CBCS SCHEME

USN | | | | | | | | | |

BPLCK105C/ BPLCKC105

First Semester B.E./B.Tech. Degree Examination, June/July 2024
Basics of Java Programming

Time: 3 hrs. Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.

		Module – 1	M	L	C
Q.1	a.	Describe the following control flow statements with sample program: (i) If (ii) for	08	L1	CO1
	b.	List the primitive types of data and describe any two of the data types with example.	08	L1	CO1
	c.	Define Type conversion and casting in Java.	04	L1	CO1
		OR			
Q.2	a.	Define Array and its types. Write a Java program for multiplication of two arrays.	10	L1	CO1
	b.	Explain the following terms: (i) Whitespace (ii) Identifiers (iii) Comments (iv) Separators with its purpose.	06	L2	CO1
	c.	Describe the term variables in Java programming along with its declaration and initialization.	04	L1	CO1
		Module – 2			
Q.3	a.	Summarize the Bitwise operators and demonstrate the following operations and sign extension with Java programs: (i) << (ii) >> (iii) >>>	10	L2	CO2
	b.	Summarize the jump statements supported by Java with example.	10	L2	CO2
		OR			
Q.4	a.	List and define all iteration statements in Java programming. Write a Java program to sort list of elements in ascending and descending order using for loop.	10	L2	CO2
	b.	Demonstrate the following operators with Java program: (i) Basic arithmetic operator (ii) Modulus operator (iii) Arithmetic compound assignment operator.	10	L2	CO2
		Module – 3			
Q.5	a.	Define the following with syntax: (i) Simple class (ii) Declaring objects (iii) Introducing methods Create a Java class called student with the following details as variables within it USN, Name, Branch, Phone, Percentage. Write a Java program to create n student objects and print the objects with suitable headings.	10	L1	CO3
	b.	Explain constructor and parameterized constructor with example.	10	L2	CO3
		OR			
Q.6	a.	Compare Method Overloading with constructor overloading. Demonstrate the method overloading and the constructor overloading using Java program.	10	L2	CO3
	b.	Explain the concept of recursion with example as computing the factorial of a number.	10	L2	CO3

Module – 4					
Q.7	**a.**	Design a super class called staff with details as StaffId, Name, Phone, Salary. Extend this class by writing three subclasses namely Teaching (domain, publications), Technical (skills) and Contract (period). Write a Java program to read and display at least 3 staff objects of all three categories.	**10**	**L3**	**CO3**
	b.	Describe the use of 'final' keyword with inheritance in Java programming with a sample program.	**10**	**L1**	**CO3**
OR					
Q.8	**a.**	Demonstrate dynamic dispatch using abstract class in Java program with example.	**10**	**L2**	**CO3**
	b.	Summarize the concept, method overriding with example program in Java.	**10**	**L2**	**CO3**
Module – 5					
Q.9	**a.**	Explain the concept of package and write a Java program to create two packages P_1 and P_2. In package P_1, create class A, class B inherited from A, class C. In package P_2, create class D inherited from class A in package P_1 and class E. Demonstrate the working of access modifiers (private, public, protected, default) in all these classes using Java.	**10**	**L2**	**CO4**
	b.	Describe chained exceptions in Java programming.	**06**	**L1**	**CO4**
	c.	Paraphrase the concept of importing packages in Java programming.	**04**	**L2**	**CO4**
OR					
Q.10	**a.**	Write a Java program to read two integers a and b. Compute a/b and print, when b is not zero. Raise an exception when b is equal to zero. Also demonstrate the working of Array Index Out Of Bound – Exception in Java programming.	**08**	**L2**	**CO4**
	b.	Explain the concept of interfaces with its implementation using Java program.	**08**	**L2**	**CO4**
	c.	State whether the try statement can be nested. If yes, give an example program. If no, infer the statement.	**04**	**L2**	**CO4**

* * * * *