

Hall Ticket Number:

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Code No. : 13215

VASAVI COLLEGE OF ENGINEERING (Autonomous), HYDERABAD
B.E. (CSE: CBCS) III-Semester Main Examinations, December-2018

Object Oriented Programming

Time: 3 hours

Max. Marks: 60

Note: Answer ALL questions in Part-A and any FIVE from Part-B

| Q. No | Stem of the Question | M | L | CO | PO |
|-----------------------------------|---|---|---|----|-------------|
| Part-A (10 × 2 = 20 Marks) | | | | | |
| 1. | “Java is a Strongly Typed Language”. Justify this statement in comparison to C language | 2 | 2 | 1 | 1,2 |
| 2. | ‘this’ keyword is used for Hiding instance variables. Write a code snippet to demonstrate this property? | 2 | 3 | 1 | 1,2 |
| 3. | Write a Java code to differentiate the need for an Abstract class and an Interface? | 2 | 3 | 2 | 1,2 |
| 4. | Exceptions are of two types. Which type of them need a try-catch block? Give reasons. | 2 | 2 | 2 | 1,2 |
| 5. | What is the basis for considered Java language as a purely OOP language? | 2 | 2 | 3 | 1,2 |
| 6. | Give the relationship between a marker interface and Serialization? Write a code snippet to elaborate? | 2 | 3 | 3 | 1,2 |
| 7. | Using only the Collection classes/interfaces, write a simple code snippet to search for an object in a LinkedList? | 2 | 3 | 4 | 1,2,3 |
| 8. | Write a Java program using for-each loop to iterate the objects in a TreeSet? | 2 | 2 | 4 | 1,2,3 |
| 9. | Write the stages of an Applet and give the role of an Applet tag? | 2 | 2 | 5 | 1,2 |
| 10. | Write a simple code snippet for drawing an Oval and a Polygon on a JApplet? | 2 | 2 | 5 | 1,2,3 |
| Part-B (5 × 8 = 40 Marks) | | | | | |
| 11. a) | Draw a neat diagram to explain the role of Garbage Collection in the JVM Architecture? | 4 | 2 | 1 | 1,2 |
| b) | Write a Java program to demonstrate Dynamic method dispatch using Command line arguments? | 4 | 3 | 1 | 1,2,3 |
| 12. a) | Explain the type of access specifies supported in Java. Demonstrate the usage of each of them with the help of packages? | 4 | 3 | 2 | 1,2 |
| b) | Write a Java program to create three thread, each of them keeps track of Hours, Minutes and Seconds. When the main Thread starts execution, the program displays the HH:MM:SS on the console? | 4 | 2 | 2 | 1,2,3, 4 |
| 13. a) | Draw the class hierarchy for all the I/O classes and interfaces and explain the role of them? | 4 | 2 | 3 | 1,2 |
| b) | Write a program to read the contents of a text file and print the odd characters on a console using character stream classes? | 4 | 2 | 3 | 1,2,3 |

Contd...2

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|--|---|---|---|-------------|
| <p>14. a) A class namely "Fruit" has the following attributes (int size, String color, int weight, String season). Assuming that a list of fruit objects are given as input, write a Java program that can group these objects based on the attribute given at runtime. Ex: Apple1 parameters (5, "Red", 20, "Winter"), Apple2 parameters (10, "Green", 30, "All"), Apple3 parameters (3, "Red", 10, "Winter"), Apple4 parameters (5, "Green", 30, "Winter") Expected Output: Size (Apple3, Apple1, Apple4, Apple2) Color (A1, A3) (A2, A4) Weight (A3) (A1) (A2, A4) Season (A1, A3, A4) (A2)</p> | 4 | 4 | 4 | 1,2,3, 4 |
| <p>b) Demonstrate the use of the StringTokenizer class used for counting the number of spaces, characters and words?</p> | 4 | 2 | 4 | 1,2,3 |
| <p>15. a) Explain the types of Layout managers with the help of a neat diagram?</p> | 4 | 2 | 5 | 1,2 |
| <p>b) Write a Java program to disable KeyListener only when the user double clicks on the JFrame?</p> | 4 | 3 | 5 | 1,2,3, 4 |
| <p>16. a) Differentiate the usage of Final, finalize() and finally concepts?</p> | 4 | 2 | 1 | 1,2 |
| <p>b) Assuming we have 10 String Objects. Write a Java program to do the following 1. Append a Random number in the range of 0-9 to the given Strings 2. Ignore the case sensitivity of all these Strings 3. Sort the Objects in Descending order 4. Print the 4th, 5th, 6th Objects in the list</p> | 4 | 4 | 2 | 1,2,3, 4 |
| <p>17. Answer any <i>two</i> of the following:</p> | | | | |
| <p>a) Write a RegEx for checking the following: i) If the given String contains one Uppercase, One Lowercase, one of the following Symbols (_\$#-@) ii) If the given String is a valid email ID.</p> | 4 | 2 | 3 | 1,2,3 |
| <p>b) Write a Java program to demonstrate publish-subscribe using the concepts learned in util package?</p> | 4 | 3 | 4 | 1,2,3 |
| <p>c) Create an application using the concepts learnt in Java which provides Model, View and Controller?</p> | 4 | 4 | 5 | 1,2,3, 4 |

M: Marks; L: Bloom's Taxonomy Level; CO: Course Outcome; PO: Programme Outcome

| S. No. | Criteria for questions | Percentage |
|--------|--|------------|
| 1 | Fundamental knowledge (Level-1 & 2) | 60 |
| 2 | Knowledge on application and analysis (Level-3 & 4) | 40 |
| 3 | *Critical thinking and ability to design (Level-5 & 6) (*wherever applicable) | --- |

