

SPLIT-UP SYLLABUS
SUB: INFORMATICS PRACTICES (065)
CLASS - XI (NEW SYLLABUS)

DISTRIBUTION OF MARKS

UNIT	UNIT NAME	MARKS
1	Introduction of Computer System	5
2	Introductory Python Programming	30
3	Data Handling	10
4	Data Management	15
5	Society, Law and Ethics	10
6	Practicals	30
	TOTAL	100

MONTH- WISE DISTRIBUTION

Month	Topics to be covered	Th.	Pr.
June-July	<p>Unit 1: Introduction of Computer System</p> <ul style="list-style-type: none"> Basic computer organisation: Computer system – I/O Devices, CPU, memory, hard disk, battery, power, transition from a calculator to a computer and further to smart devices. Trouble shooting with parts of computer and basic operations of operating system Basic concept of Data representation: Binary, ASCII, Unicode <p>Unit 2: Introduction Python Programming</p> <ul style="list-style-type: none"> Familiarization with the basic of Python programming: a simple "hello world" program, process of writing a program, running it, and print statements; simple data-types: integer, float, string. Introduce the notion of variable, and methods to manipulate it (concept of L-value and R-value even if not taught explicitly). Tokens - keywords, identifiers, Literals, Delimiters. Knowledge of data type and operators: accepting input from the console, assignment statement, expressions, operators (assignment, arithmetic, relational and logical) and their precedence. 	30	20
August	<ul style="list-style-type: none"> Conditional statements: if, if-else, if-elif-else; simple programs: e.g.: absolute value, sort 3 numbers, divisibility. Notion of iterative computation and control flow: for (range() , len()), while, flowcharts. Suggested programs: finding average and grade for given marks, amount calculation for given cost-qty-discount, perimeter-wise/ area-wise cost calculation, interest calculation, profit-loss, EMI, tax calculation (example from GST/Income Tax). 	20	20

September	<ul style="list-style-type: none">• List and dictionary: finding the maximum, minimum, mean; linear search on a list of numbers, and counting the frequency of elements in a list using a dictionary.• Text handling: compare, concat, and substring operations (without using string module).	20	20
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HALF YEARLY EXAMINATION			
October	<input type="checkbox"/> Introduction to Python modules: importing math (sqrt, ceil, floor, pow, fabs), random (random, randint, randrange), statistics (mean, median) modules.	10	05
Nov	Unit 3: Data Handling <input type="checkbox"/> Numpy 1D array, 2D array Arrays: slices, joins, and subsets. Arithmetic operations on 2D arrays.	20	15
December	Unit 4: Data Management <ul style="list-style-type: none"> • Relational databases: Concept of a database, relations, attributes and tuples, keys - candidate key, primary key, alternate key, foreign key; Degree and Cardinality of a table. • Use SQL - DDL/DML commands to CREATE TABLE, INSERT INTO, UPDATE TABLE, DELETE FROM, ALTER TABLE, MODIFY TABLE, DROP TABLE, keys, and foreign keys; to view content of a table: SELECT-FROM-WHERE-ORDER BY alongwith BETWEEN, IN, LIKE. (Queries only on single table) • Aggregate Functions : MIN , MAX, AVG, COUNT, SUM 	30	20
January	Unit 5: Society, Law and Ethics <ul style="list-style-type: none"> • Cyber safety: safely browsing the web, identity protection, confidentiality, social networks, netiquettes, digital footprint, cyber trolls and bullying. Appropriate usage of social networks: spread of rumours, and common social networking sites (Twitter, LinkedIn, and Facebook) and specific usage rules. • Safely accessing web sites: adware, malware, viruses, Trojans. Safely communicating data: secure connections, eavesdropping, and phishing and identity verification. 	10	
Feb.	Revision, Project Work , Session Ending Practical Examination		

PRACTICAL WORK
CLASS – XI : INFORMATICS PRACTICES (065) DISTRIBUTION
OF MARKS

S.No.	UNIT NAME	MARKS
1	Lab Test (15 marks)	
	Problem solving using Arithmetic operators, conditional statement & Iteration using Python (60% logic + 20% documentation +20% code quality)	6
	Problem solving using NumPy	4
	SQL program (at least 5 queries)	5
2	Report File + viva (10 marks)	
	Report file: Minimum 20 Python programs (PCT + DH) and at least 20 SQL queries	6
	Viva voce (based on the report file)	4
3	Project Work (that uses most of the concepts that have been learnt)	5