USN | | | | | | | | | | |

10MCA33

Third Semester MCA Degree Examination, June/July 2016
Programming with JAVA

Time: 3 hrs. Max. Marks:100

Note: ***Answer any FIVE full questions.***

1 a. Discuss the three principals of object oriented programming languages. **(06 Marks)**
b. What are the literals in JAVA? Explain different types of literals with example. **(06 Marks)**
c. Give difference between for and for-each statement in JAVA. Write a JAVA program to find the average of the elements {9, 12, 13, 20}, using for-each statement. **(08 Marks)**

2 a. Define an interface with general form. Write a JAVA program to show that one interface can inherit another by the use of the keyword extends. **(10 Marks)**
b. Explain the following keywords with code snippets :
i) this ii) super iii) final iv) finally v) finalize **(10 Marks)**

3 a. Define dynamic method dispatch. Write a JAVA program to demonstrate dynamic method dispatch. **(10 Marks)**
b. How can you create your own exception sub-class? Give an example. **(06 Marks)**
c. What are varargs? Give a simple example program to illustrate the same. **(04 Marks)**

4 a. Write a class which implements Runnable to create multiple threads and hence create three child threads. **(10 Marks)**
b. Explain the two ways for synchronizing the threads using the keywords synchronized. **(06 Marks)**
c. Mention few JAVA input output classes defined by Java.io. **(04 Marks)**

5 a. Explain autoboxing and autounboxing. With a JAVA program show how autoboxing/unboxing is achieved in expressions. **(10 Marks)**
b. Define a string. Write a simple JAVA programm to demonstrate overriding of toString( ) method in your class. **(10 Marks)**

6 a. Explain primitive type wrappers giving necessary constructors. **(06 Marks)**
b. Write a JAVA program to concatenate two strings. **(04 Marks)**
c. Mention any four collection classes. **(02 Marks)**
d. Explain the with code snippets to perform the following operations in linked list.
i) adding an item at last ii) removing an item given position
iii) display size of linked list iv) displaying elements of the list. **(08 Marks)**

7 a. What are applets? Explain different stages in the life cycle of an apple. **(08 Marks)**
b. Write a JAVA applet to output a message, "welcome to VTU", to the status window of the browser. **(06 Marks)**
c. Explain RMI concept in JAVA. **(06 Marks)**

8 Write short notes on :
a. Access specifiers in JAVA
b. Abstract class
c. Static keyword
d. JAVA buzzwords. **(20 Marks)**