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TERM END EXAMINATIONS (TEE) – Jan 2022

Programme	B. Tech. – CSE	Semester	Fall 2021-22
Course Name	Programming in Java	Course Code	CSE3002
Faculty Name	Prof. Anand Motwani	Slot / Class No	B11+B12+B13 / 0268
Time	1½ hours	Max. Marks	50

Answer ALL the Questions

Q. No.	Question Description	Marks
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PART - A – (3 x 10 = 30 Marks)

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| 1 | (a) Given two classes Office and Company , and one class Address . Demonstrate code reusability with the aggregation concept by creating a Has-A relationship with the class Address. | 10 |
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OR

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| | (b) Given a situation/conditions when we have following requirements: Static members that are only constants; No constructor required; either implement an interface or extend a class. Which class construct is most appropriate for the given conditions/situation. Justify with a suitable example. | 10 |
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| 2 | (a) Create a List of Employee objects: <ul style="list-style-type: none">- Employees must have name, id, department attributes.- Create a Company object having above employees as members.- Write a method to count total no. of employees in Company.- Apply proper exception handling. | 10 |
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OR

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| | (b) Assume a given the List of radius or simply generate a List of radius. Perform the following operations (intermediate / terminal) to process it. <ul style="list-style-type: none">- Utilize stream () over it.- Utilize the Lambda expression for finding: area of circles for the given values of radius in List.- Collect the calculated area values into new list.- Print the list having areas of circles. | 10 |
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- 3 (a) Demonstrate the following operations, in a single program, using methods from `nio.file` package : 10
- Creating a file ("MyTest") at a specified path.
 - Write on to the file.
 - Read the contents of entire file.
 - Copy the created file to another path.
 - Apply the proper exception handling.

OR

- (b) Demonstrate the concept of concurrency in Java using a thread pool via `ExecutorService`. 10

Part - B – (2 x 10 = 20 Marks)

- 4 How Java facilitates developers to deal with data structures and their manipulation. 10
Write the syntax of basic interfaces provided by Java Collections Framework.
Demonstrate the search and sort operation in a List of Doubles.
- 5 Discuss following points about Java Exception Hierarchy: 10
- Exception class.
 - Categories of exception with Example.
- Also demonstrate extending the Exception class for writing customized exception.

