

I B. Tech II Semester Regular/Supplementary Examinations, July/August-2023
OBJECT ORIENTED PROGRAMMING THROUGH JAVA

(Common to ECE, EIE, ECT)

Time: 3 hours

Max. Marks: 70

Answer any five Questions one Question from Each Unit

All Questions Carry Equal Marks

UNIT - I

1. a) List out and explain the operators in java with suitable examples. [7M]
- b) Discuss declaration, allocation and accessing array elements in java with matrix multiplication example. [7M]

(OR)

2. a) Write syntax for defining a class and how to access members of class through object explain with suitable example. [7M]
- b) Write a java program that inputs an integer, 'n' from the command line and displays the string "1+2+3+...+n=sum" and also compute the sum. [7M]

UNIT-II

3. What is meant by Inheritance and why it is important in Object Oriented Programming? Explain different types of inheritance supported in JAVA. [14M]

(OR)

4. a) Briefly explain about super and final keyword in java with suitable example. [7M]
- b) What is an abstract class? What is its importance? How is it designed in java? [7M]

UNIT-III

5. a) What is a Layout Manager? Explain the different types of Layout Managers with suitable examples. [7M]
- b) Explain about creating swing applet and components of it. [7M]

(OR)

6. Write a java Program to implement an AWT based calculator with basic operations. [14M]

UNIT-IV

7. a) Write a JAVA program to read /write from Random Access File. [7M]
- b) Compare and contrast between text and binary I/O. [7M]

(OR)

8. a) Write a java program for to handle mouse events. [7M]
- b) Discuss in details about event driven model with neat sketch. [7M]

UNIT-V

9. a) What is thread? With neat sketch Explain the life cycle of the thread? [7M]
- b) Write the need of exceptional handling. Demonstrate Java program for array index out of bound and divide by zero exception. [7M]

(OR)

- 10 a) What are the best practices related to Java Collections Framework? Discuss. [7M]
- b) Write a program that creates two threads. First thread prints the numbers from 1 to 100 and the other thread prints the numbers from 100 to 1. [7M]



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**UNIT - I**

1. a) List out and explain the Data types in java with suitable examples. [7M]  
 b) Define class and object? Explain how to create a class and object with an example. [7M]

**(OR)**

2. a) Write a program to Read the elements of the matrix of the order up to 3\*3 and transpose its elements. [7M]  
 b) What is the importance of constructor? Write a java program to perform constructor overloading. [7M]

**UNIT-II**

3. a) Write a Java program to create a package where the program has to access a package and hide classes with packages. [7M]  
 b) Explain about the Dynamic Method Dispatch in Java with example program. [7M]

**(OR)**

4. a) What is multiple inheritances? Explain how it can be implemented in Java with the help of an example. [7M]  
 b) Compare and contrast between Method Overriding and Method Overloading. [7M]

**UNIT-III**

5. a) Illustrate with Java program: GUI basics with panels and frames.. [7M]  
 b) Write a program to create a frame window that responds to mouse events. [7M]

**(OR)**

6. List out the steps for creating simple user Registration form using java swing with an example. [14M]

**UNIT-IV**

7. a) What are random access files in java? Explain the different methods to access the file. [7M]  
 b) Write a java program for to handle key events. [7M]

**(OR)**

8. a) Explain the binary I/O class with examples. [7M]  
 b) Discuss in details about event driven model with neat sketch. [7M]

**UNIT-V**

9. a) How many ways are possible in java to create multiple threaded programs? Discuss the differences between them. [7M]  
 b) Explain the exception handling in java with suitable example. [7M]

**(OR)**

- 10 a) Write a java program to create own exception for Negative Value Exception if the user enter negative value. [7M]  
 b) What are similarities and difference between Array List and Vector? Explain [7M]

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1. a) What is an Operator? Explain type of operators in Java with examples. [7M]  
b) Write a program to generate Fibonacci series 1 1 2 3 5 8 13 21 34 55 89. [7M]

**(OR)**

2. a) What is an array? How do you declare the array in java? Give examples. [7M]  
b) Explain inbuilt classes of Java with an example. [7M]

**UNIT-II**

3. a) What is package? How do we create it? Give the example to create and to access Package. [7M]  
b) What is importance of super and this keyword in inheritance? Illustrate with suitable example. [7M]

**(OR)**

4. a) Write a java program to implement multilevel inheritance with 4 levels of hierarchy. [7M]  
b) Explain method overriding with suitable example. [7M]

**UNIT-III**

5. What is a Layout manager? Explain different types of Layout managers with examples. [14M]

**(OR)**

6. a) Write the step wise procedure to create and run an Applet. [7M]  
b) Write a program to create a frame window that responds to mouse clicks. [7M]

**UNIT-IV**

7. a) Explain about random access file methods in java. [7M]  
b) Discuss about Event driven model in java. [7M]

**(OR)**

8. a) Explain briefly about character Streams and write the example java program for reading and writing character type data with respect to the file. [7M]  
b) Compare and contrast between Text I/O and Binary I/O. [7M]

**UNIT-V**

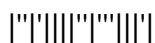
9. a) What is thread? Draw thread life cycle diagram in Java. [7M]  
b) Write a program to create two threads, so one thread will print even numbers between 1 to10 whereas other will print odd numbers between 11 to 20. [7M]

**(OR)**

- 10 a) What is exception? Why the exception occurred in program? Explain with suitable example. [7M]  
b) Explain the collection framework in java with examples. [7M]

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UNIT - I

1. a) Explain the while and do-while loops with suitable example. [7M]
b) Write a Java program to find the sum of digits of a given number. [7M]

(OR)

2. a) Define Methods and objects. Explain with example Java program. [7M]
b) What is a Constructor? What is its requirement in programming? Explain with program. [7M]

UNIT-II

3. a) Explain the process of defining and creating a package with suitable examples. [7M]
b) Compare and Contrast between interface and abstract class. [7M]

(OR)

4. Define inheritance. What are the benefits of inheritance? What costs are associated with inheritance? How to prevent a class from inheritance? [14M]

UNIT-III

5. a) List the different types of Layout managers ,explain any 2 with suitable examples [7M]
b) What are the various components of Swing? Explain. [7M]

(OR)

6. a) What is an Applet? Explain the life cycle of Applet with a neat sketch. [7M]
b) Create a simple Applet to display a smiley picture using Graphics class methods. [7M]

UNIT-IV

7. a) Explain the Event driven model. Write a Java program for it. [7M]
b) Distinguish between Byte Stream Classes and Character Stream Classes. [7M]

(OR)

8. a) Write a program to create a frame window that responds to key strokes. [7M]
b) Discuss about the Random Access Files with example. [7M]

UNIT-V

9. a) What are the different ways to handle exceptions? Explain. [7M]
b) Write a program that creates two threads. First thread prints the numbers from 1 to 100 and the other thread prints the numbers from 100 to 1 [7M]

(OR)

- 10 a) Write a program to create four threads using Runnable interface. [7M]
b) What are the common algorithms implemented in Collections Framework? Discuss. [7M]

