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School of Computing Science and Engineering

Master of Computer Applications
Mid Term Examination - May 2024

Duration : 90 Minutes

Max Marks : 50

Sem II - E1PY201B - Object Oriented Programming with Java*General Instructions*

Answer to the specific question asked

Draw neat, labelled diagrams wherever necessary

Approved data hand books are allowed subject to verification by the Invigilator

- 1) What will be the output of the following Java code? class increment { public static void main(String args[]) { int g = 3; System.out.print(((++g * 8) - ((g++ + --g) * g++)); } } K2 (2)
- 2) Explain directory structure of java that provide platform independency. Why JAVA is called platform independent language K1 (3)
- 3) Explain the immutability of strings in Java. What does it mean, and why is it important? K2 (4)
- 4) Build activity diagram for ATM money withdrawal scenario K2 (6)
- 5) Develop the activity diagram for a Library Management System with some classes. The diagram should contain various relationship types at class level. K3 (6)
- 6) What are autoboxing and unboxing in Java? Write a Java program that demonstrates the use of autoboxing and unboxing to create a list of integers and perform basic operations on them K3 (9)
- 7) Write a program in java to sort a list of decimal numbers in decreasing order and display the result as the sum of all even numbers using abstraction. K4 (8)
- 8) (a) Describe how swimlanes are used in activity diagrams. (b) Draw an activity diagram for online shopping website. K4 (12)

OR

- (a) What is polymorphism? (b) How does it enable flexibility and extensibility in OOP?(c) Create a program to model different types of animals in a zoo. There are three types of animals: Lions, Elephants, and Monkeys. All animals have common properties such as name and age, and common behaviors such as eating and sleeping. However, each type of animal has its own specific behavior: Lions roar, Elephants trumpet, and Monkeys chatter. K4 (12)