



The Camford International School

ANNUAL LESSON PLAN 2025-2026

GRADE : 12

SUBJECT : INFORMATICS PRACTICES(065)

MONTH	CHAPTER NO. AND NAME	DETAIL CONCEPTS TO BE COVERED	PRACTICALS
MARCH	Unit – 1 Data Handling using Pandas -I	<ul style="list-style-type: none">• Introduction to Python libraries, Using Pandas, Pandas data structures, Series data structure – creation, attributes• Accessing a series object and its elements,• Operations on series object – modifying elements, renaming indexes, head () and tail (), vector operations, arithmetic operations, filtering entries in series objects, sorting series values.• Data Frames: introduction,• Creation of data frames from dictionary of series, list of dictionaries.	<ol style="list-style-type: none">1.Create a panda's series from a dictionary of values and a ndarray2. Given a Series, print all the elements that are above the 75th percentile.3. Create a Data Frame quarterly sales where each row contains the item category, item name, and expenditure. Group the rows by the category and print the total expenditure per category.4. Create a data frame for examination result and display row labels, column labels data types of each column and the dimensions

APRIL	Unit – 1 Data Handling using Pandas -I	<ul style="list-style-type: none"> • Selecting or accessing data, • Operations on rows and columns: <ul style="list-style-type: none"> - add (insert /append) , select, - = - delete (drop column and row), - - rename • Boolean indexing. • Iteration – iterrows(), iteritems() • Min(), max(), count() • Head(), tail() • Sorting dataframe • Handling missing data 	5. Filter out rows based on different criteria such as duplicate rows.
MAY	Unit – 1 Data Handling using Pandas -I	<ul style="list-style-type: none"> • Importing and exporting data between csv and dataframe <p>Project :</p> <ul style="list-style-type: none"> • Take data stored in csv or database file and analyze using Python libraries and generate appropriate charts to visualize. If an organization is maintaining data offline, then create a database using MySQL and store the data in tables 	<p>6. Given the school result data, analyses the performance of the students on different parameters, e.g subject wise or class wise.</p> <p>7. For the Data frames created above, analyze, and plot appropriate charts with title and legend.</p> <p>8. Take data of your interest from an open source (e.g. data.gov.in), aggregate and summarize it. Then plot it using different plotting functions of the Matplotlib library.</p> <p>9. Importing and exporting data between pandas and CSV file</p>
JUNE	Unit – 1 Data Visualization	<ul style="list-style-type: none"> • What is data visualization? • Using pyplot of MATplotlib library • Line charts using plot() – specifying plot size and grid, applying various settings in plot () 	

		<p>function</p> <ul style="list-style-type: none"> • Creating bar chart – changing widths, colors, multiple bars, horizontal bar • Customising plot • Creating histograms • Plotting data from dataframe 	
JUNE	Unit 2: Database Query using SQL	<ul style="list-style-type: none"> • Revision of database concepts and SQL commands covered in class XI - RDBMS, Accessing databases, Creating tables, Inserting data, making simple Queries through select command • Math functions: POWER (), ROUND (), MOD (). 	<ol style="list-style-type: none"> 1. Create a student table with the student id, name, and marks as attributes where the student id is the primary key. 2. Insert the details of a new student in the above table. 3. Delete the details of a student in the above table. 4. Use the select command to get the details of the students with marks more than 80.
JULY	Unit 2: Database Query using SQL	<ul style="list-style-type: none"> • 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 (*). 	<ol style="list-style-type: none"> 5. Find the min, max, sum, and average of the marks in a student marks table. 6. Find the total number of customers from each country in the table (customer ID, customer Name, country) using group by. 7. Write a SQL query to order the (student ID, marks) table in descending order of the marks

		<ul style="list-style-type: none"> • Querying and manipulating data using Group by, Having, Order by. • Working with two tables using equi-join 	
AUGUST	Introduction to Computer Networks	<ul style="list-style-type: none"> • Introduction to networks, Types of network: LAN, MAN, WAN., PAN • Network topologies: Star, bus, mesh, Tree • Network Devices: modem, hub, switch, repeater, router, gateway. • 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. 	

SEPTEMBER	Unit 4: Societal Impacts	<ul style="list-style-type: none">• 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.	
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