

**BACHELOR OF LIBRARY AND INFORMATION SCIENCE  
EXAMINATION, 2024**

(1st Year, 1st Semester)

**COMPUTER FUNDAMENTALS & LIBRARY AUTOMATION  
(THEORY)**

**PAPER – BL-07**

Time : Two hours

Full Marks : 50

*The figures in the margin indicate full marks.*

Answer *all* questions.

1. a) Explain in brief about the different generations of computer. Write a note on ACID property in the context of databases? Evaluate the following according to order of operations in Python:  
18\*4+6-5-3-1 5+4+1

OR

- b) What are the disadvantages of file processing systems? Write a note on the physical components of a computer. What do you understand by sequential execution and conditional execution in Python? 4+3+3
2. a) Explain briefly about different types of database architecture. Write a Python program to prompt the user to enter the percentage of marks obtained by a student and calculate the grade obtained by the student according to the following chart:

[ 2 ]

Grade A (Percentage  $\geq 80$ ),  
Grade B ( $60 \leq \text{Percentage} < 80$ ),  
Grade C ( $40 \leq \text{Percentage} < 60$ ),  
Grade D (Percentage  $< 40$ ). 5+5

OR

- b) What are the needs of library automation? Find the decimal and binary equivalent of the hexadecimal number  $A3B_{16}$ . What will be the output of the following block of code:

```
>>> a = '100'  
>>> b = '200'  
>>> print(a+b) 5+4+1
```

3. a) Explain the different types of network topologies with diagrams. Share your idea about how a message travels through the internet. Explain about interpreter and compiler in Python while highlighting the differences. 5+3+2

OR

- b) Share your understanding about URIs. Write necessary Linux commands to create a directory while you are in the home directory and change the working directory to the newly created directory. Evaluate the following and find the octal equivalent of the resulting binary number:

$11010_2 + 11101_2 - 1001_2$  4+2+4

[ 3 ]

4. a) What steps will you take to automate a library? Write a program to prompt the user to enter an integer and print whether the number is positive, negative or equal to zero. Write a brief note about the history of internet. 3+4+3

OR

- b) How have Information and Communication Technologies impacted library and information systems? Share an overview about the starting process of a Linux system. State the usage of the `pwd`, `rmdir` and `ls` commands in Linux. State in which part of the computer will be the variable 'a' stored after finishing the following Python line:

```
>>> a = 0 3+3+3+1
```

5. Write short notes on **any two** of the following:  $5 \times 2 = 10$
- a) Linux distribution
  - b) Bibliographic Database
  - c) Open Source Softwares
  - d) TCP/IP