KENDRIYA VIDYALAYA SANGATHAN
DELHI REGION
SPLIT UP SYLLABUS
2022-23

Class: XI **Subject: Informatics Practices(065)**

Distribution of Marks and Periods

Unit No	Unit Name	Marks	Periods Theory	Periods Practical	Total Periods
1	Introduction to Computer System	10	10	-	10
2	Introduction to Python	25	35	28	63
3	Database Concepts and Structured Query Language	30	23	17	40
4	Introduction to Emerging Trends	5	7	-	7
	Practical	30	-	-	-
	Total	100	75	45	120

Month-wise Distribution

Month	No. of Working days	No. of periods required	Name of Units/Chapters	Activities suggested to attain TLO	Remarks, if any
July	**14**	**10(Theory)**	**Unit 1: Introduction to Computer System:** Introduction to computer and computing: evolution of computing devices, components of a computer system and their interconnections,	**PPT Quiz Class Test Short Video Clips**	

			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.		
August	**22**	**15(Theory) + 12(Practical)**	**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,	**PPT Quiz Short Video Clips Use Python IDLE or similar platform to execute programs**	

			statements, expressions, evaluation and comments, input and output statements, data type conversion, debugging. **Control Statements**: if-else, for loop.		
September	**25**	**15(Theory) + 12(Practical)**	**Unit 2: Introduction to Python(Contd.)** Lists: list operations - creating, initializing, traversing and manipulating lists, list methods and built-in functions	**Periodic Test-1**	
October	**12**	**05(Theory) + 04(Practical)**	Dictionary: concept of key-value pair, creating, initializing, traversing, updating and deleting elements, dictionary methods and built-in functions.	**PPT Quiz Use Python IDLE or similar platform to execute programs**	**Autumn Break (03.102022 to 12.10.2022)**
November	**24**	**08(Theory) + 05(Practical)**	Revision for Half yearly Exams **Unit 3: Database concepts and the**	**Half Yearly Examination**	

			Structured Query Language **Database Concepts:** Introduction to database concepts and its need, Database Management System.		
December	**16**	**15(Theory) + 12(Practical)**	**Unit 3: Database concepts and the Structured Query Language(Contd.)** **Relational data model**: Concept of domain, tuple, relation, candidate key, primary key, alternate key, foreign key. 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.	**PPT Quiz Short Video Clips Use MySql to execute SQL Queries**	**Winter Break (21.12.2022 to 09.01.2023)**

			Data Definition: CREATE TABLE,. Data Query: SELECT, FROM, WHERE. Data Manipulation: INSERT		
January	**17**	**07(Theory)**	**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.	**Periodic Test-2**	
February	**22**	**--**	Submission of Practical and Project works Final Practical		

			Examination. Revision work		
March	**25**	**--**		**Session Ending Examination**	

PRACTICAL LIST FOR CLASS XI-IP

A. Programming in Python

1. To find average and grade for given marks.
2. To find sale price of an item with given cost and discount (%).
3. To calculate perimeter/circumference and area of shapes such as triangle, rectangle, square and circle.
4. To calculate Simple and Compound interest.
5. To calculate profit-loss for given Cost and Sell Price.
6. To calculate EMI for Amount, Period and Interest.
7. To calculate tax - GST / Income Tax.
8. To find the largest and smallest numbers in a list.
9. To find the third largest/smallest number in a list.
10. To find the sum of squares of the first 100 natural numbers.
11. To print the first ‘n’ multiples of given number.
12. To count the number of vowels in user entered string.
13. To print the words starting with a particular alphabet in a user entered string.
14. To print number of occurrence of a given alphabet in a given string.
15. Create a dictionary to store names of states and their capitals.
16. Create a dictionary of students to store names and marks obtained in 5 subjects.
17. To print the highest and lowest values in the dictionary.

B Data Management: SQL Commands

18. To create a database
19. To create student table with the student id, class, section, gender, name, dob, and marks as attributes where the student id is the primary key.
20. To insert the details of at least 10 student in the above table.
21. To display the entire content of table.
22. To display Rno, Name and Marks of those students who are scoring marks more than 50.
23. To find the average of marks from the student table.
24. To find the number of students, who are from section ‘A’.
25. To display the information all the students, whose name starts with ‘AN’ (Examples: ANAND,ANGAD,..)
26. To display Rno, Name, DOB of those students who are born between ‘2005- 01-01’ and ‘2005-12-31’.
27. To display Rno, Name, DOB, Marks, Email of those male students in ascending order of their names.
28. To display Rno, Gender, Name, DOB, Marks, Email in descending order of their marks.
29. To display the unique section available in the table.