GOVERNMENT ENGINEERING COLLEGE – DAHOD

IIC& SSIP 2.0 CELL

REPORT
Internship on

"Automation using Arduino"
For the students of PM Shri School Jawahar Navodaya Vidyalaya – Kharedi (Dahod)

An internship on **"Automation using Arduino"** was organized from 24-01-2024 to 09-02-2024 (10 days) under the aegis of IIC, GIC & SSIP 2.0 Cell of Government Engineering College Dahod. The event was organized as one of the activity under the IIC-ATL linkage program. 76 students of standard 9 from PM Shri School Jawahar Navodaya Vidyalaya – Kharedi (Dahod – Gujarat) have participated in the event.

The inaugural session was started by welcoming all the participants and the guests have been facilitated with flowers by event coordinator Prof. S. N. Damor. The inaugural session was chaired by Dr. P. B. Tailor, i/c Principal & Professor, GEC Dahod. Shri Tej Singh, Principal PMSSJNV-Kharedi was also present as invited guest in the inaugural session. Dr. D. B. Jani, Associate Professor & IIC president, has explained various IIC activities and probable IIC-ATL linkage program. Dr. M. K. Chudasama, Assistant Professor & SSIP coordinator has sensitized the students about various SSIP activities at GEC Dahod. The inaugural session was ended by National Anthem.

Then the session was started by Prof. S. N. Damor, Assistant Professor – EC department, about Arduino and the technical sessions were conducted as per the following schedule:

Day	Activities	Resources*
Day -1	Arduino Board & Applications - LED Blinking on Software simulation	Common resources*
Day -2	LED Blinking on Hardware - Switch Interfacing in Simulation & Hardware	Switch
Day -3	IR Sensor interfacing - LCD interfacing on simulation	IR sensor
Day -4	Ultrasonic Sensor Interfacing - PIR sensor simulation	Ultrasonic sensor

		PIR sensor
Day-5	DC Motor interfacing with Bluetooth control	HC 05 Bluetooth module DC motor
Day -6	Touch sensor interfacing Servomotor interfacing Humidity – Temperature sensor interfacing	Touch sensor Servomotor Humidity – Temperature sensor
Day - 7	Dustbin automation Soil Moisture sensor interfacing Automatic irrigation system	Servomotor Dustbin Dustbin-lid String Humidity sensor Soil Rack Submersible pump Water tank Water pipes
Day -8	Continue with previous project and completion in the morning session. Automatic water filling tank with level-control - Ultrasonic sensor	Ultrasonic sensor Submersible pump Relay, 9V / 5V Power supply Water sump Water tank with outlet valve Water pipes, card board
Day -9	Students will do the projects on their own. Servomotor interfacing - Smart car barrier / smart dustbin	Ultrasonic sensor Servomotor Dustbin / Car with road Dustbin-lid / Barrier String

Day-10	Bluetooth robot car	HC 05 Bluetooth module
		Motors
		Wheels
		Motor base
		Power cables
		Battery / Power adapters
		Glue gun, Drill, Screws

* Common Resources for all days: **Arduino Board, Jumper wires, LED, Breadboard, Resistors, PC, USB cable to connect Arduino board to PC**

For most of the days the theory sessions were conducted in the morning session and the afternoon sessions were hand-on sessions.

The students have got exposure to the automation environment and learned various sensors, their uses, simulation of electronic circuits, coding and execution of these projects. They were very excited and enthusiastically participated in all the activities and overjoyed when the projects getting executed by themselves. The students from 6th Semester EC Department have volunteered during the lab sessions to manage the queries of the participants.

The students have shared their feedback during the valedictory session and said that they were not knowing anything about automation prior to this internship, but at the end they are able to execute the automation projects on their own. They have assured that they will continue on different projects at school and will try to make useful devices for school as well as for domestic usages.

Dr. D. B. Jani, Dr. M. K. Chudasama and Prof. S. N. Damor has served as the resource persons for the entire internship program. Being the coordinator of the program Prof. S. N. Damor has worked hard during all the days of the event. Miss Mariya Garbadawala, Mr. Mahes Suthar, Mr. Mitesh Yadav, Mr. Vishal Mishra, Miss Mariya Guriwala, Miss Sakshi Modhiya, Miss Archi Khandelwal, Miss Ruchi Solanki and Miss Yukti Lalwani have volunteered during the hands-on lab sessions to manage the participants.

The photographs of the event are attached here for reference.