



P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

Fifth Semester, B.E. - Computer Science and Engineering

Semester End Examination; Dec - 2017 / Jan - 2018

Java and J2EE

Time: 3 hrs

Max. Marks: 100

Note: Answer FIVE full questions, selecting ONE full question from each unit.

UNIT - I

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|------|---|----|
| 1 a. | List and explain the important characteristics of Java. | 10 |
| | b. Explain the three OOP principles. | 6 |
| | c. Explain different types of constructors with examples. | 4 |
| 2 a. | Develop a Java program to : | |
| | i) Create a student class with student details | |
| | ii) Assign default values using default constructor | 8 |
| | iii) Assign values to instance variables Std_id and Std_name using parameterized constructor | |
| | iv) Invoke Display() method to print student details. | |
| | b. Discuss method overriding by developing a Java code to create a super class called 'Figure' that stores the dimensions of two-dimensional object. Define a method called area() that computes the area of an object. Derive two subclass rectangle and triangle from 'Figure'. Override area() in each of the subclasses, so that it returns the area of a rectangle and a triangle, respectively. | 8 |
| | c. Explain try and catch with examples. | 4 |

UNIT - II

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|------|---|----|
| 3. | Write short notes on any four : | |
| | i) Byte stream | |
| | ii) Input stream | |
| | iii) Output stream | 20 |
| | iv) Character stream | |
| | v) File Input stream | |
| | vi) Print stream. | |
| 4 a. | What are generics? Explain a generic class with two type parameters with an example. | 6 |
| | b. Develop a Java program that creates a new thread and implements Runnable. | 4 |
| | c. Write a Java code to implement a simple form of the producer-consumer problem using wait () and notify () methods. | 10 |

UNIT - III

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|------|---|----|
| 5 a. | Explain the collection Interface and any six methods defined by collection. | 10 |
| | b. Illustrate get_DocumentBase () and get_CodeBase () methods in Applets with Java code snippets. | 10 |

- 6 a. Explain any four event classes with examples. 10
- b. Discuss any four commonly used event listener interfaces with the specific methods that are contained in each interface. 10

UNIT - IV

- 7 a. Explain the different JDBC driver types. 4
- b. Create a student database and write a Java program to establish connection with the student database and retrieve all the rows and columns from the database. 10
- c. Write the steps involved in creating an association between the database and the JDBC / ODBC bridge. 6
- 8 a. Explain the lifecycle of a Servlet. 6
- b. Discuss how Tomcat is used for Servlet development? 6
- c. What are Cookies? Write a Java code to illustrate how to modify the value attribute of my Cookie? 8

UNIT - V

- 9 a. Explain the JSP tags that are used in writing a JSP program. 10
- b. Explain server side and client side of remote object invocation. 10
- 10 a. Explain the following using the methods of Cookie class:
- i) To create a cookie 6
- ii) To read a cookie.
- b. Explain the two EJB interfaces with a neat diagram. 10
- c. Discuss JAR file. 4

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