U.S.N

P.E.S. College of Engineering, Mandya - 571 401
(An Autonomous Institution affiliated to VTU, Belagavi)
Third Semester, B.E. - Information Science and Engineering
Semester End Examination; Dec. - 2019
Object Oriented Programming with Java

Time: 3 hrs   *Max. Marks: 100*

Note: i) PART - A is compulsory. **Two** marks for each question.
  ii) PART - B: Answer any **Two** sub questions (from a, b, c) for Maximum of **18 marks** from each unit.

Q. No.	Questions	Marks
	I : PART - A	**10**
I a.	List any two benefits of object oriented programming.	2
b.	Write the general syntax of class and object declaration.	2
c.	Demonstrate the use of super keyword.	2
d.	Show how to use try with multiple catch statements.	2
e.	Explain how to create a thread by extending thread class?	2
	II : PART - B	**90**
	UNIT - I	**18**
1 a.	What is object oriented programming? How this concept helps in software design?	9
b.	i) Write a Java program to find the sum of the digits of a given numbers.	5
	ii) Design a Java program to initialize an array and find the sum of array elements.	4
c.	i) Demonstrate the significance of scope of a variable.	4
	ii) Design a program to check the given number for prime. Read the input from user.	5
	UNIT - II	**18**
2 a.	Create a class called as Rectangle. Write the member function for reading length and breadth and a function for calculating the area.	9
b.	i) Illustrate the difference between private and public members.	4
	ii) Create a class that is having two overloaded add functions to add two data members and to add 10 to one of the data member.	5
c.	Create a class that initializes its balance to zero and reads the name of customers and auto generates an account number for a Bank application. Display the data for two accounts.	9
	UNIT - III	**18**
3 a.	Illustrate single, multilevel and hierarchical inheritance, with a suitable example for each.	9
b.	Design a class as citizen having name, Dob address as fields. A student is having USN and marks. An employee is having ID and salary. Apply inheritance to design a program for this and display the data related to students and employees.	9
c.	i) Explain what are interfaces? Show the usage.	4
	ii) Demonstrate the application of keyword 'super'.	5

UNIT - IV   **18**

4 a. With an example Illustrate how a package is created and used in a program.   9

   b. Write a Java program that demonstrates the usage of any three string handling functions.   9

   c. Design a program that handles an Arithmetic Exception, Array index exception and a uses defined exception.   9

UNIT - V   **18**

5 a. Design a program that prints odd and even numbers in two separate threads. The threads are created by extending the thread class.   9

   b. i) Explain the use of generics in a program.   5

     ii) How file input stream is used to read a text file?   4

   c. Write a Java program to read the contents of a text file and write that to another text file. Read the file names from the user. Show suitable message, if the file does not exist.   9

✻ ✻ ✻