to find the maximum and minimum from an ArrayList of integers. 2+2+2+4
- c) i) What are the JDBC statements? Explain them.
- ii) What are the differences between execute, executeQuery, and executeUpdate? 5+5
- d) i) How to write comments in JavaScript?
- ii) How can you create JavaScript functions?
- iii) Explain different primitive and non-primitive data types available in JavaScript.
- iv) How can you create an object in JavaScript? Give an example. 2+2+4+2
