

III B. TECH I SEMESTER REGULAR EXAMINATIONS, FEB - 2022
OOPS THROUGH JAVA
(Electronics and Communication Engineering)

Time: 3 Hours

Max. Marks: 60

Note: Answer **ONE** question from each unit ($5 \times 12 = 60$ Marks)

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UNIT-I

1. a) What are the shortcomings of procedure-oriented programming? [6M]  
Explain how does object oriented programming overcome these shortcomings.
- b) Explain briefly about the features (buzzwords) of java. [6M]

(OR)

2. a) Write an abstract class called Shape consists of area and perimeter methods. Define subclasses named Circle, Triangle, and Rectangle to Shape class. Define a subclass Square to Rectangle. Write a test program that create an object of Circle, Triangle, Rectangle and Square and print the corresponding area and perimeters of the objects? [6M]
- b) What is Array? Explain the concept of declaration of array variables, creation of arrays, and process arrays using indexed variables. [6M]

UNIT-II

3. a) What type of inheritance is not there in java? How it is compensated? Explain with an example. [6M]
- b) Write a program to calculate student grade using inheritance concepts. [6M]

(OR)

4. a) What are the uses of Packages? How to import packages? Write a program to find **ncr** value by calling factorial function which is located in another package class. [6M]
- b) Write a java package to define class shape. The class rectangle and triangle extend the shape class to find area. Write a program to access all the classes of a package. [6M]

UNIT-III

5. a) What is exception handling? Draw the hierarchy of java Exception classes. [6M]
- b) Explain the different I/O streams used in java. [6M]

(OR)

6. a) Write a java program that demonstrates how exception handling is performed in java. [6M]
- b) What is the advantage of random access file? Discuss random access file operations in java. [6M]

UNIT-IV

7. a) What is multithreading? Describe how multithreading can be achieved in java with an example. [6M]
- b) Write a java program to display 1 to 100 for every 5 seconds in the main thread and child thread has to display A to Z for every 10 seconds. The main thread has to wait until child thread complete its task. [6M]

(OR)

8. a) Explain with an example how java performs thread synchronization. [6M]
- b) Describe how to implement runnable interface for creating and starting threads. [6M]

UNIT-V

9. a) Explain any three Swing Components. [6M]
- b) Develop a java program to create a table using JTable with column heading RegNo, Name, Semester and insert at least five records in the table and display. [6M]

(OR)

10. a) How to handle events? Discuss the relationship between event sources and listeners. [6M]
- b) What are the different AWT components available in java? Explain in detail. [6M]

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