SPLIT-UP SYLLABUS

SUB: INFORMATICS PRACTICES (065)

CLASS - XI (NEW SYLLABUS)

(Session 2021-22)

DISTRIBUTION OF MARKS

UNIT	UNIT NAME	MARKS
1	Introduction to Computer System	5
2	Introduction to Python	25
3	Data Handling using NumPy	15
4	Database concepts and the Structured Query Language	20
5	Introduction to Emerging Trends	5
6	Practicals	30
	TOTAL	**100**

MONTH- WISE DISTRIBUTION

Month	Topics to be covered	Th.	Pr.
June-July	**Unit 1: Introduction to Computer System** • Introduction to computer and computing: evolution of computing devices, components of a Computer System and their interconnections, Input/Output devices. • Computer Memory: Units of memory, types of memory – primary and secondary, data deletion, its recovery and related security concerns. • Software: purpose and types – system and application software, generic and specific purpose software **Unit 2: Introduction to Python** • Basics of Python programming, Python interpreter - interactive and script mode, the structure of a program, • indentation, identifiers, keywords, constants, variables, types of operators, precedence of operators, data • types, mutable and immutable data types, statements, expressions, evaluation and comments, input and • output statements, data type conversion, debugging.	30	20
August	• Control Statements: if-else, for loop • Lists: list operations - creating, initializing, traversing and manipulating lists, list methods and built-in functions. • Dictionary: concept of key-value pair, creating, initializing, traversing, updating and deleting elements, dictionary methods and built-in functions.	20	20
September	**Unit 3: Data Handling using NumPy** • Data and its purpose, importance of data, structured and unstructured data, data processing cycle, basic statistical methods for understanding data - mean, median, mode, standard deviation and variance. Introduction to NumPy library, NumPy arrays and their advantage, creation of NumPy arrays; indexing, slicing, and iteration; concatenating and splitting array;	20	20

October	**HALF YEARLY EXAMINATION**		
	• Arithmetic operations on one Dimensional and two Dimensional arrays. • Calculating max, min, count, sum, mean, median, mode, standard deviation, variance on NumPy arrays.	10	05
Nov	**Unit 4: Database concepts and the Structured Query Language** • Database Concepts: Introduction to database concepts and its need, Database Management System. Relational data model: Concept of domain, tuple, relation, candidate key, primary key, alternate key, foreign key.	20	15
December	• Advantages of using Structured Query Language, Data Definition Language, Data Query Language and • Data Manipulation Language, Introduction to MySQL, Creating a database using MySQL, Data Types Data Definition: CREATE TABLE, DROP TABLE, ALTER TABLE. • Data Query: SELECT, FROM, WHERE. Data Manipulation: INSERT, UPDATE, DELETE.	30	20
January	**Unit 5: 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.	10	
Feb.	**Revision, Project Work , Session Ending Practical Examination**		

PRACTICAL WORK
CLASS – XI : INFORMATICS PRACTICES (065)

DISTRIBUTION OF MARKS

Practical Marks Distribution

S.No.	Unit Name	Marks
1	Problem solving using Python programming language	8
2	Problem solving using NumPy	5
3	Creating database using MySQL and performing Queries	5
4	Practical file (minimum of 20 python programs , 5 Numpy programs and 20 SQL queries)	7
5	Viva-Voce	5
	Total	30