



**NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY**

**FACULTY OF COMPUTING AND INFORMATICS
DEPARTMENT OF SOFTWARE ENGINEERING**

QUALIFICATION: BACHELOR OF COMPUTER SCIENCE, BACHELOR OF COMPUTER SCIENCE IN CYBER SECURITY AND BACHELOR OF INFORMATICS	
QUALIFICATION CODE: 07BCMS, 07BCCY, 07BAIT	LEVEL: 5
COURSE: PROGRAMMING 1	COURSE CODE: PRG510S
DATE: JANUARY 2025	PAPER: THEORY
DURATION: 2 HOURS	MARKS: 85

SUPPLEMENTARY / SECOND OPPORTUNITY EXAMINATION QUESTION PAPER	
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INSTRUCTIONS TO STUDENTS
<ol style="list-style-type: none">1. Answer ALL the questions.2. Read all the questions carefully before answering.3. Number the answers clearly.

THIS QUESTION PAPER CONSISTS OF 11 PAGES
(Including this front page)

Question Two

[8 Marks]

Write a complete Java program that calculates and displays the result of a number 'x' raised to the power of a number 'y', where 'x' and 'y' are integers provided by the user. For the simplicity of the solution, assume that the exponent 'y', is always equals to or greater than zero. The program should display the results.

Below is part of the java code to guide you by filling in the blanks, **however, you are also free to write your own Java code from scratch**. Complete the code below based on the requirements above. **Note:** x is the base, and y is the exponent.

```
package secondexam;
```

```
_____ [1 Mark]
```

```
public class QuestionTwoD {
```

```
    public static void main(String[] args) {
```

```
_____ [1 Mark]
```

```
        System.out.print("Enter the base (x): ");
```

```
        int x = sc.nextInt();
```

```
        System.out.print("Enter the exponent (y): ");
```

```
        int y = sc.nextInt();
```

```
        long result = 1;
```

```
        if (_____) { [1 Mark]
```

```
            for (_____) { [2 Marks]
```

```
                _____ [2 Marks]
```

```
            }
```

```
            System.out.println("Result: " + _____); [1 Mark]
```

```
        }
```

```
        sc.close();
```

```
    }
```

```
}
```

Sample Run

Enter the base (x): 2

Enter the exponent (y): 3

Result: 8

Question Three

[12 Marks]

You are designing a basic login system. The system stores a username and password in two separate variables and allows a user to log in by entering the correct credentials (username and password).

- If the credentials are incorrect, the user is given up to 3 attempts to enter the correct username and password.
- If the user fails all 3 attempts, print a message saying, "The account is locked!".
- Otherwise print a message saying, "Login Successful."

Below is the username and password. Declare variables to store the username and password and assign the values as follows:

Username: student

Password: 12345

Write a Java program that prompts the user for a username and password, and checks whether they match the stored credentials.

Question Four

[20 Marks]

You are tasked with creating a simple movie ticket booking system. The system allows customers to book tickets for a specific movie. The movie prices vary based on age:

- Children (under 12 years old) pay NAD 80.00,
- Adults (12 to 65 years old) pay NAD 120.00,
- And seniors (over 65 years old) pay NAD 100.00.

Declare a static method named **calculatePrice(age)** that takes age as a parameter and **returns the price of the movie ticket based on the age**. This method **MUST NOT** be void, it **must return the price of the movie ticket**.

Next, declare a static method named **bookTicket(price, numberOfTickets)** that takes the price and number of tickets as parameters and calculates and display/print the total cost of the tickets based on the price and the number of tickets requested. This method **MUST** be void.

Write a complete Java program to implement this movie ticket booking system. Your solution must include methods calls.

***** END OF EXAM *****