CODING

CLASS -VII   **2023-24**

Date	Topic	Ex./ Demo./Practicals
Important links	**Student HandBook-** **https://cbseacademic.nic.in/web_material/codeingDS/classVIII_Coding_Student_Handbook.pdf**	**Project Booklet for Student -** **https://www.microsoft.com/en-us/makecode** **https://cbseacademic.nic.in/web_material/codeingDS/classVII_Coding_Project_Booklet.pdf**
April	**Recaptulation of CODING**	
No.of working days-20	What exactly is coding?	Practicals Based on Demo
	What is a programming language	
	VARIABLES IN REAL LIFE	
	1. What are Variables?	To create and Initialize a varaiable
	2. Naming Variables	
	3. Data Types in Variables	
	4. Performing operations on Variables	
	What is Variable Initialization?	
	Data Types in programming	
	Relational operators	
	Greater than	
	Equal to	
	Less than	
	Greater than or equal to	
	Less than or equal to	
	Not equal to	
May	Data Types in programming	Practicals Based on Demo
	1. Integer	
	2. Floating-Point Number	
	3. String	
	4. Boolean	
	How do we validate user input in programming?	
No.of working days- 11	Math Operations in Programming	Activity: Mathematical operation using block coding
	Addition	
	Subtraction	
	Multiplication	
	Division	
	Modulus	
July	**SEQUENCING WITH BLOCK CODING**	Activity Drawing Rectangle
No.of working days-24	What is Sequencing?	
	Examples of Sequence, Selection and Iteration	https://minecraft.makecode.com/
	What is a Bug?	
August	**Loops using block coding**	Fun Activity: Chase the Apple
No.of working days-24	Introduction to Loops	
	Increment Loops	
	Different types of loops	Practicals Based on Demo
	While loop	
	For loop	

September	**Apply Loops and Conditionals with sequencing**	Activity: Distributing Birthday Sweets
No.of working days-23	Is there a better way to apply sequencing?	
	Better way to create a square	(https://scratch.mit.edu/)
	Introduction of Code.org	Create a rectangle of length 5 and height 3 using a loop (repeat block) in Minecraft.
October	**FUN WITH FUNCTIONS**	Activity - 1. Calling a function which has no parameters
No.of working days-19	Introduction What exactly are functions? Examples of Functions in Arcade	2. Calling a function with a single parameter
November	**FUN WITH FUNCTIONS**	Activity -. Calling function to print statements
No.of working days-21	Advantages of using functions	
	How to reduce redundancy using functions	Activity - .To display a cube of numbers
	Advantages of using Functions What are different Function Parameters?	Activity - Sorting- Arranging the books
December	**FUN WITH FUNCTIONS**	Activty- To calculate the area of a circle
	Can Function return a value?	Activity- Return Values from Functions
	What is an event?	
	What are Event Handlers?	
No.of working days-25	**UNDERSTANDING ARRAYS & COLLECTIONS**	Example 1: Is 36 a perfect square?
	What arte collections? What are arrays?	Activity – Algorithm for a perfect square
January	**UNDERSTANDING ARRAYS & COLLECTIONS**	Activity - To create an array and calculate its length
	How can we iterate over collections?	
No.of working days-13	Modifying Collections	Activity- To print the first element of Array
	Adding Elements During Iteration	Activity - To calculate the sum of elements in an array
	Removing Elements During Iteration	
February		
No.of working days-24	**Submission and assessment of the projects**	

Note: The students will be assessed on the basis of the classroom performance, task assigned as Home Assignments / Holiday Homework / Project.