

TRIBHUVAN UNIVERSITY
FACULTY OF MANAGEMENT

Office of the Dean

April - May 2017

Full Marks: 40

Time: 2 hrs.

BIM / Third Semester / IT 216: JAVA Programming - I

Candidates are required to answer all the questions in their own words as far as practicable.

Group "A"

Brief Answer Questions:

[10 × 1 = 10]

1. Define recursion.
2. Why is Java known as a strongly typed language?
3. Differentiate between private and public constructor.
4. Why identifiers can't be used as keywords?
5. What is the role of JVM?
6. List out 3 OOP principles.
7. What is the use of finalize () method?
8. What are the different thread states?
9. How can variable length arguments be helpful?
10. Define auto-boxing.

Group "B"

Exercise Problems:

[5 × 4 = 20]

11. Write a Java program that asks the user to enter numbers in an array of size 'n'. Then displays only the numbers that are divisible by 2 and 3.
12. Create a class Student with instance variables roll_no and two methods to read and display the roll no. Then, create another class Test that inherits class Student, consisting of its own instance variables to hold the marks of two subjects and also methods to read and display the marks. Finally, create another class Result which inherits class Test. It also has its own instance variable total to hold the total of two marks scored by the student. Similarly, it has methods to calculate and display the total. Create some instances of above classes and demonstrate inheritance.
13. Create an interface Shape which has methods get_data() and display_area(). Create two classes Rectangle and Square which implements this interface. Define the instance variables of these classes as per requirement in class itself. Create some instances of Rectangle and Square classes and demonstrate interface implementation by classes.
14. Define a string array of size 10 and store 10 countries' name in it. Then list name of countries that ends with letter 'a'.
15. Write a program to take employee id, name, address, DOB and phone number from user and then store it in a file called "Emp.txt". Also display the contents of "Emp.txt".

Group "C"

Comprehensive Answer Questions:

[2 × 5 = 10]

16. What is multithreading? Write a program to demonstrate multithreading in Java.
17. Explain user defined exception in Java with a suitable example.