

THE OPEN UNIVERSITY OF SRI LANKA
FACULTY OF HUMANITIES AND SOCIAL SCIENCES
INFORMATION STUDIES UNIT
BA HONOURS IN LIBRARY AND INFORMATION STUDIES
FINAL EXAMINATION – 2025/2026
LEVEL 4 (SEMESTER II)
HSU4307: COMPUTER PROGRAMMING AND DATABASE
MANAGEMENT



DURATION: (03) HOURS ONLY

Date: 10.05.2026

Time: 01.30p.m. - 04.30p.m.

Instructions

- **Answer only FIVE (05) questions**
- **All questions carry equal marks**

1.
 - i. What is a programming language? Explain briefly how a programming language helps humans to communicate with a computer. 04 marks
 - ii. What is the difference between a Low-Level Language and a High-Level Language? Give one (01) example of each. 06 marks
 - iii. Name any three (03) high-level programming languages used in library tasks. 10 marks
Describe briefly library related use for each one.

2.
 - i. What is Python? Give two (02) reasons why Python is a good choice for library students who are new to programming. 06 marks
 - ii. What is a variable in Python? Write three (03) rules for naming a variable. 06 marks
 - iii. The print () function is used to display information on the screen. Look at the example given below and write what will be displayed as output:


```
book = "Library Science"
print("Book borrowed:", book)
```

Write a similar short Python program that:

 - a) Stores a member name in a variable.
 - b) Displays a welcome message using print ().08 marks

3. i. What does the input () function do in Python? Why is it useful in a library system? Explain. 04 marks

- ii. Examine the Python program given below:

```
student_name = input("Enter your name: ")  
print("Hello", student_name)
```

- a) What will happen when this program runs?
b) If the user types "Kamal", what will be displayed on the screen?

06 marks

- iii. Write a simple Python program that asks the user to enter a book title and then displays it on the screen.
The expected output should look like this:

10 marks

```
Enter the book title: Python Basics  
The book you entered is: Python Basics
```

4. i. What are the basic data types in Python? Complete the table below by filling in the missing examples. (One row is done for you as a guide.)

Data Type	Example	Used For
String	"Library Science"	Text like names, book titles
Integer		
Float		
Boolean		

06 marks

- ii. What is a script? How is the script different from a full Library Management System? Explain briefly.

06 marks

- iii. List any four (04) repetitive tasks in a library that can be automated using computer scripts.

08 marks

5. i. What is a Relational Database Management System (RDBMS)? Briefly explain how it helps a library to manage information.

06 marks

- ii. Explain the following terms. For each one, give a simple example from a library context:

- a) Table
b) Record
c) Field

09 marks

- iii. What is a Primary Key? Why does every table need Primary Key? Give one (01) example.

05 marks

6. i. What is a Foreign Key? Explain briefly
How does Foreign Key link Book table and Loan table together? explain 10 marks
- ii. A library database has three types of relationships as given below.
a) One-to-One Relationship
b) One-to-Many Relationship
c) Many-to-Many Relationship

Give an example for each relationship. 10 marks
Describe one (01) of these relationships.

7. i. What is Library Automation? Explain briefly. 04 marks
- ii. Describe briefly three components of Library Automation with their functions. 06 marks
- iii. What are the challenges and limitations when adopting and sustaining automation systems in libraries? 10 marks
Describe three (03) challenges and limitations

8. i. The table below shows common SQL data types. Fill in the blank cells marked with "?":

Data Type	Description	Example
INT	Stores whole numbers	101, 25, 500
VARCHAR(n)	?	VARCHAR(50)
DATE	Stores date values	?
FLOAT	?	45.75
BOOLEAN	Stores TRUE or FALSE values	?

04 marks

- (The first row INT is completed for you as a guide.)
- ii. What happens if you run UPDATE without a WHERE clause? Explain with an example. 06 marks
- iii. A library database needs to store information about Books, Members, and Loans. 10 marks
For each table, write the names of any three (03) fields. it should contain and explain what information each field stores.

9. Write short notes on any four (04) of the following

- i. Entity Relationship Diagram (ERD)
- ii. Structured Query Language (SQL)
- iii. Benefits of library automation for a school library
- iv. Python's print () function
- v. Library automation software
- vi. Coding concept

4 × 5 = 20 marks