



Bhavan's Vivekananda College
of Science, Humanities and Commerce
Re-Accredited with 'A' Grade by NAAC
Autonomous – Affiliated to Osmania University

Bhavan's Institution Innovation Council

VALUE ADDED COURSE ON INTERNET OF THINGS

REPORT

The Department of Computer Science and the Dept. of Physics & Electronics in collaboration with Siddhartha Technologies and Services organized a 30hrs value added course on “INTERNET OF THINGS” for under graduate students from 18th July to 4th August 2023.

This is an interdisciplinary course which is scheduled for 2hrs per day with practical session. Students learnt about Arduino programming, interfacing the Sensors by using NodeMCU Module.

A total of **52** students attended the course from different streams.

The Course Content was delivered and demonstrated by


1. Mrs. M.Prasanna, **HOD**, Dept.of Physics & Electronics
2. Mrs. V.Padmapriya, Lecturer, Dept.of Computer Science
3. Mrs. V. Lavanya, Lecturer, Dept.of Physics & Electronics
4. Mrs. M .Amitha, Lecturer, Dept.of Computer Science
5. Mr Bipin Gondane, Resource Person , Siddhartha Technologies and Services

The poster is for a 'Value added course on Internet of Things' organized by the Department of Computer Science and the Department of Physics & Electronics at Bhavan's Vivekananda College. It is in collaboration with Siddhartha Technologies & Services, Secunderabad. The course starts from 18th July 2023 to 04th August 2023, from 3:00 pm to 5:00 pm. The fee for the kit is Rs 500/-. The topics covered are Arduino Programming, Interfacing Sensors, IoT applications using NodeMCU, Applications using Raspi Pico, and Project Guidance. For more details, contact resource persons Mrs. M. Prasanna (9640077655) or Mrs. V. Padmapriya (92959 52919). A 'CLICK HERE TO REGISTER' button is also present.



Demonstration of the IoT boards - Arduino Uno, NodeMCU, and TinkerCad Simulations.



 **GPS Map Camera**

Secunderabad, Telangana, India


643/A, Defence Colony, Sainikpuri, Secunderabad, Telangana 500094, India

Lat 17.489409°

Long 78.535181°

24/07/23 05:17 PM GMT +05:30



 **GPS Map Camera**

Secunderabad, Telangana, India

FGQP+P2W, New Kranthi Nagar, Sainikpuri, Secunderabad, Telangana 500094, India

Lat 17.489426°

Long 78.53504°

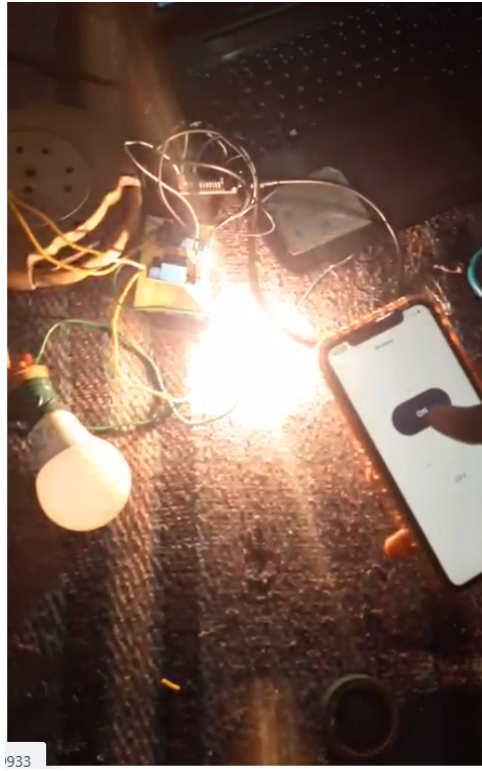
24/07/23 05:21 PM GMT +05:30





Practical session on blink LED using toggle switch and LDR sensor using NodeMCU Module.





Controlling light device connected to relay module using mobile app

Introduction to Raspberry pi Pico & RP2040



INTERNET OF THINGS

Duration: 30 hours programme

Course objectives:

The objective of the course is -

- Provide participants with a solid foundation in IoT concepts, including the underlying technologies, components, and architecture that constitute IoT systems.
- Enable participants to interact with IoT devices, sensors, and actuators, allowing them to apply the knowledge gained to create tangible IoT solutions

Session by Mrs M. Prasanna

(4hrs)

Introduction to Electronic components , Ohm's law, series parallel connections , Digital and analog signals, microprocessors and microcontrollers; sensors and actuators, embedded systems, IoT boards, Arduino Uno, NodeMCU, TinkerCad Simulations for Interfacing sensors to Arduino boards.

Session by Mrs. M Amitha

(4hrs)

Installation of Arduino IDE and add-ons for ESP8266, Arduino IDE Program structure, functions for Input and Output operations, variable declaration and control statements, Programs for LED control, LED with a push button, toggle switch for blinking LED, light control using LDR.

Session by Mrs. Lavanya

(4hrs)

Introduction to IoT, Various communication protocols in IoT, MQTT Communication with NodeMCU through Arduino IDE, LED Controlling through WiFi using Arduino & Node MCU, LED Controlling from Webpage using Node MCU, Working and interfacing of relay module to Node MCU, Home automation - controlling AC device connected to relay module using mobile app

Session by Mr. Bipin

(4hrs)

Introduction to Raspberry pi Pico & RP2040 , applications using Raspi Pico board using Arduino IDE, Introduction to Raspberry pi Pico (W) and Micro python, IoT protocols and projects using Pico with micropython & Thorny IDE

Session by Mrs.V. Padmapriya

(4hrs)

Arduino libraires, working and Interfacing of sensors – Temperature, ultrasonic, soil moisture and IR sensors, IoT applications using Arduino IoT cloud

Project guidance:

(10hrs)

Sensor Integration with Node MCU

1. Temperature and Humidity Monitoring Using Node MCU and display values in serial monitor
2. Weather Monitoring station using DHT11 and sending sensor data to cloud
3. Rainfall and soil Moisture sensing using Node MCU and monitoring through mobile application
4. Home automation using relay and controlling devices with Blink Application
5. LED controlling through WiFi using Arduino & Node MCU
6. Smart Street light controlling using LDR
7. Smart Dustbins using Node MCU
8. Interfacing LED with Raspi Pico using Micro python

Course Outcomes:

1. Workshop participants will gain a comprehensive understanding of IoT concepts, including the fundamental principles, technologies, and applications that make up the IoT ecosystem.
2. Through practical demonstrations and hands-on activities, participants will have the opportunity to work with IoT devices, sensors, and data, allowing them to gain practical experience in setting up and interacting with IoT systems.

Value added course - Internet of Things

Students Registration list 2023

Sno	Timestamp	Email Address	Name of the Student	Gender	Name of the Program	Year of Study	Roll Number	Phno
1	7-13-2023 21:55:05	samarthswain92@gmail.com	Samarth swain	Male.	BSC MSCS	I Yr	4408148	8099155387
2	7-14-2023 21:02:03	dhukiaankush@gmail.com	ANKUSH DHUKIA	Female	BSC HDS	I Yr	4415451	9959391869
3	7-14-2023 23:36:49	rohansingh13778@gmail.com	Thakur Rohan Singh	Male.	BSC HDS	I Yr	4408305	8328507893
4	7-15-2023 8:45:39	asrithasaibipc@gmail.com	S.Asritha Sai	Female	BCA	I Yr	87	9346319210
5	7-15-2023 20:11:35	arunistla@gmail.com	Aruni Tejal Sistla	Female	BCA	I Yr	4413894	8332822563
6	7-16-2023 19:27:19	nswetashreedarsini@gmail.com	N Sweta Shreedarsini	Female	BSC MSCS	I Yr	4666891	9827638658
7	7-16-2023 21:17:15	g.harshitha.hair@gmail.com	G.Harshitha	Female	BSC MSCS	I Yr	4672896	9063573949
8	7-16-2023 22:19:50	honeyhamsini123@gmail.com	Hamsini Alaparathi	Female	BSC MSCS	I Yr	4679985	6300580360
9	7-17-2023 12:02:57	vswaralahari@gmail.com	V.Swara Lahari	Female	BSC MSCS	I Yr	4407949	7075904636
10	7-19-2023 15:04:00	saipranavid2005@gmail.com	D.Sai pranavi	Female	BSC MSCS	I Yr	43	6304740881
11	7-13-2023 17:34:02	ruthwikgone06@gmail.com	Gone Ruthwik	Male.	BSC MSCS	II Yr	107222467024	8688468545
12	7-13-2023 20:15:21	gangalasaathwika@gmail.com	Gangala Sathwika	Female	BSC MSCS	II Yr	107222467023	6304 575 016
13	7-13-2023 21:08:28	shyamhfn19@gmail.com	Goparaju Shyam	Male.	BSC HDS	II Yr	107222546014	9121368456
14	7-13-2023 21:28:53	lp9287006@gmail.com	Galva Laxmi prasanna	Female	BSC MSCS	II Yr	107222467022	9347096715
15	7-14-2023 18:02:12	subhasishchoudhury26@gmail.com	Subhasish Choudhury	Male.	BSC HDS	II Yr	107222546039	9347314472
16	7-15-2023 17:12:44	anirudhvadhayar@gmail.com	ANIRUDH U VADHYAR	Male.	BCA	II Yr	107222861050	8138908152
17	7-15-2023 19:37:42	hemalathayadav669@gmail.com	B. Srikanth Yadav	Male.	BSC HDS	II Yr	107222546008	9121817221
18	7-15-2023 22:55:36	immanuelantony2571@gmail.com	Immanuel Anthony	Male.	BCA	II Yr	107222861035	7993611852
19	7-16-2023 11:05:54	yellepeddisruthi05@gmail.com	Y.sree sruthi	Female	BSC HDS	II Yr	107222546049	9398470134
20	7-16-2023 11:57:23	sruthi20405@gmail.com	B.sruthi	Female	BSC HDS	II Yr	107222546004	9603039619
21	7-17-2023 12:31:47	sheshimudumba@gmail.com	M.Shesha Kamala vasin	Female	BSC MSCS	II Yr	107222467041	7337489222
22	7-19-2023 16:46:28	ramyathaaa@gmail.com	Ramyatha	Female	BCA	II Yr	107222861007	06281650290
23	7-19-2023 16:47:42	syedsaniya040325@gmail.com	Syed saniya	Female	BCA	II Yr	107222861040	9963950667
24	7-19-2023 16:47:52	tiwarisweta1508@gmail.com	SWATANTRATA TIWARI	Female	BCA	II Yr	107222861039	8374838851
25	7-19-2023 16:50:32	bhavanapanchangam@gmail.com	Bhavana Panchangam	Female	BCA	II Yr	107222861030	9848639957
26	7-19-2023 16:51:15	moulika2502@gmail.com	Moulika Naidu	Female	BCA	II Yr	107222861021	9652125022
27	7-19-2023 17:09:40	rishibharadwaj@gmail.com	Rishi Bharadwaj	Male.	BSC HDS	II Yr	107222546047	7760909933
28	7-19-2023 17:14:24	krishnasai76926@gmail.com	T Krishna sai	Male.	BCA	II Yr	107222861041	9966503262
29	7-19-2023 17:18:18	tony25021999@gmail.com	D. Nitin Chandra	Male.	BSC HDS	II Yr	107222546012	8125227700
30	7-19-2023 17:19:16	yekashankoushik@gmail.com	Y shan koushik	Male.	BSC HDS	II Yr	107222546048	9000166602
31	7-19-2023 18:19:06	indusankya@gmail.com	S.indu	Female	BSC life Sciences	II Yr	107222573037	6300946669
32	7-20-2023 13:28:38	Bhasker2323@gmail.com	G.BHASKER	Male.	BCA	II Yr	107222861024	90598 35462
33	7-13-2023 12:59:12	ppidugumanisha@gmail.com	Pidugu Manisha	Female	BSC MPCS	III Yr	107221468039	7013863013
34	7-13-2023 12:59:13	kirti211103@gmail.com	Gondu kirti	Female	BSC MPCS	III Yr	107221468020	8602228522
35	7-13-2023 19:00:38	malikarawat2003@gmail.com	Malika Rawat	Female	BCA	III Yr	107221861020	8523064410
36	7-13-2023 19:13:43	turlapatisetu@gmail.com	T. Sethu Venkat	Male.	BCA	III Yr	107221861042	6303282293
37	7-14-2023 16:16:44	jchandrasahsyd2003@gmail.com	Chandrasah	Male.	BSC MECS	III Yr	107221474093	9515781346
38	7-14-2023 16:17:40	yagnya.nishanth@gmail.com	Nishanth Ambati	Male.	BSC MECS	III Yr	107221474068	7702296507
39	7-14-2023 21:01:27	yuvrajgorak@gmail.com	Yuvraj Gorak	Male.	BSC MECS	III Yr	107221474072	9381046380
40	7-15-2023 23:16:48	ADEPAJAY03@GMAIL.COM	Adep Ajay	Male.	BCA	III Yr	107221861001	8247335709
41	7-16-2023 13:16:13	nandininandu028@gmail.com	Ranga Nandini Gupta	Female	BSC MPCS	III Yr	107221468042	9515872273
42	7-16-2023 20:58:47	abhishekms1048@gmail.com	M.S.Abhishek	Male.	BSC MECS	III Yr	107221474088	6300535812
43	7-16-2023 22:49:46	niheshkumar50@gmail.com	Nihesh	Male.	BCA	III Yr	107221861035	7569844718
44	7-16-2023 23:10:30	sidhu.sindhu39@gmail.com	Siddharth	Male.	BCA	III Yr	107221861036	7207494638
45	7-17-2023 10:35:15	yogeshsoni28704@gmail.com	Yogesh Soni	Male.	BSC MSCS	III Yr	107221467087	7901384338
46	7-17-2023 11:44:15	saisreeja800@gmail.com	Sai Sreeja	Female	BSC MPCS	III Yr	107221468022	9392680550
47	7-17-2023 11:59:10	thirupathimudhiraj523@gmail.com	Boini Thirupathi	Male.	BSC MPCS	III Yr	107221468050	9704318586
48	7-17-2023 12:09:30	udayudith2017@gmail.com	Uday A Manoj	Male.	BSC MECS	III Yr	107221474090	9912013007
49	7-17-2023 12:12:11	akhilakhi0915@gmail.com	O Sai Akhil	Male.	BSC MECS	III Yr	107221474044	7330602670
50	7-17-2023 12:13:09	gudashruthi231203@gmail.com	Guda Shruthi	Female	BSC MECS	III Yr	107221474020	9502950050
51	7-17-2023 12:36:08	sidharth1772003@gmail.com	Sidharth Nahata	Male.	BSC MSCS	III Yr	107221467053	07093151032
52	7-17-2023 14:24:42	pavanrx43@gmail.com	Kotha pavan	Male.	BSC MECS	III Yr	107221474073	7364813778

