

**Tribhuvan University**  
**Institute of Science and Technology**

**2069**

**Advanced Java Programming**

Full Marks : 60

Pass Marks : 24

Time : 3 hours

**New Course**

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

**Section A (2\*10=20)**

Attempt any two questions.

- 1.) What are exceptions? Why is it important to handle exceptions ? Discuss different keywords that are used to handle exception. (2+2+6)
- 2.) Write a program using swing components to add two numbers. Use text fields for inputs and output. Your program should display the result when the user presses a button. (10)
- 3.) What is java beans? Differentiate it with java class. Discuss bean writing process with suitable examples. (2+2+6)

**Section B (8\*5=40)**

Attempt any eight questions .

- 4.) Discuss the use of interfaces to achieve multiple inheritance. (5)
- 5.) Discuss the use of multithreading with suitable example. (5)
- 6.) What is JDBC? How do you execute SQL statements in JDBC? (2+3)
- 7.) Discuss grid layout with suitable example. (5)
- 8.) Discuss any five classes to handle files in java. (5)
- 9.) What is JSP? Differentiate it with servlet. (2+3)
- 10.) What is UDP socket? Differentiate it with TCP socket. (2+3)
- 11.) How can you handle events using adapter classes? Discuss . (5)
- 12.) What is RMI ? Discuss architecture of RMI in detail. (1+4)
- 13.) Write a simple JSP program to display "Kathmandu, Nepal" 10 times. (5)

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**2070**

**Advanced Java Programming**

Full Marks : 60

Pass Marks : 24

Time : 3 hours

**New Course**

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The figures in the margin indicate full marks.*

**Section A (2\*10=20)**

Attempt any two questions.

- 1.) What is interface? How can you use the concept of interface to achieve multiple inheritance?  
Discuss with suitable example.
- 2.) Write a program using swing component to multiply two numbers. Use text fields for input and output. Your program should display the result when the user press a button.
- 3.) What is RMI? How can you use RMI to develop a program that runs in different machine?  
Discuss with suitable example.

**Section B**

Attempt any eight questions. (8\*5=40)

- 4.) What is JDBC? How do you execute SQL queries in JDBC?
- 5.) What is java beans? How is it different from java class?
- 6.) Write a simple java program to read from and write to files.
- 7.) Discuss different methods used in life cycle of servlet.
- 8.) Discuss border layout with suitable example.
- 9.) Why multithreading is important in programming? Discuss .
- 10.) Discuss any 5 exception classes in java.
- 11.) Discuss the role of event listeners to handle events with suitable example.
- 12.) What is socket? How can you communicate two programs in a network using TCP Socket?
- 13.) Write a simple JSP program to display "Lalitpur, Nepal" 10 times.

**Tribhuwan University**  
**Institute of Science and Technology**

**2071**

**Advanced Java Programming**

Full Marks : 60

Pass Marks : 24

Time : 3 hours

**New Course**

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The figures in the margin indicate full marks.*

**Section A (2\*10=20)**

Attempt any two questions.

- 1.) What is multithreading? Why is it important to develop computer programs? Discuss life cycle of thread in detail. (2+2+6)
- 2.) Write a program using swing components to find simple interest. Use text fields for inputs and output. Your program should display the result when the user presses a button. (10)
- 3.) What is servlet? Differentiate it with JSP. Discuss life cycle of servlet in detail. (2+3+5)

**Section B (8\*5=40)**

Attempt any eight questions : (8\*5=40)

- 4.) How do you achieve multiple inheritance in java? Discuss. (5)
- 5.) What is JDBC? Discuss different driver types if JDBC. (1+4)
- 6.) Explain the importance of exception handling with suitable example. (5)
- 7.) Discuss group layout with suitable example. (5)
- 8.) Write a simple java program to read from and write to files. (5)
- 9.) What is TCP socket? Differentiate it with UDP socket. (2+3)
- 10.) Discuss any five event classes in java. (5)
- 11.) What is java beans? Differentiate it with java classes. (1+4)
- 12.) What is RMI? Differentiate it with CORBA. (2+3)
- 13.) Write a simple JSP program to display "Tribhuwan University" 10 times. (5)

**Tribhuvan University**  
**Institute of Science and Technology**

**2072**

**Advanced Java Programming**

Full Marks : 60

Pass Marks : 24

Time : 3 hours

**New Course**

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*The figures in the margin indicate full marks.*

**Section A (2\*10=20)**

**Attempt any two questions.**

- 1) What is exception handling? Discuss exception handling in detail with suitable example. (2+8)
- 2) What is layout management? Discuss any three layout management classes with example of each. (1+9)
- 3) Write a Java program using JDBC to extract name of those students who live in Kathmandu district, assuming that the student table has four attributes (ID, name, district, and age). (10)

**Section B (8\*5=40)**

**Attempt any eight questions.**

- 4) Write an object oriented program in Java to find area of circle. (5)
- 5) Write a simple Java program that reads data from one file and writes the data to another file. (5)
- 6) What are the benefits of using swing components? Explain. (5)
- 7) Discuss any three event classes in Java. (5)
- 8) Discuss different driver types on JDBC. (5)
- 9) What is socket? Differentiate TCP socket from UDP socket. (2+3)
- 10) What is servlet? Discuss its life cycle. (1+4)
- 11) What is Java Bean? How is it different from other Java classes? (2+3)
- 12) What is RMI? How is it different from CORBA? (2.5+2.5)
- 13) Write Short Notes on: (2.5+2.5)
  - a) Multithreading
  - b) RMI architecture

Tribhuvan University  
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2073



Bachelor Level/ Fourth Year/ Seventh Semester/ Science

Full Marks: 60

**Computer Science and Information Technology (CSc. 403)**

Pass Marks: 24

**(Advanced Java Programming)**

Time: 3 hours.

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

(NEW COURSE)

**Group A**

**Attempt any Two Questions**

(2\*10=20)

1. What is multithreading? How can you write multithreaded programs in java? Discuss with suitable example. (2+8)
2. What is Java Beans? How is it different from other Java classes? Discuss property design patterns with suitable example of each. (1+2+7)
3. What is socket? How can you write java programs that communicate with each other using TCP sockets? Discuss with suitable example. (2+8)

**Group B**

**Attempt any Eight questions.**

(8\*5=40)

4. Write an object oriented program to find the area and perimeter of rectangle (5)
5. Write the simple java program that reads data from one file and writes data to another file. (5)
6. Discuss border layout with example. (5)
7. Why is it important to handle events? List any five event classes (2.5+2.5)
8. What is JDBC? How do you execute SQL statements in JDBC? (2+3)
9. Discuss the process of sending email messages using Java. (5)
10. What is JSP? Discuss with suitable example. (2+3)
11. What is InetAddress class? Discuss. (5)
12. What is RMI? Discuss architecture of RML. (1+4)
13. Write short notes on: (2.5+2.5)
  - a. Interface
  - b. Servlet