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Question Paper Code : 60442

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

Third/Fourth/Fifth Semester

Computer Science and Engineering

CS8392 – OBJECT ORIENTED PROGRAMMING

(Common to Computer and Communication Engineering/Electrical and Electronics Engineering/Electronics and Communication Engineering/Electronics and Instrumentation Engineering/Electronics and Telecommunication Engineering/Instrumentation and Control Engineering/Artificial Intelligence and Data Science/Computer Science and Business Systems/Information Technology)

(Regulations 2017)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Name four characteristics of the Java programming language.
2. What are the Key components of JRE?
3. State the purpose of protected members in Java.
4. Write down the steps in implementing object cloning.
5. List down the primary purpose of the throw statement in exception handling.
6. Show the difference between FileInputStream and FileReader in Java?
7. What are the advantages of using generics in Java?
8. What is a daemon thread, and how does it differ from a user thread?
9. Name two types of components used in Java Swing.
10. What is the purpose of adapter classes in Java event handling.

PART B — (5 × 13 = 65 marks)

11. (a) Discuss the compilation process in Java, including the steps involved from source code to bytecode execution.

Or

- (b) Analyze how OOP concepts are implemented in Java. Include examples to illustrate each concept.

12. (a) Compare and contrast final methods and final classes. Discuss their implications for inheritance and polymorphism.

Or

- (b) Compare the use of ArrayLists and arrays in Java. Discuss the benefits and drawbacks of each.

13. (a) Explain the process of throwing and catching exceptions in Java with examples. Include how to handle multiple exceptions in a single block.

Or

- (b) Provide a detailed explanation of reading from and writing to files in Java using BufferedReader and BufferedWriter.

14. (a) Explain bounded types in generics with examples. What are the restrictions and limitations associated with them?

Or

- (b) Explain the thread life cycle in Java in detail. Illustrate with a diagram showing the various states and transitions.

15. (a) Explain the basics of event handling in Java. Discuss how event handlers work, including the role of action listeners and mouse listeners.

Or

- (b) Discuss layout management in Swing. Explain the different layout managers available in Swing and when to use each one with examples.

PART C — (1 × 15 = 15 marks)

16. (a) Define an interface `Payment` with methods `makePayment( )` and `refund( )`. Implement this interface in two classes, `CreditCardPayment` and `PayPalPayment`. Write a program that demonstrates the usage of both payment methods.

Or

- (b) Define an abstract class named `Appliance` with an abstract method `turnOn( )`. Create subclasses `WashingMachine` and `Refrigerator` that implement the `turnOn( )` method. Write a program to demonstrate polymorphism by calling the `turnOn( )` method on an array of `Appliance` objects.
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