

# POKHARA UNIVERSITY

Level: Bachelor

Semester: Fall

Year : 2023

Programme: BE

Full Marks: 100

Course: Advanced Programming with Java

Pass Marks: 45

Time : 3hrs.

*Candidates are required to give their answers in their own words as far as practicable.*

*The figures in the margin indicate full marks.*

*Attempt all the questions.*

1. a) Explain the Java architecture and significance of class path. 8  
Differentiate between error and exception.
- b) Define Package. Explain the types of access modifiers in Java. 7
2. a) Define interface. Write Java program that override methods (getUserValue() and displayUserDetail() ), where getUserValue() is defined to get user detail(name, address, age) and displayUserDetail() to display user detail. 8
- b) Define subclass and super class. How can we achieve multiple inheritance in Java? Explain. 7

**OR**

- Differentiate between Java abstract class and interface with a sample program
3. a) Write a program to create a Frame that has two TextField components, one Label, and a Button. When the user clicks on the button, calculate the sum of the values entered in the first and second TextField and display the result on the third Label. 8
  - b) What are the pros and cons of JavaFX. Explain any two JavaFX layout managers. 7
  4. a) Create a TCP client server application where the client sends a string and the server responds by echoing the same string in upper case. 8
  - b) What is JavaMail API? Explain type of protocol used in JavaMail API. 7

**OR**

Define RMI stubs and skeleton. Create an RMI application where a client can remotely invoke a method that sends the sum of any two given integers.

5. a) A table `tbl_student` consists of `id`, `name` and `program`. Write a program that asks users to enter a program name and displays all the students records enrolled in that program. 8
- b) Differentiate between GET and POST methods. Write java program that depict Sessions and Cookies. 7
6. a) Explain life cycle methods of servlet. Write a servlet program that accept input string from user through form and then check if it is palindroine or not. 8
- b) Why do we need design patterns? Explain Singleton Pattern and Factory Method Pattern in detail. 7
7. Write short notes on: (Any two) 2x5
- a) SQL Injection
- b) ORM
- c) CORBA

# National Academy of Science and Technology

(Affiliated to Pokhara University)

Dhangadhi, Kailali

## Pre University Examinations

Level : Bachelor

Semester: IV\_Spring

Year : 2024

Programme: B.E. Computer

F.M. : 100

Course: Advanced Programming with Java

P.M. : 45

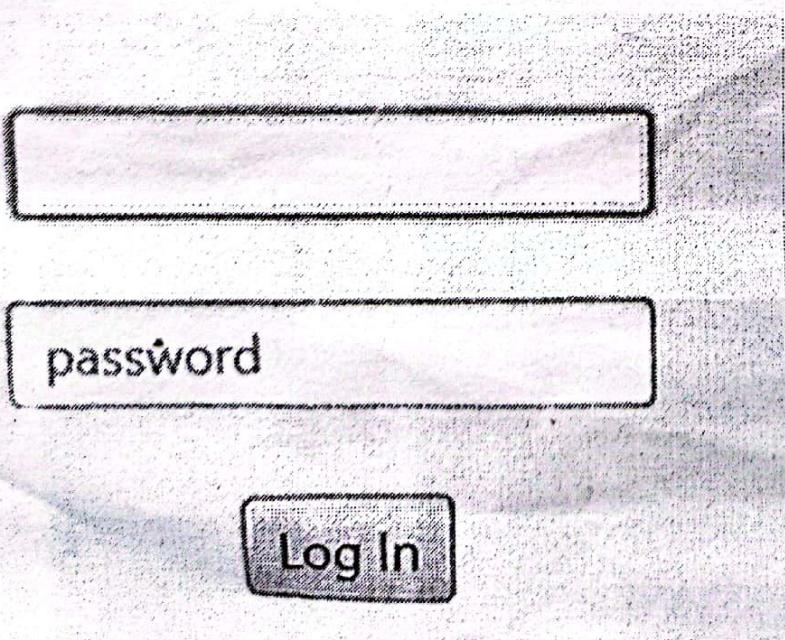
Time : 3hrs.

*Candidates are required to give their answers in their own words as far as practicable. The figures in the margin indicate full marks.*

**Attempt all questions.**

- 1.a) Define class, object and package. Write down the steps to create package and explain with code example. (8)
- b) Why do we need exception handling in Java Programming? Explain with code example how do you handle user defined exception. (7)
  
- 2.a) Define abstract class and interface. How you achieve multiple inheritance using interface in java. Explain with code example. (8)
- b) Define event delegation model. Explain the source and listener with different classes. (7)
  
- 3.a) Wrote down the JavaFx code to design a login page as shown in the figure below when user click on login button test the username is "nast"and password is "BeComp#4" or not. (8)

 Login —  



b) Differentiate between Swing and JavaFX. Explain different swing controls used in GUI app development. (7)

4.a) Define TCP/UDP. Write down the TCP/IP client server two-way chat program. (8)

b) Define RMI. Explain with architectural diagram in details. (7)

OR

Write down RMI distributed client server program to show profit or loss in the client. The cp and sp are passed from client and profit loss is calculated by the server. (7)

5.a) Define JDBC. Explain different types of database driver used in java development. (8)

OR

Write down the steps to connect to database and select all record from the database. (8)

b) Define JSP and Servlet. Explain servlet life cycle diagram in details with call back methods. (7)

6.a) Write a program to take email and password from jsp page and store to database using servlet. (8)

b) Write about the need of concurrency in java application. Write a program to illustrate an example of synchronized block and method in multi-threading. (7)

OR

Why do we need design pattern? Explain factory pattern in details with code example. (7)

7. Write short notes (on any two) ( $2 \times 5 = 10$ )

a) Spring Boot and Hibernate

b) Session and Cookies

c) Transaction Management

<<Good Luck>>

**NEPAL COLLEGE OF INFORMATION TECHNOLOGY**

**Assessment\_Spring**

Level: Bachelor

Year: 2024

Programme: BE

Full Marks: 100

Course: Advanced Programming in Java

Pass Marks: 45

Time: 3 hrs.

*Candidates are required to answer in their own words as far as practicable.  
The figures in the margin indicate full marks.*

*Attempt all the questions.*

1. a) Explain the Java architecture and also the significance of 7 bytecode.
- b) Explain thread priority in Java with a sample program. 8

**Or**

Define error and exception. Create a custom exception class.

2. a) Differentiate between Java abstract class and interface with a 7 sample program 8
- b) Define inheritance and its types. Why Java doesn't support multiple inheritance?
3. a) How are events handled in swing? Create a GUI application that asks for user's confirmation when the user tries to close the window. 7
- b) What are the pros and cons of JavaFX. Explain any two JavaFX layout managers.
4. a) Create a TCP client server application where the client sends a 7 string and the server responds by returning the length of the string.
- b) Create an RMI application where a client can remotely invoke a 8 method that checks whether the number given by the client is even or odd.

5. a) A table student consists of id, name, and program. Write a 7  
program to ask the user to enter the details and save them in the  
table. After every successful entry, the user must be prompted  
either to continue or quit.

**Or**

Differentiate between Statement and Prepared Statement. Write a  
sample program to illustrate the usage of RowSet.

- b) Write a program to display all the average marks and total number 8  
of records in a SQL database.
6. a) Explain the architecture of RMI. Also mentions its pros and cons. 7  
b) Write a program to display the following
- i. IP address of ncit.edu.np 8
  - ii. All the ip addresses of youtube.com
  - iii. Ip address of the local host.

7. Write short notes on: (Any two) 2×  
a) URL 5  
b) Constructor  
c) SQL injection

# NEPAL COLLEGE OF INFORMATION TECHNOLOGY

## ASSESSMENT- FALL-2023

Level: Bachelor		Year: 2023
Programme: BE		Full Marks: 100
Course: Advanced Programming in Java		Pass Marks: 45
		Time: 3 hrs.

Candidates are required to answer in their own words as far as practicable.  
The figures in the margin indicate full marks.

Attempt all the questions.

1. a) Explain the Java architecture and also the significance of bytecode. 7  
b) Explain thread priority in Java with a sample program.
- Or 8
- Define error and exception. Create a custom exception class.
2. a) Differentiate between Java abstract class and interface with a sample program 7  
b) Define inheritance and its types. Why Java doesn't support multiple inheritance? 8
3. a) How are events handled in swing? Create a GUI application that asks for user's confirmation when the user tries to close the window. 7  
b) What are the pros and cons of JavaFX. Explain any two JavaFX layout managers. 8
4. a) Create a TCP client server application where the client sends a string and the server responds by returning the length of the string. 7  
b) Define RMI stubs and skeleton. Create an RMI application where a client can remotely invoke a method that checks whether the number given by the client is even or odd. 8
5. a) A table student consists of id, name, and program. Write a program to ask the user to enter the details and save them in the table. After every successful entry, the user must be prompted either to continue or quit. 7

**Or**

Differentiate between Statement and PreparedStatement. Write a 8 sample program to illustrate the usage of RowSet.

- b) Create a servlet application with a form that lets use to enter roll number and name. On form submission save the details in a SQL database.
6. a) Define dynamic web applications. Explain the lifecycle of Servlet 7  
b) Define the Singleton pattern. Write a sample program using a Singleton pattern with lazy instantiation.
7. Write short notes on: (Any two) 8  
a) Session and Cookies  
b) CORBA  
c) SQL injection 2×5

Nepal Engineering College  
Assessment

Level: Bachelor

Program: BE Computer (IV)

Subject: Advance Programming with Java

Year: 2024

Full Marks: 100

Pass Marks: 45

Time: 3:00hrs

Candidates are required to give their answers in their own words as far as practicable. The program examples and figures in the margin indicates full marks.

Attempt all questions.

- 1) a. Explain Java architecture briefly. Illustrate the types of packages in Java with suitable example. [8]  
b. Define inheritance. List out different types of inheritance. Illustrate 'extend' and 'super' keyword with suitable example. [7]
- 2) a. Create a superclass called Person with properties like name and age, and a method to display information. Implement subclasses such as Student and Teacher that inherit from Person and add specific properties and methods (such as getdata and showdata). Write a program that creates instances of these classes and displays their information.  
b. Explain method overloading and method overriding with suitable example. [8]
- 3) a. What are different protocols used in network programming in java? Explain briefly. Explain different methods of *InetAddress* class with suitable example. [8]  
b. Explain RMI architecture with suitable example. [7]
- 4) a. Compare and contrast the FlowLayout, BorderLayout, and GridLayout. In which scenarios would you use each? Justify. [7]  
b. How do you manage events in JavaFX? Write a code snippet that demonstrates handling a button click. [8]
- 5) a. Define JDBC. Write a Java code to establish a connection, insert and retrieve data to and from database table to a MySQL database using JDBC.  
b. How do you handle SQL exceptions in JDBC? Provide an example of exception handling in a JDBC application. [7]
- 6) a. Describe the life cycle of a servlet. What are the key methods involved?  
b. Design a JSP page that connects to a database and delete and displays the contents of a database table.  
Write Short note on: (any two) [2\*5]  
a. Object Relational Mapper (ORM)  
b. Concurrency in Java  
c. Singleton and Abstract Factory design pattern

**POKHARA UNIVERSITY**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**SCHOOL OF ENGINEERING**

Exam	Final Internal Examination 2024		
Level	B.E.	FM	100
Program	Computer	PM	45
Year/ Part	II/II	Time	3 Hrs

**Subject: Advance Programming with Java**

Candidates are required to give answers in their own words as far as practicable.  
The figure in the margin indicates full marks. Assume suitable data if necessary.  
Attempt all the questions

- 1.a) Explain the Java architecture and the significance of class paths in Java. 7
- 1.b) Explain the concept of exception handling in Java. Write an example program. 8
- 2.a) Describe the purpose of interfaces in Java and how they differ from abstract classes. 8
- 2.b) Differentiate between upcasting and downcasting in Java. Provide examples to illustrate each. 8
- 3.a) Explain layout management in Java Swing. Write a program to demonstrate a login form with username and password field with a sign in button. 7
- OR
- Explain VBox or HBox in Java. Write a program to demonstrate the user registration form with a submit button. 8
- 3.b) Compare JavaFX and Swing. Discuss the strengths and weaknesses of each. 7
- 4.a) Explain the concepts of TCP, UDP, IP Address, and Ports in the context of network programming. 7
- 4.b) Explain the architecture of RMI (Remote Method Invocation)  
OR  
Explain the architecture of CORBA (Cross Origin Request Broker)
- 5.a) Explain the concepts of IDL (Interface Definition Language) and provide a simple CORBA program example. 7
- 5.b) Differentiate between JDBC driver types and discuss their configurations 7
- i.a) Discuss HTTP methods and responses in web applications. 7
- b) Explain the life cycle of web servlets. 7
7. Write Short Notes on:
- (a) Object-Relational Mapping (ORM)
  - (b) Multithreading in Java
  - (c) Singleton Pattern
  - (d) SQL Injection
- MULIA
- (a) (b) (c) (d)



Pokhara University  
Everest Engineering College  
Final Internal Assessment  
Spring - 2024

Level: Bachelor

Programme: BE CMP(4<sup>th</sup> Sem)

Course: Advance Programming with Java

Full Marks: 100

Pass Marks: 45

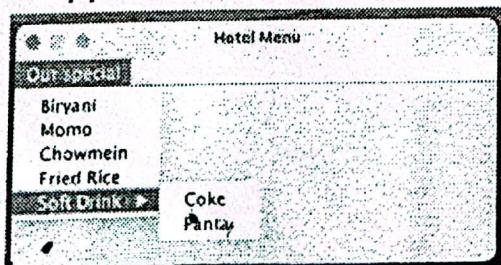
Time : 3hrs.

*Candidates are required to give their answers in their own words as far as practicable.*

*The figures in the margin indicate full marks.*

*Attempt all the questions.*

1. **a)** Define ClassPath? Write a program with custom exception handler that handle arithmetic exception. 7
- b) Define interface. Write Java program that override methods (getUserValue() and displayUserDetail() ). Where getUserValue() is defined to get user detail(name, address, age) and displayUserDetail() to display user detail. 8
2. **a)** Mention the scope of all modifiers (private, default, protected and public). Write suitable program to illustrate the concept. 8
- b) How closable AWT frames are defined? Explain the use of EXIT\_ON\_CLOSE and DISPOSE\_ON\_CLOSE. 7
3. **a)** Create following GUI application. 8



- b) Explain RMI architecture. Develop RMI application where client request to sum two numbers and response result from server. 7

4. a) How servlets works? Explain life cycle methods of servlet. Write simple program that illustrate servlet. 8
- b) What do you mean by delegation event model? Explain various event listener interfaces with an example. 7
5. a) Draw a diagram illustrating how client server interaction occurs in TCP socket Programming, implement with example too. 7
- b) Create GUI application with two buttons "RED" and "Green". When clicking "RED" button change background of "GREEN" button to red and clicking "GREEN" button change background of "RED" button to green. Also, console button clicked message. 8
6. a) Execute following menu based statement using sql statement:  
1. Create Database  
2. Create Table with field (id,name,gender,address)  
3. Fetch all record from specified table  
4. Exit  
Request database name and table name from user at runtime. 8
- b) Why we use type-4 driver? How to connect Java Application with any database ?.
7. Write short notes on: (Any two) 2×5
- a) How Java becomes Platform Independent?  
b) Type-4 driver  
c) Differentiate between GridLayout and GridBagLayout

**Gandaki College of Engineering and Science**

**Internal Exam**

Level: Bachelor

Program: Computer Engineering

Course: Advanced Programming in Java

Year: 2024

Full Marks: 100

Time: 3 hrs.

Pass Marks: 45

*Candidates are required to give their answer in their words as far as practicable.*

*The figures in the margin indicate full marks.*

**Attempt all the questions**

1. a) Describe Java Architecture with diagram. 8
- b) Define the importance of setting up class path. What is the importance of package? 7
2. a) Differentiate between Java abstract class and interface with a sample program. 8

**OR**

- Define subclass and superclass. How can we achieve multiple inheritance in Java? Explain with example.
3. b) Explain upcasting and downcasting with an example. 7
  4. a) Differentiate between AWT and Swing. Write the GUI program using components to find the sum of two numbers 8
  - b) Why do you need event handling? Explain the use of action event with an example. 7
  5. a) Define Java Socket Programming. Write a java program to create own client and server. 8
  - b) Define RMI stubs and skeleton. Explain RMI architecture layer in detail. 7

**OR**

Why CORBA is important? Compare CORBA with RMI.

- a) What is JDBC? Draw JDBC architecture and explain JDBC drivers with their advantages and disadvantages. 8
- b) WAP to connect a JAVA program with database successfully. 7
- a) What is Servlet? Explain the life cycle of servlet. 7
- b) Write a simple JSP file to display "GCES" five times. 8

Write short notes on: (*any two*)

2\*5

- i) ORM
- ii) OOP Principle
- iii) HTTP methods- GET POST

## LUMBINI ENGINEERING COLLEGE (LEC)

### Final Internal Exam

Level: Bachelor

Year: 2024

Program: BE Computer - 4<sup>th</sup> Sem

Full marks: 100

Course: Advance Java Programming

Pass marks: 45

Attempt all the questions.

Time: 3Hrs

Candidates are required to give their answer in their own words as far as practicable.

1.a) Define class and object in java. What is the importance of constructor? Write a java program to perform constructor overloading . (8)

b.) What are the benefits of inheritance? Explain various forms of inheritance with suitable code segments (7)

2. a) Explain about try, catch and finally block. Write a program to show the use of try, catch and finally clause. (7)

b) What is auto boxing and auto unboxing? Discuss declaration, allocation and accessing array elements in java with matrix multiplication example. (8)

3. a) What is interface? How does it support multiple inheritance in java (7)

b) Design a GUI form using swing with a text field, a text label for displaying the input message "Input any String", and three buttons with caption Check Palindrome, Reverse, Find Vowels. Write a complete program for above scenario and for checking palindrome in first button, reverse it after clicking second button and extract the vowels from it after clicking third button. (8)

Or

Define JDBC. Mention all the steps involved in JDBC connectivity. List and explain all the JDBC components.

4.. a) Define JDBC drivers. Mention all four types of JDBC drivers and contrast them with their advantages and disadvantages, finally when to use which drivers. (8)

b) Explain the architecture of JSP in contrast to MVC. Mention its usefulness in application development and how it separates the content, behavior and presentation. (7)

5. a) What is socket? How can you write java programs that communicate with each other using TCP sockets? Discuss with suitable example. (8)

b). What is Java Mail API ? How can you use this API to send email messages?(7)

6. a) Explain life-cycle of servlet in detail .Create a simple servlet that reads and displays data from HTML form. Assume form with two fields username and password. (8)

Or

Describe the process to deploy the servlet. Write a program to a JSP web form to take input of a student and submit it to second JSP file which may simply print the values of form submission. (

b) How do you handle HTTP request GET and POST using servlet? (7)

7. Write Short Notes on any two (2X5)

a. Hibernation

b. Web Framework

c. Importance of Cookies and Session.

**Madan Bhandari College of Engineering**  
**Urlabari-3, Morang**  
**Final Internal Examination**

**Level:** Bachelor

**Full Marks:** 100

**Programme:** B.E (Computer)

**Pass Marks:** 45

**Year/Part:** II/II

**Time:** 3 hrs.

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**Subject: - Advanced Programming in Java**

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- ✓ Candidates are required to give their answers in their own words as far as possible.
- ✓ Attempt all questions

1. ✓ a. What is checked and unchecked exception in Java? Write a program to illustrate the user defined exceptional handling in java? [8]  
b. Define Delegation Event-Model? Write a program to create a login form using swing? [7]
2. a). Define JDBC? Write the steps to connect to database in Java? [8]  
✓ b). Draw the diagram of JDBC Architecture and explain them in detail? [7]
3. a). Differentiate between JavaFX and Swing? Write in points. [7]  
b). List out different Layout Management in swing and explain any two in details? [8]
4. ✓ a). What do you mean by Upcasting and downcasting in Java? Demonstrate with program [8]  
✓ b). Define Constructor overloading? Write a program to show the constructor overloading in java? Write the rules for constructor overloading? [7]
- 5 ✓ a). Define inheritance? Show in figure different types of inheritance and explain any two inheritance in detail? [8]  
b). Write a program to add and subtract two different numbers using swing by creating different labels, TextArea and different buttons? [7]
6. a). Explain the connection, statement and Result Set in JDBC? [7]  
✓ b). Differentiate between Abstract classes and Interface? Demonstrate with examples? [8]
7. Write short notes on: [Any Two] [2\*5=10]  
✓ a). GUI Controls  
✓ b). Access Modifiers  
c). Java Collections

**POKHARA ENGINEERING COLLEGE**

**Internal Assessment Examination**

Level: Bachelor

Semester - Fall

Year : 2024

Programme: Computer

Full Marks: 100

Course: Advance programming in java

Pass Marks: 45

Time : 3hrs.

*Candidates are required to give their answers in their own words as far as practicable.*

*The figures in the margin indicate full marks.*

*Attempt all the questions.*

1. a) Define class. How do you create a class in Java? Differentiate class with interface.( 1+2+4)  
b) Explain Design patterns and types in details ? (8)
  2. a) Why CORBA is important? Compare CORBA with RMI. (4+4)  
b) What is servlet? Write a simple JSP file to display "Pokhara Engineering Collage" five times.(2+5)
  3. a) What is Java Mail API ? How can you use this API to send email messages?(3+4)  
b) What is row set? Explain cached row set in detail.(4+4)
  4. a) Why do we need swing components ? Explain the uses of check boxes and radio buttons in GUI programming. (4+4)  
b) How can we use listener interface to handle events? Compare listener interface with adapter class.(3+4)
  5. a) How do you handle HTTP request (GET) using servlet? (8)  
b) Compare JavaFX with swing. Explain HBox and BBox layouts of JavaFX.(3+4)
  6. a) How do you execute SQL statement in JDBC? (8)  
b) Discuss grid layout with example. (7)
- . Write short notes on: (any two)5\*2**
- a) Multithreading
  - b) JSP

# Universal Engineering & Science College

*Affiliated to Pokhara University*

Chakupat, Lalitpur

Level: Bachelor

Semester: IV

Year: 2024

Programme : BE Computer

Time: 3 hours

Full Marks: 100

Course: Advanced Programming in Java

Pass Marks: 45

## Pre-Board Examination - 2081 (Spring 2023)

*Candidates are requested to give their answers in their own words as far as practicable. The figure in the margin indicates full marks.*

**Attempt all the questions:**

1. a) What is the concept of java architecture? Explain different types of data types in java and also need of package in java.
- b) Why is conditional statement is needed? Explain the different method of controlling exceptions in java.
2. a) Suppose you are a project manager and your role to make decisions in any organisation. If you want multiple outcomes from a single project which OOP concept, would you like to choose and why? Differentiate between function overloading and function overriding with suitable examples.
- b) Explain the need of constructor. Declare a class called employee having employee\_id and employee\_name as members. Extend class employee to have a subclass called salary having designation and monthly salary as members. Define following: - Required constructors - A method to find and display all details of employees drawing salary more than Rs. @/. -Method main for creating an array for storing these details given as command line arguments and showing usage of above methods. (@ is the last 4 digit of your exam roll number).
3. a) Differentiate AWT and Swing. What are the differentiate types of layout management? Explain about card and Grid layout management.
- b) What do you mean by GUI and why it is needed? Write a simple program to create Smiley Face in java.

4. a) What are the differentiate types of URL methods used in java? Explain how client can communicate with server in java with example? 7

b) Differentiate between RMI and CORBA. How can you create and execute RMI explain with an example. 8

5. a) What do you mean by JDBC? Differentiate JDBC and ODBC. Assume database name "Computer" and table name "Processor". A table processor has the field Processor Id, speed, company and cost where Processor id is the primary key. write a java program to update a record (@, @ MIPS, IBM, \$44000). (@ is last 2 digit of your exam roll number). 8

b) Define JSP. What are the benefits of using JSP? Create a HTML file with text fields to first name, last name email, password. Create a JSP file that reads data from the HTML form and display full name. 7

6. a) What is ORM? Why is multithreading needed? Explain how can you create multithreading? *extend, implement* 7

b) Explain why is design pattern needed? Explain singleton and factory design pattern in java with necessary block diagram. 8

7. Attempt any two. 2 \* 5 =10

- a. CORBA architecture
- b. JDBC Drivers
- c. Life cycle of servlet



## UNITED TECHNICAL COLLEGE

Level: Bachelor

Semester: Fourth

Year : 2024

Programme: BE

Full Marks: 100

Course: Advanced Programming with Java

Pass Marks: 45

Time : 3hrs.

*Candidates are required to give their answers in their own words as far as practicable.*

*The figures in the margin indicate full marks.*

**Attempt all the questions.**

1. a) What is meant by Path and CLASSPATH variable? Explain characteristics of java in brief 7
- b) How interfaces are different from class? Explain interface extension and implementation with example. 8
2. a) Why do we need to handle the exception? Distinguish error and exception, write a program to demonstrate your own exception class. 8
- b) What are different states of an applet? Explain applet Life Cycle with suitable state diagram. 7
3. a) Design a GUI form using swing with a text field, a text label for displaying the input message “Input any String”, and two buttons with caption CheckPalindrome, and FindVowels. Write a complete program for above scenario and for checking palindrome display whether a string is palindrome or not after clicking in first button, and extract the vowels from it after clicking second button. 8
- b) Compare and contrast JavaFX with swing. Explain HBox and VBox layouts of JavaFX with suitable examples. 7
4. a) What is URL and what are its components? Write a program to extract different components of a URL and display them. 7

- b) What is purpose of Java mail API? Explain the steps used in sending email by using Java mail API.

8

OR

What is RMI? Write server and client program by using RMI such that the program finds factorial of n.

5. a) A database “testdb” contains a table “employee” with some records having id, name, post, salary. Write a java program to display only those employees whose salary is more than 45000. 7
- b) Create a simple servlet that reads and displays data from HTML form. 8  
Assume form with two fields username and password

The image shows a simple HTML form for user authentication. It consists of a pink rectangular container with rounded corners. Inside, there are two rows of input fields. The first row has a label 'Username:' followed by a text input field. The second row has a label 'Password:' followed by another text input field. At the bottom of the form are two buttons: a grey 'submit' button on the left and a grey 'reset' button on the right.

6. a) What are the differences between get and post method? Explain the usages of cookies to maintain session in servlet with suitable example. 7
- b) What is MVC architecture framework? Explain its layers with suitable example including java code. 8

7. Write short notes on: (Any two)

2×5

- a) Hibernate
- b) Life cycle of Servlet
- c) CORBA
- d) Row Set

**All the best!**

**Term Test I**

Date:	2081/02/32	Full Marks	50
Level	BE	Time	
Programme	BCE		

**Subject: - Advance Programming in Java**

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

1. Why do we need exception handling? Differentiate between checked and unchecked exceptions with examples. [7]
2. Explain subclass and superclass. How can we achieve multiple inheritance in Java? [8]
3. Write a program to create a Frame that has one TextField, one Label and a Button. When the user clicks the button, display the text in the label that is entered in the TextField. [7]
4. Write a program to generate a Frame with three Buttons labeled Red, Green and Yellow. When the user clicks the button, change the background color of the frame to the respective color of the button. [8]
5. List out the differences between method overloading and method overriding. [5]
6. Write a program to create a class MessagePrinter with a method messagePrinter(). Print "I am not cheating in this exam" in the console when this message is called. [5]
7. Write short notes [5\*2 = 10]
  - a✓ Swing Layout Managers
  - b. Interface
  - c. Class, Objects and Constructors

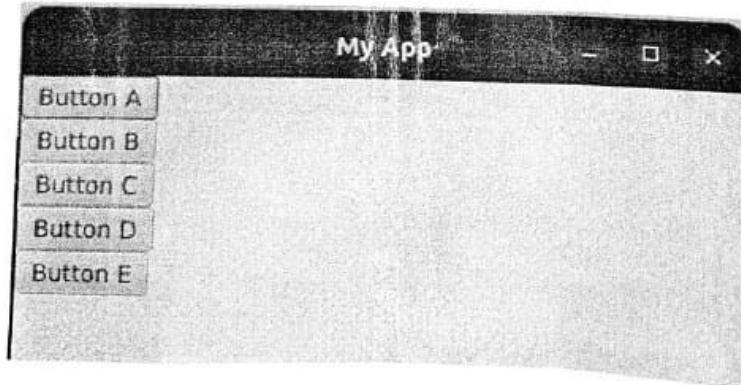
## Term Test II

Date:	2081/04/11	Full Marks	50
Level	BE	Time	
Programme	BCE		
Semester	IV		1.5 hrs

### Subject: - Advance Programming in Java

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate **Full Marks**.
- ✓ Assume suitable data if necessary.

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|---|--|---|
| 1 | Explain Design Pattern. Compare and contrast the responsibilities of the Model, View, Controller components in MVC.  | 7 |
| 2 | Describe the life cycle of a servlet. Explain the use of doGet() and doPost() methods of the servlet with an example.  | 8 |
| 3 | Write a TCP client/server program, where a client sends an integer value and the server responds by sending the squared value of that integer.   | 7 |
| 4 | Write a program to create a GUI that implements a frame with BorderLayout using AWT. The GUI should have two distinct sections: a Left Panel and a Right Panel. On the left panel, add a Button. On the right panel, add a Label with the text "Easy Question". Update the Label in the right panel to display "This is fun" when the Button is clicked. | 8 |
| 5 | Write a program to generate the following graphical user interface using javaFX.   | 5 |



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|---|--|----|
| 6 | What do you understand by SQL injection? Explain types of SQL Injection attacks.   | 5  |
| 7 | Explain any two. <ol style="list-style-type: none"> <li>Cookies and session,</li> <li>ResultSet vs RowSet in JDBC</li> <li>RMI vs CORBA</li> </ol> | 10 |