ARDUINO CURRICULUM – VAMA EDTECH

S. No	Topic	Learning Outcome
1.	Introduction	Introduction to Arduino
2.	Glow a LED using Arduino UNO	Basic interfacing of Arduino
3.	Glowing multiple LEDs on a breadboard	Controlling multiple LEDs using Arduino's digital outputs and a breadboard.
4.	Fading LED with Analog Output	Learn to adjust an LED's brightness using Arduino's Analog outputs
5.	RGB LED color mixing	Learn to control multi-colour LEDs using Arduino's Analog outputs.
6.	Using the serial monitor	Understanding and learning how to use the Serial Monitor
7.	Push Button	Learn how to read a pushbutton using Arduino's digital input
8.	Potentiometer	Learn how to use a potentiometer, a type of rotating variable resistor
9.	Buzzer	Learn to use the buzzer and make tones at different frequencies.
10.	Buzzer tones with Switch	Different tones with buzzer and Switch.
11.	Photoresistor	Learn how to read a photoresistor (LDR) using Arduino's Analog input

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12.	Temperature sensor	Learn to use the temperature sensor (LM35) and turn Arduino into a thermometer
13.	Ultrasonic Distance sensor	Learn to use the Ultrasonic sensor
14.	Interfacing Seven Segment Display	Learn how to interface seven segment display as an output from the Arduino
15.	Interfacing an I2C LCD with Arduino	Learn how to Interface for displaying inputs, data, output of sensors in LCD module.
16.	Height finder	Learn to find the height of an object by using the ultrasonic sensor
17.	PIR Sensor	Learn to sense movement in a room with a PIR motion sensor and Arduino.
18.	MQ2 Sensor	Learn to sense different gasses with the MQ2 Sensor
19.	DHT22 Sensor	learn to find the temperature in Celsius, Fahrenheit, humidity and heat index using the DHT22 Sensor
20.	Servo Motor	Introduction to servo motor
21.	Sound detection	Learn to detect the presence of high sound pitch with a sound module

Note:

- Includes the **Elektrify** Arduino UNO kit with sensors.
- Includes the PDF for the instructions of experiments.

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