DAV PUBLIC SCHOOL, HEHAL, RANCHI
MONTH WISE SYLLABUS DISTRIBUTION 2025-26
CLASS : XII
SUB: INFORMATICS PRACTICES(065)

Month	Topics to be covered
April	**Revision of the basics of Python covered in class XI Unit 1:** **Data Handling using Pandas -I** Introduction to Python libraries- Pandas Data structures in Pandas - Series and Data Frames. Series: Creation of Series from – ndarray, dictionary, scalar value; mathematical operations; Head and Tail functions; Selection, Indexing and Slicing.
May	**Unit 1:** **Data Handling using Pandas -I** Data Frames: creation - from dictionary of Series, list of dictionaries, Text/CSV files; display; iteration;
Jun	Operations on rows and columns: add, select, delete, rename; Head and Tail functions; Indexing using Labels, Boolean Indexing; Joining, Merging and Concatenation. Importing/Exporting Data between CSV files and Data Frames. **Data handling using Pandas – II** Descriptive Statistics: max, min, count, sum, mean, median, mode, quartile, Standard deviation, variance.
July	**Unit 1:** **Data handling using Pandas – II** Data Frame operations: Sorting, Deleting and Renaming Index. Handling missing values – dropping and filling. **Data Visualization** Introduction to Python libraries- Matplotlib. Purpose of plotting; drawing and saving following types of plots using Matplotlib – line plot, bar graph, histogram, pie chart, frequency polygon, box plot and scatter plot. Customizing plots: color, style (dashed, dotted), width; adding label, title, and legend in plots.
August	**Revision of MySql covered in Class XI 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 (). **Unit 2: Database Query using SQL** Aggregate Functions: MAX (), MIN (), AVG (), SUM (), COUNT (); using COUNT (*).
	Querying and manipulating data using Group by, Having, Order by. **Working with two tables using equi-join**

September	**Revision + Practical Exam. & Half-Yearly Examination**
October	**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.** **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.**
November	**Revision of Data handling using Pandas**
December & January	**Revision+ Project** **Practical Exam & Pre-Board Examination**