

**II B. Tech I Semester Regular Examinations, March - 2021**  
**OBJECT ORIENTED PROGRAMMING THROUGH JAVA**  
 (Electronics and Communication Engineering)

Time: 3 hours

Max. Marks: 75

Answer any **FIVE** Questions each Question from each unit  
 All Questions carry **Equal** Marks

~~~~~

- |    |    |                                                                                                                                                |      |
|----|----|------------------------------------------------------------------------------------------------------------------------------------------------|------|
| 1  | a) | Explain the principles of object oriented programming.                                                                                         | [8M] |
|    | b) | Describe the structure of a typical Java program with an example.                                                                              | [7M] |
| Or |    |                                                                                                                                                |      |
| 2  | a) | Explain Java Virtual Machine and its architecture with a neat diagram.                                                                         | [8M] |
|    | b) | Discuss the importance of Java Tokens in detail.                                                                                               | [7M] |
| 3  | a) | Define inheritance. What are the benefits of inheritance? What costs are associated with inheritance? How to prevent a class from inheritance? | [8M] |
|    | b) | Explain constructor overloading in java with a suitable example.                                                                               | [7M] |
| Or |    |                                                                                                                                                |      |
| 4  | a) | Discuss the purpose of a garbage collector.                                                                                                    | [7M] |
|    | b) | Explain the <b>Static</b> keyword with its usage with suitable examples.                                                                       | [8M] |
| 5  | a) | Explain how to define handler classes using inner classes.                                                                                     | [7M] |
|    | b) | Write a Java program to create graphical user interfaces with various user-interface controls.                                                 | [8M] |
| Or |    |                                                                                                                                                |      |
| 6  | a) | Write a Java program to enter data using the TextField class and password using the PasswordField class.                                       | [8M] |
|    | b) | Explain how to define handler classes using anonymous inner classes.                                                                           | [7M] |
| 7  | a) | Discuss the differences between InputStream and OutputStream in Java.                                                                          | [8M] |
|    | b) | Explain how to improve I/O performance by using BufferedInputStream and BufferedOutputStream.                                                  | [7M] |
| Or |    |                                                                                                                                                |      |
| 8  | a) | Write a Java program to illustrate the use of the PrintStream class.                                                                           | [7M] |
|    | b) | Write a Java program to read content from one file and write it into another file.                                                             | [8M] |
| 9  | a) | Explain the importance of task classes by implementing the Runnable interface.                                                                 | [7M] |
|    | b) | Discuss the features of Java Beans in detail.                                                                                                  | [8M] |
| Or |    |                                                                                                                                                |      |
| 10 | a) | Explain the use of synchronized methods or blocks to synchronize threads to avoid race conditions                                              | [8M] |
|    | b) | Write a Java program to explain user -Defined Exceptions.                                                                                      | [7M] |

**II B. Tech I Semester Regular Examinations, March - 2021**  
**OBJECT ORIENTED PROGRAMMING THROUGH JAVA**  
 (Electronics and Communication Engineering)

Time: 3 hours

Max. Marks: 75

Answer any **FIVE** Questions each Question from each unit  
 All Questions carry **Equal** Marks

- ~~~~~
- 1 a) Discuss various applications of OOP [7M]  
 b) What is meant by byte code? Explain how Java is platform-independent. [8M]
- Or
- 2 a) Explain java features along with the program structure in detail. [8M]  
 b) Explain class, public, static, void, main, string, and system.out.println() key terms. [7M]
- 3 a) What is polymorphasion? How do we implement polymorphism in JAVA? Explain briefly. [8M]  
 b) Write a program to demonstrate hierarchical and multiple inheritance using interfaces. [7M]
- Or
- 4 a) How to design and implement an interface in Java? Give an example. [7M]  
 b) Explain this keyword with an example? Explain abstract class with example program. [8M]
- 5 a) Explain the procedure to simplify event handling using lambda expressions. [7M]  
 b) Write a Java program to create a radio button using the RadioButton class and group radio buttons using a ToggleGroup. [8M]
- Or
- 6 a) Write a Java program to write a program to deal MouseEvents. [8M]  
 b) Explain the procedure to create a label with text and graphic using the Label class and explore properties in the abstract. [7M]
- 7 a) Discuss useful methods of OutputStream. [8M]  
 b) Explain features of Random Access Files. [7M]
- Or
- 8 a) Discuss the importance of Event-driven model with a neat sketch. [7M]  
 b) Write a Java program to read a file line by line. [8M]
- 9 a) Explain the procedure to control animations using threads and use Platform.runLater to run the code in the application thread. [7M]  
 b) Discuss the features of Assertions. [8M]
- Or
- 10 a) Explain the procedure to restrict the number of concurrent tasks that access a shared resource using semaphores. [8M]  
 b) Explain the support of Java for Network Programming. [7M]

**II B. Tech I Semester Regular Examinations, March - 2021**  
**OBJECT ORIENTED PROGRAMMING THROUGH JAVA**  
 (Electronics and Communication Engineering)

Time: 3 hours

Max. Marks: 75

Answer any **FIVE** Questions each Question from each unit  
 All Questions carry **Equal** Marks

- ~~~~~
- 1 a) Explain the need of object-oriented programming? Give applications of java? [8M]  
 b) Discuss different – Inbuilt uesses in brief.. [7M]
- Or
- 2 a) Explain the concept of Overloading in Java with suitable example. [6M]  
 b) List the primitive data types available in Java and explain. [9M]
- 3 a) Write the benefits of packages and interfaces. [6M]  
 b) What is method overloading? Can you define two methods that have the same name but different parameter types? Can you define two methods in a class with identical method names and parameter profiles with different return value types or different modifiers? [9M]
- Or
- 4 a) How can we add a class to a package? Write about relative and absolute paths. [7M]  
 b) Fields in an interface are implicitly static and final. Justify the validity of the statement. [8M]
- 5 a) Write a Java program to develop an animation for simulating a bouncing ball. [7M]  
 b) Write a Java program to create a check box using the CheckBox class. [8M]
- Or
- 6 a) Explain the procedure to define handler classes, register handler objects with the source object, and write the code to handle events. [8M]  
 b) Explain the procedure to create a button with text and graphic using the Button class and set a handler using the setOnAction method in the abstract ButtonBase class. [7M]
- 7 a) Explain Useful methods of InputStream. [8M]  
 b) Discuss features of High-Level File I/O. [7M]
- Or
- 8 a) Write a Java program to read and write primitive values and strings using DataInputStream and DataOutputStream . [7M]  
 b) Compare and contrast the features of Text I/O vs Binary I/O. [8M]
- 9 a) Explain the procedure to create synchronized collections using the static methods in the Collections class. [7M]  
 b) Write a Java program to throw exceptions and multiple catch Blocks. [8M]
- Or
- 10 a) Discuss the procedure to develop parallel programs using the Fork/Join Framework. [8M]  
 b) Write a Java program to simulate the importance of Exceptions. [7M]

**II B. Tech I Semester Regular Examinations, March - 2021**  
**OBJECT ORIENTED PROGRAMMING THROUGH JAVA**  
(Electronics and Communication Engineering)

Time: 3 hours

Max. Marks: 75

Answer any **FIVE** Questions each Question from each unit  
All Questions carry **Equal** Marks  
~~~~~

- 1 a) Compare procedure-oriented programming and object-oriented programming with suitable examples? [8M]  
b) Explain the importance of Constructors. [7M]
- Or
- 2 a) Explain the history of Java ? Summarize the need of object-oriented programming? [7M]  
b) List and explain Java Buzz words in detail. [8M]
- 3 a) What is an interface? What are the similarities between interfaces and classes? [7M]  
b) Demonstrate the importance of abstract classes? Show it with an example? [8M]
- Or
- 4 a) Give an example where the interface can be used to support multiple inheritances. [8M]  
b) What is the interface? Write a program to demonstrate how interfaces can be extended. [7M]
- 5 a) Explain the features of event-driven programming. [7M]  
b) Write a Java program to enter data in multiple lines using the TextArea class. [8M]
- Or
- 6 a) Explain different layout managers of Java. [8M]  
b) Write a Java program to select a single item using ComboBox. [7M]
- 7 a) Write the procedure to store and restore objects using ObjectOutputStream and ObjectInputStream. [7M]  
b) Explain the features of Low-Level File I/O. [8M]
- Or
- 8 a) Write a Java program to get file creation, last access, and last modification time. [8M]  
b) Discuss the features of Binary I/O Classes. [7M]
- 9 a) Discuss the procedure to use the resource-ordering technique to avoid deadlocks [8M]  
b) Write a Java program to propagate exceptions. [7M]
- Or
- 10 a) Explain the life cycle of a thread with a neat sketch. [7M]  
b) Discuss various types of Exceptions in detail. [8M]