



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

(An Autonomous Institution affiliated to VTU, Belagavi)

Third Semester, Master of Computer Applications (MCA)

Semester End Examination; Dec. - 2019

Programming with JAVA

Time: 3 hrs

Max. Marks: 100

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

UNIT - I

- 1 a. Can JAVA run on any Machine? How JAVA changed the Internet? 6
- b. Illustrate with an example;
- i) Passing object as parameter to the function 8
- ii) Return type is object from the function
- c. Give the general format of for each version of the for loop. Illustrate with an example. 6
- 2 a. Given that an EMPLOYEE class contains following members:
- Data members: Employee_Number, Employee_Name, Basic, DA, IT, Net_Sal. Member functions: To initialize data, To calculate Net_sal and To print data members. Write a Java program to read the data and compute net_sal of each employee. (DA = 52% of basic and Income Tax (IT) = 30% of the gross salary). 6
- b. For what reason finalize() method is used? Illustrate with an example. 8
- c. When and why we use constructors? Illustrate with an example. 6

UNIT - II

- 3 a. Discuss any four string handling method with syntax. 10
- b. Write Java program to find area of triangle using command line arguments. 10
- 4 a. What are static variables, static methods. When to use and how to use these concepts. Illustrate with an example? 10
- b. Discuss with an example inner class and nested class. 10

UNIT - III

- 5 a. Can abstract class be instantiated? Illustrate with an example. 8
- b. Differentiate classes and interfaces. When is interfaces required and also demonstrate of stack implementation using interface? 8
- c. What is the use of method and class declared as final? Give example. 4
- 6 a. Illustrate with an example different ways of using super keyword. 8
- b. Illustrate with an example method overriding in java. Differentiate method overriding and overloading in Java. 12

UNIT - IV

- 7 a. What is an exception? Explain Try, Catch and Finally block handles exception with a Program. 10
- b. Explain the following:
- i) isAlive() ii) join() 10
 - iii) wait() iv) sleep()
- 8 a. Write a Java program that;
- i) Creates a thread object and assigns it to main thread
 - ii) Print the default values of that thread 10
 - iii) Change name and priority of the thread
 - iv) Print new name and priority separately
 - v) Check and print whether thread is still running or stopped
- b. What is synchronization? How to achieve synchronization in Java? 10

UNIT - V

- 9 a. What is Enumerations? Illustrate with an example boxing, auto boxing and auto unboxing. 10
- b. Discuss the following network classes:
- i) DatagramSocket ii) InetSocketAddress 10
 - iii) InetAddress iv) Inet4Address v) URL
- 10 a. What is socket and serversocket? Illustrate with an example. 10
- b. What is collection framework? Illustrate with Array List collection framework. 10

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