ARMY PUBLIC SCHOOL, BANGALORE
SPLIT UP SYLLABUS 2023-24

CLASS -   12
SUBJECT-   INFORMATICS PRACTICES

SL. NO.	MONTH & WORKING DAYS	CONTENT
1.	**MARCH,** **13 DAYS**	**Unit 1: Data Handling using Pandas** Introduction to Python libraries- Pandas, Matplotlib. Data structures in Pandas - Series and Data Frames. Series: Creation of Series from – list , tuple , range function , dictionary, with positional indexing and labelled indexing.
2.	**APRIL,** **14 DAYS**	Creation of Series from dictionary, scalar value; Ndarray – purpose , creation , methods –arange() , rand(), randint() and tile(). Creation of Series from ndarray , with positional indexing and labelled indexing. . Using loops to create loop data and loop index .
3.	**JUNE,** **24 DAYS**	Series - Mathematical operations; Head and Tail functions; Selection, Indexing and Slicing. Attributes in Series. Boolean indexing DataFrame: Creation - from dictionary of Series, list of dictionaries. Display; iteration; Operations on rows and columns: add, select, delete, rename; Head and Tail functions;
4.	**JULY,** **23 DAYS**	Attributes in DataFrame Indexing using Labels, Boolean Indexing; Importing / Exporting Data between CSV files and Data Frames. Filtering data in data frame
5.	**AUG,** **24 DAYS**	Purpose of plotting; drawing and saving following types of plots using Matplotlib – line plot . Bar graph, histogram, Customizing plots: adding label, title, and legend in plots.

		Unit 3: Introduction to Computer Networks Introduction to networks, Types of network: LAN, MAN, WAN. Network Devices: modem, hub, switch, repeater, router, gateway, Network Topologies: Star, Bus, Tree, Mesh., Introduction to Internet, URL, WWW, and its applications- Web, email, Chat, VoIP. Website: Introduction, difference between a website and webpage, static vs dynamic web page, web server and hosting of a website., Web Browsers: Introduction, commonly used browsers, browser settings, add-ons and plug-ins, cookies.
6.	**SEPT, 22 DAYS**	**Unit 2: Database Query using SQL** Revision of SQL - Class XI Introduction to Functions
7.	**OCT, 16 DAYS**	**Unit 2: Database Query using SQL** Math functions: POWER (), ROUND (), MOD (). Text functions: UCASE () / UPPER (), LCASE () /LOWER (), MID () / SUBSTRING ()/SUBSTR (), LENGTH (), LEFT (), RIGHT (), INSTR (), LTRIM (), RTRIM (), TRIM (). Date Functions: NOW (), DATE (), MONTH (), MONTHNAME (), YEAR (), DAY (), DAYNAME (). Aggregate Functions: MAX (), MIN (), AVG (), SUM (), COUNT (); using COUNT (*). Querying and manipulating data using Group by, Having,

8.	**NOV,** **21 DAYS**	Querying and manipulating data using Group by, Having, Querying and manipulating data using Order by Working with two tables using equi-join **Unit 4: Societal Impacts** Digital footprint, net and communication etiquettes, data protection, intellectual property rights (IPR), plagiarism, licensing and copyright, free and open source software (FOSS), cybercrime and cyber laws, hacking, phishing, cyber bullying, overview of Indian IT Act., E-waste: hazards and management. Awareness about health concerns related to the usage of technology.
9.	**DEC,** **18 DAYS**	Revision/ Preboard I
10.	**JAN,** **23 DAYS**	Revision/ Preboard II
11.	**FEB,** **24 DAYS**	
12.	**MARCH,** **21 DAYS**	

BOOKS: NCERT Informatics Practices - Text book for class - XII or Informatics Practices for Class XII (By Sumita Arora – Dhanpat Rai Publications)