PVP 20

Code: 20AM3302, 20DS3302

II B.Tech - I Semester – Regular/Supplementary Examinations
DECEMBER 2024

OBJECT ORIENTED PROGRAMMING THROUGH JAVA
(Common for AIML, DS)

Duration: 3 hours Max. Marks: 70

Note: 1. This paper contains questions from 5 units of Syllabus. Each unit carries 14 marks and have an internal choice of Questions.
2. All parts of Question must be answered in one place.

		UNIT – I	
1.	a)	Define Array. Write a Java program to implement the addition of two matrices.	7 M
	b)	Explain how Java achieves platform-independence. Also list the features of Java.	7 M
		OR	
2.	a)	Explain different types of if statements in JAVA.	7 M
	b)	Explain about scope & lifetime of a variable with example program.	7 M
		UNIT – II	
3.	a)	What are constructors? Explain two types of constructors with an example program.	7 M
	b)	Explain the use of this keyword in JAVA with an example.	7 M
		OR	

4.	a)	Write a Java program to implement multilevel inheritance with 3 levels of hierarchy.	7 M
	b)	What is the importance of the super keyword in inheritance? Illustrate with a suitable example.	7 M
		UNIT-III	
5.	a)	Explain about the need of wrapper classes. Give examples.	7 M
	b)	Define package. Explain the steps involved in creating a user-defined package with an example.	7 M
		OR	
6.	a)	Write the differences between Abstract Classes and Interfaces.	7 M
	b)	List and briefly describe the methods provided by the Object class in Java. Provide a short explanation for each method.	7 M
		UNIT – IV	
7.	a)	Define an exception. What are the key terms used in exception handling? Explain.	7 M
	b)	Write a program that contains one method that will throw an IllegalAccessException and use proper exception handler so that the exception should be printed.	7 M
		OR	

8.	a)	What do you mean by a thread? Explain the different ways of creating threads.	7 M
	b)	What is the need of synchronization? Explain with an example how synchronization is implemented in JAVA.	7 M
		UNIT – V	
9.	a)	Define the purpose of the hashCode() and equals() methods in Java. Why are these methods important?	7 M
	b)	Assess the benefits and drawbacks of using synchronized collections versus concurrent collections in various scenarios.	7 M
		OR	
10.	a)	What is the purpose of the ArrayList class in Java? Which methods are used to add and remove an element to and from an ArrayList?	7 M
	b)	What is the method to add a key-value pair to a Map in Java? Explain.	7 M