



St. Kabeer Academy-Dehradun (CBSE)

ATL Syllabus for Class 8th

1. ABOUT ROBOTICS LAB

- Introduction about ATL Marathon and Other Challenges.
- About Ideation

2. BLOCK PROGRAMMING AND GAME DEVELOPMENT -SCRATCH

- Introduction to Different Shapes
- Make your Twelfth – Square, Rectangle, Triangle and
- Introduction to Video sensing Extension
- Introduction to our video in Game
- Make Crab Game
- Introduction to Complex Programming Blocks
- Use of paint section for designing
- Make Subway Surfer Game
- Introduction to More Complex Programming Blocks
- Introduction to Sensing, Operator
- Make your Corona Virus Game
- Introduction of Loops, Clones etc.
- Make Snake Game

3. PYTHON PROGRAMMING

- Graphic User Interface
 - ♣ What is GUI?
 - ♣ How to make a Blank Screen
 - ♣ How to add Buttons
 - ♣ How to add Labels
 - ♣ How To add Entry Boxes
- Adding Image to Graphic User Interface
 - ♣ How to Add Image to your GUI
 - ♣ WAP to design a Calculator using GUI
 - ♣ Mini Project
 - ♣ Design a School Login Page using GUI
 - ♣ Elements Accessing
 - ♣ Create your personal Audio Player

4. ANDROID APP DEVELOPMENT

- Introduction to Randomization and Player Component
- Introduction to List Blocks
- Introduction to Canvas and Image Spirits
- Introduction to Variables
- Introduction to Image Picker and Screen Orientation
- Introduction to RGB Color Model, Random Integer Block,
- Advance Canvas Options.
- Introduction to Translator and List Picker Component
- Introduction to Procedures and Math Blocks
- Introduction to Notifier Component
- Introduction to Table Arrangement

- Introduction to Texting Component
- Introduction to CheckBox Component and Tinydb
- Introduction to Various Match Blocks
- Introduction to Location Sensor
- Introduction to Activity Starter
- Introduction to Sound Recorder

5. INTRODUCTION OF ELECTRONICS

- Interfacing LCD with Arduino Uno
- Transferring Data from Arduino to LCD
- Interfacing LCD with Arduino Uno
- Introduction to Advance Commands for LCD
- Interfacing LCD with Arduino Uno
- Display value of LDR on LCD Using Arduino
- Interfacing 7 Segment with Arduino Uno
- Pinouts of 7 Segment Display
- Interfacing 7 Segment with Arduino Uno
- Introduction to Logic gates and working
- Introduction to OR gate
- Introduction to AND gate
- Introduction to NOT gate
- Introduction to Universal Logic gates
- Introduction to NOR gate

6. 555 TIMER BASED ACTIVITIES

- Introduction of 555 Timer IC and its Application
- Led Flashing Using 555 Timer
- Alternate Led Blinking

7. ARDUINO UNO BASEC ACTIVITIES

- LED Blinking Using Arduino
- Infrared (IR)Sensor Interface
- IR (Infrared)Controlled LED Blinking
- Ultrasonic Sensor Interface
- Ultrasonic Sensor Based Motor Control

8. 3D PRINTER

- Introduction of 3D Printer.
- Introduction of COLAB CAD.
- Designing of shapes in Colab Cad
- How To Print

9. ROBOTICS

- Designing of Lever
- Working Concept of Each Type of Lever
- Introduction to Motion Sensor
- Introduction to IR radiations
- Application and Impact of the sensor in the world.
- Construction of a circuit for Motion Alarms
- Drone
 - } Working and Construction of Drone Prototype
 - } Different Type of Drones
 - } Details about Flight Controls
 - } Introduction of Third Law of Motion.

10. ANNUAL PROJECT BASED ON COVERED TOPICS