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

(An Autonomous Institution affiliated to VTU, Belagavi)

Third Semester, B.E. - Computer Science & Engineering

Semester End Examination; March/April - 2022

Object Oriented Programming with Java

Time: 3 hrs *Max. Marks: 100*

Course Outcome

The Students will be able to:
CO1: Understand object-oriented concepts and Java features.
CO2: Apply Java features to develop programs.
CO3: Demonstrate the usage of Inheritance and Interfaces.
CO4: Develop programs using Packages Exception Handling
CO5: Develop programs using generic concepts and files in java

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	BLs	COs	POs
		I : PART - A	**10**			
I	a.	Distinguish between Objects and Classes.	2	L2	CO1	PO1
	b.	Define Abstract class with an example.	2	L1	CO2	PO1
	c.	Define Interfaces. List out the types of Interfaces.	2	L1	CO3	PO1
	d.	What are Exceptions? Give an example.	2	L1	CO4	PO1
	e.	What action is done by the following methods of class file: i) getpath() ii) getAbsolute path()	2	L1	CO5	PO1
		II : PART - B	**90**			
		UNIT - I	**18**			
1	a.	I) Describe the following with an example. i) Increment operator ii) Decrement operator iii) Ternary operator	6	L1	CO1	PO1
		II) Illustrate with an example working of switch statement	3	L2	CO1	PO2
	b.	List and explain the data types in Java with example.	9	L2	CO1	PO2
	c.	I) Write Java program to find roots of quadratic equation using if-else construct given values of *a*, *b*, and *c*.	5	L2	CO1	PO1
		II) Explain with an example, how statement break with lable differs from break without lable.	4	L3	CO1	PO2
		UNIT - II	**18**			
2	a.	I) Explain class modifiers in Java.	6	L2	CO2	PO2
		II) Illustrate this keyword with an example.	3	L3	CO2	PO1
	b.	Define method overloading. Write Java program to find largest of three numbers using method overloading concept.	9	L2	CO2	PO1
	c.	What do you understand by passing argument by value and passing arguments by reference with example?	9	L2	CO2	PO2

Contd... 2

	UNIT - III	**18**			
3 a.	I) Write a Java program to illustrate the application of keyword super.	5	L3	CO3	PO2
	II) Differentiate between class and interface.	4	L6	CO3	PO2
b.	Define inheritance. Explain different types of Inheritance supported by Java.	9	L1,3	CO3	PO2
c.	Write Java program to illustrate the nested class.	9	L4	CO3	PO3
	UNIT - IV	**18**			
4 a.	Define package. Explain how to import packages and classes into Java program with an example?	9	L1,3	CO4	PO2
b.	I) List and explain any five commonly used classes of Java. Lang package.	5	L2	CO4	PO5
	II) Discuss PATH and class PATH with example.	4	L2	CO4	PO1
c.	Differentiate between Exceptions and Errors. Explain the functions of try{}, catch{} and finally{} blocks with example.	9	L4	CO4	PO5
	UNIT - V	**18**			
5 a.	Discuss the following with an example: i) Generic Method ii) Generic Interface	9	L5	CO5	PO7
b.	Write a Java program to illustrate the case of generic super class with one type parameter and generic subclass with two type parameter.	9	L6	CO5	PO5
c.	I) List and briefly explain the general benefits of using generic code in programs.	5	L4	CO5	PO5
	II) Explain Data input and output stream.	4	L2	CO5	PO1

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