

Python Coding + Data Science

CLASS -VIII

2022-23

Date	Chapter	Ex./ Demo./Practicals
Important links	<u>Student HandBook-</u> https://cbseacademic.nic.in/web_material/codeingDS/classVIII_DS_Student_Handbook.pdf	
April	INTRODUCTION TO CODING	Discussion on real life examples on coding
No.of working days- 23	What exactly is coding?	Hour of Code on Code.org
	Where else do we see applications of coding?	
	What is a programming language	
	Introduce CODE.org platform	
May	ALGORITHMS AND FLOWCHARTS	
No.of working days- 10	1. What is an Algorithm? 2. Flowchart a. What is a Flowchart? b. Symbols used created a Flowchart c. Benefits of using a flowchart	Algorithm to make any instant noodles Convert Temperature from Fahrenheit() to Celsius ()
July	INTRODUCTION TO PYTHON	
No.of working days- 25	What is Python?	Downloading and Setting up Python for use Python IDLE installation
	Applications of Python Getting started with Python Python IDLE installation	
	Run in the Integrated Development Environment (IDE) a) Interactive Mode/ Script Mode	Practicals Based on Demo
	Python Statement and Comments	
	Multi-line statement Python Comments a) Single Line comments b) Multi Line comments Python Keywords and Identifiers	
August	Variables and Datatypes	
No.of working days- 22	1. What are Variables? 2. Naming Variables 3. Data Types in Variables 4. Performing operations on Variables What is Variable Initialization?	Practicals Based on Demo Quiz
	Data Types in programming	
	1. Integer 2. Floating-Point Number 3. String	

September	Python Input and Output	
No.of working days- 25	Python Output using print() function	Practicals Based on Demo Quiz time
	Python Input using input() function	
	Math Operations in Programming	
	Addition	
	Subtraction	
October	Introduction to Data	
No.of working days- 18	What is Data?Real-World Examples of Data	Think of real world scenarios discrete
November	Applied Project	
No.of working days- 24	How data analytics is applied in the airline industry	Using these factors discuss with your classmates how data analytics can help predict flight delays.
	• Weather condition (Extreme weather)	
	• Route restriction/Air traffic	
	• Mechanical delays	
December	Introduction to Data Science	Activities to understand about data science and its working-
No.of working days- 26	1. A brief introduction to Data Science	Which career path would be good for
	2. Careers in Data science	Which class does this belong to - A or B
	3. What does Data Science help us achieve?	What will probably be the value of this
January	Data Visualization	
No.of working days- 13	What is data visualization?	
	Examples of data visualization	visualize the data using a pie chart:
	Importance of data visualization	visualize the same data using a bar
	Collecting relevant data	a line chart that displays the data of the
	Asking the right question	number of students present in the class
	Predict an answer	for one week.
February	Applied Project	
No.of working days - 22	Each student should write down the marks he/she had received in the examination for the subjects studied in the previous grade. Use these marks to plot on paper	
	a. bar graph to display marks of each individual subject.	
	b. line graph to display marks of each individual subject.	
	c. pie chart to show percentage contribution of marks of each subject to the total marks obtained.	
Note: The students will be assessed on the basis of the classroom performance, task assigned as Home Assignments / Holiday Homework / Project.		