

STEMMOZ LDA

ROBOTICS CURRICULUM – LEVEL 1

Sl. no	TOPIC	SUBTOPIC
1	Introduction to robotics	<ul style="list-style-type: none"> a. What is robotics b. History c. Need of robotics d. Laws of robots
2	Classification of robots	<ul style="list-style-type: none"> a. Classifications b. Applications
3	Terms and definitions of robotics	<ul style="list-style-type: none"> a. Robots definition b. Robotics definition c. Terms used in robotics d. Terms used for robot making and using
4	Blocks of a robot	6 blocks of robot
5	Battery & Charger	Introduction
6	DC motors	Introduction
7	Sensors	<ul style="list-style-type: none"> a. IR sensor b. Light sensor c. Touch sensor d. Ultrasonic sound sensor
8	Basic electronic circuits for robotics	<ul style="list-style-type: none"> a. Simple electric circuit (Slide switch, push switch, LED, battery) b. Transistor as a switch with LED c. Buzzer and switch d. IR sensor, led e. IR sensor, transistor and buzzer f. Touch led and switch g. LDR and LED, h. LDR, transistor and buzzer

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9	Mechanical construction of robot	<ul style="list-style-type: none"> a. Structural block components of level 1 <ul style="list-style-type: none"> i. Frame ii. Screws iii. Complete made kit b. Movement block components of level 1 <ul style="list-style-type: none"> i. Motors ii. Wheels iii. Free wheel c. Connecting motors <ul style="list-style-type: none"> i. Selecting screws ii. Frame holes and motor holes matching iii. screws d. Making whole robot <ul style="list-style-type: none"> i. Chassis connection ii. Control board plate connection e. Connecting wheels <ul style="list-style-type: none"> i. Free wheel ii. Main wheels
10	Robot movement & I293d	<ul style="list-style-type: none"> a. Controlling robot motors and wheel b. Direction control of robot c. Motor driver board (I293d) d. Introduction e. Layout f. Pins and connections g. Wires h. Power supply i. Testing

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11	Introduction of Arduino UNO and IDE	<ul style="list-style-type: none"> a. Arduino UNO and layout of digital pins b. IDE windows installation & Layout c. Arduinodroid application
12	Programming with Arduino	<ul style="list-style-type: none"> a. Basic sketch layout b. Blinking LED c. Buzzer with intervals d. IR sensor with Buzzer e. Light sensor with LED
13	Robots	<ul style="list-style-type: none"> a. Manual controlled robot b. Semi-automatic robot c. Automatic robot d. Line follower robot e. Light follower robot f. Light avoider robot g. Magic torch follower robot
14	Advance robots introduction	<ul style="list-style-type: none"> a. Bluetooth controlled robot b. Pick and place robot c. RF robot



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