



# VICTORIA INSTITUTION (COLLEGE)

78-B, Acharya Prafulla Chandra Road, Kolkata-700 009

Phone : 91-33-2350 1959 ■ Fax : 91-33-2360 0046

Website : [www.victoriacollege.co.in](http://www.victoriacollege.co.in)

Ref. No.....

Date 08/05/2023

## NOTICE

It is hereby informed to all Sem IV Physics Hons. students that a 30 hours Add-On Course entitled "Use of Arduino in Environmental Issues" will be organized by the Department of Physics, Victoria Institution (College) during 16<sup>th</sup>-20<sup>th</sup> May, 2023.

The interested Sem IV Physics Hons. students are requested to enroll their name to the departmental HOD by 13<sup>th</sup> May, 2023.

Syllabus and Class schedule is attached herewith.

*Uma Ray Srinivasan*  
8/5/23

**Dr. Uma Ray Srinivasan**

Teacher-in-Charge

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Discipline Specific Add on Course on

Date...08/05/2023

Use of Arduino in Environmental Issues

Department of Physics, Victoria Institution (College)

Course Duration - 30 hrs [15hrs Theory + 15 hrs Project]

(Students must attend at least 60% classes to receive the certificate)


## Syllabus

Module No	Topic	No. of classes (= Hours)
I)	Introduction to Arduino, Basics of micro-processor, Arduino Programming and Arduino Hardware.	6
II)	Working principles of the different sensors and components used in the project part (PIR- Motion Sensor, Humidity, Temperature and Pressure Sensor, Sound Sensor, LCD, Relay module, Dust Sensor Sensor etc).	6
III)	Environmental Pollution, Energy Crisis and Need of energy saving devices.	3
IV)	Developing few projects like a) Motion Sensing automatic light on/off. b) Measurement of Air Quality (Temperature, Humidity, Pressure, Particulate Matter, Presence of harmful gasses etc). c) Measurement of Noise Pollution. d) Developing Smart Dustbin etc.	15

References :

1) Arduino Cookbook by Michael Margolis, O' Reilly Media

2) <https://projecthub.arduino.cc/>

  
Dr. Uma Ray Srinivasan 8/5/23

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Discipline Specific Add on Course on

**Use of Arduino in Environmental Issues**

Department of Physics, Victoria Institution (College)

Course Duration - 30 hrs [15hrs Theory + 15 hrs Project]

## Class Schedule

Date	Time	Instructor
16.05.2023	11AM-5PM [6hrs]	Dr. Subhendu Chandra and Dr. Shinjinee Das Gupta, Dept. of Physics, VIC
17.05.2023	11AM-5PM [6hrs]	Dr. Subhendu Chandra and Dr. Shinjinee Das Gupta, Dept. of Physics, VIC
18.05.2023	11AM-5PM [6hrs]	Dr. Subhendu Chandra and Dr. Shinjinee Das Gupta, Dept. of Physics, VIC
19.05.2023	11AM-5PM [6hrs]	Dr. Subhendu Chandra and Dr. Shinjinee Das Gupta, Dept. of Physics, VIC
20.05.2023	11AM-5PM [6hrs]	Dr. Subhendu Chandra and Dr. Shinjinee Das Gupta, Dept. of Physics, VIC

  
Dr. Uma Ray Srinivasan 8/5/23

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## Discipline Specific Add on Course conducted by the Department of Physics

16<sup>th</sup>-20<sup>th</sup> May, 2023

A 30 hrs of Discipline Specific Add on Course on “**Use of Arduino in Environmental Issues**” was conducted by the Department of Physics, during 16<sup>th</sup>-20<sup>th</sup> May, 2023. 6 students of Sem IV Physics Hons. successfully completed this course.

A course on Arduino helps the students to prepare themselves for the new edge technologies as Arduino being an electronic proto-typing is the gateway to Automation / Robotics. Students of Physics Hons are offered to take an introductory course on Arduino as a part of Skill Enhancement Course which emphasizes on the applications of Arduino in Physics.

In this context the above mentioned add on course was aimed to bridge between the Environmental Issues like measurement of pollution, developing energy saving devices and automation. Thus facilitating the students to be aware of the Environmental Crisis as well as the technological need of present time to overcome it .



**Explanation of the working principles of different Sensors are given by the course instructor Dr. Subhendu Chandra**



**Students are busy in doing project on motion sensing automatic light on/off under the guidance of Dr. Shinjinee Das Gupta (Course Instructor)**



**Students receiving Certificates**

