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Question Paper Code : 30445

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2024

Third/Fourth/Fifth Semester

CS 8392 – OBJECT ORIENTED PROGRAMMING

(Common to : Computer Science and Engineering/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. List any four separators used in Java with its purpose.
2. Why do we need static data members in Java?
3. What is the use of “this” keyword?
4. Write a general form of a class that includes the implements clause to implement interface
5. Write a simple program to read and write files in Java.
6. List any four byte stream classes.
7. What is the use of join() method in java.
8. List out the advantages of java generics.
9. Draw the class hierarchy for Panel and Frame in java.
10. List down the types of adjustment events in handling scrollbars.

PART B — (5 × 13 = 65 marks)

11. (a) (i) Discuss in detail about the bitwise operators defined in java. (6)
(ii) Explain in detail about the features of object oriented programming. (7)

Or

- (b) (i) Discuss in detail about integer and floating point data types defined in java. (5)
(ii) Explain the types of constructors in Java with an example program. (8)

12. (a) Explain how Java provides fine grained control over the visibility of variables and methods within classes, subclasses and packages with a suitable code snippet.

Or

- (b) (i) Explain in detail about how objects are passed as parameter to methods with an example program. (8)
(ii) Discuss about any five string handling functions in Java with example. (5)

13. (a) Discuss in detail about the exception handling in java with an example program.

Or

- (b) (i) Discuss in detail about multiple catch clauses and nested try statements in Java. (6)
(ii) Explain how custom exceptions can be created in Java with example code. (7)

14. (a) Discuss in detail about the Java Thread model.

Or

- (b) Explain in details how generics works in Java with a suitable example program and discuss its limitations.

15. (a) Discuss in detail about working with Frame windows and explain how to create a frame window in an Applet.

Or

- (b) Discuss in detail about methods and classes available in java to use Swing buttons with appropriate code snippet.

PART C — (1 × 15 = 15 marks)

16. (a) Write a Java program to create two threads one thread should prints all real solutions to the quadratic equation $ax^2 + bx + c = 0$. Read in a, b, c and use the quadratic formula. If the discriminate $b^2 - 4ac$ is negative, display a message stating that there are no real solutions and another thread should print the n^{th} value of the Fibonacci sequence.

Or

- (b) Write a Java program to create two threads, one thread should prompts the user for an integer and then prints out all the prime numbers up to that Integer and another thread checks whether a given string is a palindrome or not.
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