

C.S.E

Reg. No. :

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Question Paper Code : 11169

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2026.

Third Semester

Computer Science and Engineering

CS3391 — OBJECT ORIENTED PROGRAMMING

(Common to : Biomedical Engineering/Computer Science and Design/Computer Science and Engineering (Artificial Intelligence and Machine Learning)/ Computer Science and Engineering (Cyber Security)/Computer Science and Engineering (Data Science)/Medical Electronics/ Computer Science and Business Systems/Information Technology)

(Regulations 2021)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. State the significance of Java Virtual Machine.
2. Mention any two difference between procedural and object oriented programming.
3. How is an anonymous inner class created in Java by extending a class?
4. Can an interface contain constructors? Why or why not?
5. Define autoboxing with an example.
6. Define thread priorities in Java.
7. Mention any two classes used for file handling in Java.
8. Write the syntax of a generic method.
9. Define a BorderPane and its sections.
10. Name two methods used to handle mouse events in JavaFX.

PART B — (5 × 13 = 65 marks)

11. (a) Write a Java program to define a class named Vehicle that represents a generic vehicle. The class should contain the following data members: make, model, year, color, engine type, and fuel type.
- Create a parameterized constructor to initialize all the fields.
 - Include a method named displayDetails() to print all the information about the vehicle in a formatted way.
 - In the main() method, create atleast two objects of the Vehicle class with different values and call the displayDetails() method for each.

Or

- (b) Discuss the different types of access specifiers in Java with examples showing their usage and scope. How does data safety achieved using encapsulation?
12. (a) Compare and contrast method overloading and method overriding with examples.

Or

- (b) Discuss Java package and member access in package with examples. Also write a Java Program that demonstrates importing user-defined packages.
13. (a) Discuss inter-thread communication using wait(), notify(), and notifyAll() methods with a program.

Or

- (b) List and explain at least six built-in exceptions in Java with examples.
14. (a) Discuss generic programming in Java. Explain with programs for generic classes and generic methods.

Or

- (b) Explain string tokenization and splitting in Java using split() method. Write a program to split a comma-separated string and display each token.
15. (a) Write a program demonstrating CheckBox, ToggleButton, RadioButton, ListView, ComboBox, ChoiceBox, TextField, TextArea, PasswordField, and ScrollPane in a single scene. Explain the purpose of each control.

Or

- (b) Write a program to create a fully functional menu bar with menus like File, Edit, and Help. Each menu should have actionable menu items, and display messages when selected. Explain how menus are integrated into the scene graph.

PART C — (1 × 15 = 15 marks)

16. (a) Develop a Java program that simulates ATM transactions. Include exception handling for insufficient balance, invalid input, and withdrawal limit using multiple catch blocks and nested try statements.

Or

- (b) Write a multithreaded Java program to simulate ticket booking where multiple users are booking tickets concurrently. Demonstrate thread creation, thread priorities, synchronization, inter-thread communication, and handling suspending/resuming threads.
-

