

Informatics Practices (XI)

Code No. (065)

Session – 2021-22

Annual Examination March/April, 2022

Max .Marks - 35

Theory	EVALUATION SCHEME	
Unit		Marks
II	* Introduction to Python : - List Operations - Dictionary	04 03 07
III	Database Concepts & the Structured Query language	24
IV	Introduction To Emerging Trends	04
	Total	35

*** Topics from Term-I**

Unit 2:

Introduction to Python

- List operations - creating, initializing, traversing and manipulating lists, list methods and built-in functions.: len(), list(), append(), extend(), insert(), count(), find(), remove(), pop(), reverse(), sort(), sorted(), min(), max(), sum()
- Dictionary: concept of key-value pair, creating, initializing, traversing, updating and deleting elements, dictionary methods and built-in functions: len(), dict(), keys(), values(), items(), get(), update(), clear(), del()

Unit 3:

Database concepts and the Structured Query Language

- Database Concepts: Introduction to database concepts and its need, Database Management System. Relational data model: concept of attribute, domain, tuple, relation, candidate key, primary key, alternate key, foreign key.
- Structured Query Language: Data Definition Language, Data Query Language and Data Manipulation Language, Introduction to MySQL: Creating a database, using database, showing tables using MySQL,
- Data Types : char, varchar, int, float, date.
- Data Definition Commands: CREATE, DROP, ALTER (Add and Remove primary key, attribute). Data Query Commands: SELECT-FROM- WHERE, LIKE, BETWEEN, IN, ORDER BY, using arithmetic, logical, relational operators and NULL values in queries, Distinct clause Data Manipulation Commands: INSERT, UPDATE, DELETE.

Unit 4:

Introduction to the Emerging Trends

- Artificial Intelligence, Machine Learning, Natural Language Processing,
- Immersive experience (AR, VR), Robotics
- Big data and its characteristics, Internet of Things (IoT), Sensors, Smart cities,
- Cloud Computing and Cloud Services (SaaS, IaaS, PaaS);
- Grid Computing, Block chain technology.

Distribution of Practical Marks

Topic	Marks
SQL Queries (pen and paper)	8
Practical File SQL Queries - 20 Queries	4
Viva	3
Total	15

Suggested Practical List :

Data Management: SQL Commands

1. To create a database
2. To create a student table with the student id, class, section, gender, name, dob, and marks as attributes where the student id is the primary key.
3. To insert the details of at least 10 students in the above table.
4. To delete the details of a particular student in the above table.
5. To increase marks by 5% for those students who have Rno more than 20.
6. To display the entire content of the table.
7. To display Rno, Name and Marks of those students who are scoring marks more than 50.
8. To find the average of marks from the student table.
9. To find the number of students, who are from section 'A'.
10. To add a new column email in the above table with appropriate data type.
11. To add the email ids of each student in the previously created email column.
12. To display the information of all the students, whose name starts with 'AN' (Examples: ANAND, ANGAD,...)
13. To display Rno, Name, DOB of those students who are born between '2005- 01-01' and '2005-12-31'.
14. To display Rno, Name, DOB, Marks, Email of those male students in ascending order of their names.
15. To display Rno, Gender, Name, DOB, Marks, Email in descending order of their marks.
16. To display the unique section available in the table.