

Hindustan College of Science & Technology, Farah, Mathura
Department of Electronics & Communication Engineering

Date: 18.08.2022

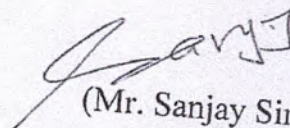
2022/ EC/ODD

Notice

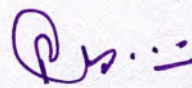
All the students of 2nd year, 3rd year and 4th year are hereby informed that the department of Electronics and Communication Engineering is going to schedule a value-added course on "**Internet of Things (IOT) and its Applications**" to enhance your academic journey and provide you with additional skills and knowledge that will be invaluable for your future careers.

Please note that registration will be open from 24/08/2022 to 02/09/2022. Late registrations will not be entertained, so ensure that you complete the registration process within the stipulated time frame.

For any further inquiries or clarifications regarding registration, kindly reach out to Mr. Sanjay Gupta (Lab Technician, ECE Deptt.).


(Mr. Sanjay Singh)

Dy. HOD ECE Deptt. Engg.
Head
Dept. of Electronics & Comm. Engg.
Hindustan College of Science & Technology
Farah, Mathura


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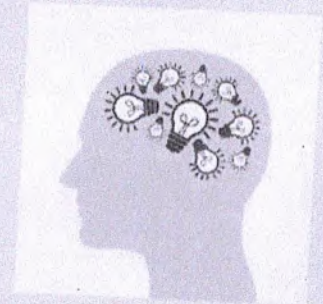
HINDUSTAN COLLEGE OF SCIENCE & TECHNOLOGY,
FARAH -MATHURA
DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



Value Added Course
VEC2205 - Internet of Things (IOT) and its Applications

3rd Sep '2022 - 17th Dec 2022 - Every Saturday: 3:10 PM - 4:50 PM

Students From Any Branch Can Join the Course



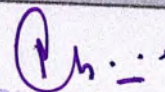
By

Mr. Honey Kumar
Assistant Professor, Electronics & Communication Engineering
Research Interest: IoT based projects, VLSI Design

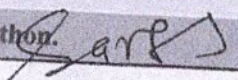
Registration Dates
24th Aug 2022 - 2nd Sep 2022

For Registration: Please contact
Mr. Sanjay Gupta, Lab Techniques, Department of ECE

Prerequisites: Basic knowledge of knowledge of sensors, transducer, microprocessor and microcontroller, and programming in Python.


Director

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Value Added Course

VEC2205 - Internet of Things (IOT) and its Applications

3rd Sep '2022 – 17th Dec 2022 – Every Saturday : 3:10 PM – 4:50 PM

Course Objectives

The main objective of this value added course are as follows:

1. This course gives a foundation in the Internet of Things, including the components, tools, and analysis by teaching the concepts behind the IoT and a look at real-world solutions. This course will describe the technology used to build these kinds of devices, how they communicate, how they store data, and the kinds of distributed systems needed to support them.
2. Divided into five modules, we will learn by doing. We will start with basic definitions and concept of IoT.
3. This course focuses on the latest microcontrollers with application development, product design and prototyping using IoT supported hardwares. Ideally suited for engineering students and graduates with a basic understanding of electronics and microprocessors. They are also able to design & develop IoT Devices. The overall goal of this course is to enable you to build an IoT system from the ground up.

Course Syllabus

Units	Details	Course Out comes
1	Introduction to IOT : What is Internet of Things ?, Getting started with IoT, How IOT became 21 st Century Hottest Topic, How Internet of Things works, How Things Talk to Internet	CO1
2	IOT Architecture : Three Layer Architecture, Four Layer Architecture, Five Layer Architecture	CO2
3	Hardware : Functional blocks of an IoT ecosystem, IoT – Sensors, Actuators, Wearable Electronics, Standard Devices, Smart Objects and Connecting Smart Objects	CO3
4	Design And Development : Design Methodology, Embedded computing logic, Microcontroller, System on Chips, IoT system building blocks, IoT Platform overview: Overview of IoT supported Hardware platforms such as: Raspberry pi, Arduino Board	CO4
5	IOT Applications : IoT applications in home, infrastructures, buildings, security, Industries, Industry 4.0 concepts	CO5

Prerequisites: Basic knowledge of knowledge of sensors, transducer, microprocessor and microcontroller, and programming in Python

[Signature]
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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



Value Added Course
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3rd Sep '2022 – 17th Dec 2022 – Every Saturday : 3:10 PM – 4:50 PM

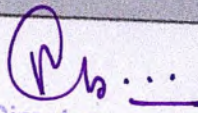
Course Outcomes

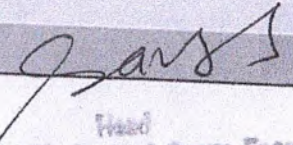
- CO1** Understand the definition and concept of Internet of Things.
- CO2** Discuss the layered architecture of an IoT system and their operations.
- CO3** Able to understand the use of various basic hardware to design an IoT system.
- CO4** Design and development of IoT devices using IoT supported hardware platforms such as: Raspberry pi, Arduino Board.
- CO5** Able to understand the application areas of IoT.

CO-PO Mappings

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2											3	3
CO2	3	2	2										3	2
CO3	3	2											3	2
CO4	3	2	2										3	2
CO5	3	2	2										3	2
Average	3	2	2										3	2.5

Evaluation Criteria: Class attendance, Group project and its presentation, Quiz and Viva.


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Value Added Course
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3rd Sep '2022 -- 17th Dec 2022 -- Every Saturday : 3:10 PM -- 4:50 PM

Program Schedule

Session	Date	Time	No of Lectures	Session Topic	Resource Person
1	03-09-2022	3:10 PM – 4:50 PM	2	Preamble of the course	Mr. Honey Kumar
2	10-09-2022	3:10 PM – 4:50 PM	2	Introduction to IOT , What is Internet of Things ?	Mr. Honey Kumar
3	17-09-2022	3:10 PM – 4:50 PM	2	Getting started with IoT, How IOT became 21 st Century Hottest Topic	Mr. Honey Kumar
4	24-09-2022	3:10 PM – 4:50 PM	2	How Internet of Things works.	Mr. Honey Kumar
5	01-10-2022	3:10 PM – 4:50 PM	2	IOT Architecture: Three Layer Architecture	Mr. Honey Kumar
6	08-10-2022	3:10 PM – 4:50 PM	2	Four Layer Architecture	Mr. Honey Kumar
7	22-10-2022	3:10 PM – 4:50 PM	2	Five Layer Architecture.	Mr. Honey Kumar
8	05-11-2022	3:10 PM – 4:50 PM	2	Hardware: Functional blocks of an IoT ecosystem	Mr. Honey Kumar
9	12-11-2022	3:10 PM – 4:50 PM	2	IoT – Sensors, Actuators,	Mr. Honey Kumar
10	19-11-2022	2:20 PM – 4:50 PM	3	Wearable Electronics, Standard Devices	Mr. Honey Kumar
11	26-11-2022	2:20 PM – 4:50 PM	3	Smart Objects and Connecting Smart Objects	Mr. Honey Kumar
12	03-12-2022	1:30 PM - 4:50 PM	4	Design And Development: Design Methodology, Embedded computing logic, Microcontroller, System on Chips, IoT system building blocks.	Mr. Honey Kumar
13	10-12-2022	1:30 PM - 4:50 PM	4	IoT Platform overview: Overview of IoT supported Hardware platforms such as: Raspberry pi, Arduino Board	Mr. Honey Kumar
14	17-12-2022	1:30 PM - 4:50 PM	4	IOT Applications: IoT applications in home, infrastructures, buildings, security, Industries, Industry 4.0 concepts	Mr. Honey Kumar
Total Number of Lectures covered			36 (30 Hours)		

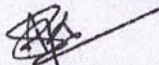
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Director

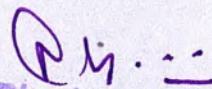
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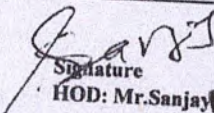
[Signature]
Head
Dept. of Electronics & Comm. Engg.
Hindustan College of Science & Technology
Farah, Mathura

Hindustan College of Science and Technology - Mathura
Department Name: Electronics & Communication Engineering
CLASS TIME TABLE FOR Odd SEMESTER 2022-23

SESSION:	2022-2023		W.E.F :	29/08/2022	CLASS TEACHER:		Mrs. Rupali Mahajan(RM)						
YEAR/SEM-SEC:	2nd/IISEM		ROOM.NO :	315									
Time / Day	I	II	III	IV	V	VI	VII	VIII	IX				
	9:40 TO 10:30	10:30 TO 11:20	11:20 TO 12:10	12:10 TO 01:00	01:00 TO 01:30	1:30-2:20	2:20-3:10	3:10-4:00	4:00-4:50				
MONDAY	ED ML 315	DSD DG 315	MATH-IV HSC 315	TC KD 315	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH				
TUESDAY	MATH-IV HSC 315	ED ML 315	NAS LAB							PDP	NAS HPR 315	Counselling	
WEDNESDAY	NAS HPR 315	MATH-IV HSC 315	CSS DS 315	TC KD 315						TC KD 315	CSS DS 315	NAS HPR 315	DSD DG 315
THURSDAY	DSD DG 315	CSS DS 315	DSD LAB							DSD DG 315	ED ML 315	MINI PROJECT LAB	
FRIDAY	DSD DG 315	PDP		MATH-IV HSC 315						TC KD 315	MATH-IV HSC 315	NAS HPR 315	ED ML 315
SATURDAY	Student-Activity Classes									ED RM 315	NAS HPR 315	ED LAB	
										Student-Activity Classes		IOT and its applications (VAC)	
Name of the Subject		Subject Code	Name of the Faculty		Total No. of Lect./Tut./Practical								
					Lect.	Tut.	Pract.						
Maths IV		KAS302	Dr.Harendra Singh Chauhan(HSC)		4	1	0						
Electronic Devices		KEC301	Mr.A.Mukund Lal(ML)		4	1	0						
Digital System Design		KEC302	Mrs. Deepti Gupta(DG)		4	1	0						
Network Analysis and Synthesis		KEC303	Mr.Himanshu P. Rajput(HPR)		4	1	0						
Technical Communication		KAS301	KD Singh(KD)		4	1	0						
Computer System Security		KNC301	Divakar Srivastav(DS)		4	0	0						
Electronics Devices Lab		KEC351	Mr.A.Mukund Lal(ML)/TSS Senthil		3	0	0						
Digital System Design Lab		KEC352	Mr.Himanshu P. Rajput(HPR)/Anchal Kati				2						
Network Analysis and Synthesis lab		KEC353	Mr.Himanshu P. Rajput(HPR)/TSS Senthil				2						
Mini Project or Internship Assessment		KEC354	Mr. Honey Kumar(HK)/Anchal Kati				2						
IOT and its applications (VAC)		VEC2205	Mr. Honey Kumar(HK)				2						

Signature 
 Time Table Incharge: Ajeet Singh


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 HOD: Mr.Sanjay
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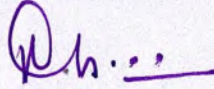
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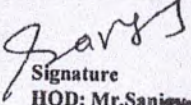
Department Name: Electronics & Communication Engineering

CLASS TIME TABLE FOR Odd SEMESTER 2022-23

SESSION:	2022-2023		W.E.F :	29/08/2022		Class Teacher/Counsellor:		Mrs. Honey kumar(HK)	
YEAR/SEM-SEC:	3rd/Vth Sem		ROOM.NO :	306					
Time / Day	I	II	III	IV	V	VI	VII	VIII	IX
	9:40 TO 10:30	10:30 TO 11:20	11:20 TO 12:10	12:10 TO 01:00	01:00 TO 01:30	1:30-2:20	2:20-3:10	3:10-4:00	4:00-4:50
MONDAY	MPMC RM 306	VLSI HK 306	IC LAB		LUNCH	IC AS 306	ITCS ME 306	EMI DG 306	DSP ML 306
TUESDAY	EMI DG 306	PDP		DSP ML 306		IC AS 306	DSP ML 306	VLSI HK 306	MPMC RM 306
WEDNESDAY	IC AS 306	DSP LAB		ITCS AG 306		MPMC RM 306	VLSI HK 306	EMI DG 306	DSP ML 306
THURSDAY	MPMC RM 306	IC AS 306	MINI PROJECT AND INTERNSHIP			VLSI HK 306	EMI DG 306	MPMC LAB	
FRIDAY	IC AS 306	EMI DG 306	ITCS ME 306	DSP ML 306		PDP		MPMC RM 306	VLSI HK 306
SATURDAY	Student-Activity Classes					Student-Activity Classes		IOT and its applications (VAC)	
Name of the Subject		Subject Code	Name of the Faculty			Total No. of Lect./Tut./Practical			
					Lect.	Tut.	Pract.		
Integrated Circuits		KEC-501	Mr.Ajeet Singh(AS)		4	1	0		
Microprocessor & Microcontroller		KEC-502	Mrs. Rupali Mahajan(RM)		4	1	0		
Digital Signal Processing		KEC-503	Mr.A.Mukund Lal(ML)		4	1	0		
VLSI Technology		KEC-053	Mr. Honey Kumar(HK)		4	1	0		
Electronics Measurement & Instrumentation		KEC-057	Mrs. Deepti Gupta(DG)		4	1	0		
Integrated Circuits Lab		KEC-551	Mr.Himanshu P. Rajput(HPR)/TSS S				2		
Microprocessor & Microcontroller Lab		KEC-552	Mrs. Rupali Mahajan(RM)/Anchal K				2		
Digital Signal Processing Lab		KEC-553	Mr.A.Mukund Lal(ML)/TSS Senthil				2		
Mini Project/Internship		KEC-554	Mr.A.Mukund Lal(ML)/Anchal Kati				2		
Indian Tradition,Culture and Society Engineering		KNC502	Dr.Archana Gautam(AG)				2		
IOT and its applications (VAC)		VEC2205	Mr. Honey Kumar(HK)				2		

Signature
Time Table Incharge: Ajeet Singh


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Department of ELECTRONICS AND COMMUNICATION ENGINEERING

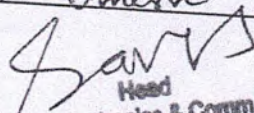
Value Added Course - Registration Sheet

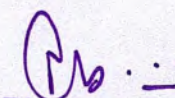
Course Name: Internet of Things (IOT) and its Applications Course Code: VEC2205

Session 2022-23

From August, 2022 to November, 2022

Sr. No.	Roll No.	Name	Department	Semester	Signature of Student
1	2100640310001	Ankit Kumar	ECE	III	Ankit Kumar
2	2100640310002	Anshika Solanki	ECE	III	Anshika
3	2100640310003	Anushka Jadon	ECE	III	Anushka
4	2100640310004	Gaurav Saraswat	ECE	III	Gaurav
5	2100640310005	Harsh Vardhan Dubey	ECE	III	Harsh Vardhan
6	2100640310006	Khushi Gupta	ECE	III	Khushi
7	2100640310007	Krishna Dhaked	ECE	III	Krishna
8	2100640310008	Obaish Iliyasi	ECE	III	Obaish
9	2100640310011	Vineet Kumar Sharma	ECE	III	Vineet
10	2100640310012	Vishesh Garg	ECE	III	Vishesh
11	2100640310013	Yashi Yadav	ECE	III	Yashi
12	2200640319001	Harsh Kumar	ECE	III	Harsh
13	2200640319002	Rohit Rawat	ECE	III	Rohit
14	2200640319003	Tanisha Jakhmola	ECE	III	Tanisha
15	2000640310001	Aman Singh	ECE	V	Aman
16	2000640310002	Sakshi Bansal	ECE	V	Sakshi
17	2000640310003	Sneh Kumar	ECE	V	Sneh
18	2100640319001	Anushka Singh Patel	ECE	V	Anushka
19	2100640319002	Chanchal Chauhan	ECE	V	Chanchal
20	2100640319003	Kabir Singh	ECE	V	Kabir
21	2100640319004	Saurav Thainua	ECE	V	Saurav
22	2100640319005	Umesh Kushwah	ECE	V	Umesh


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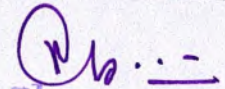
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Department of ELECTRONICS AND COMMUNICATION ENGINEERING

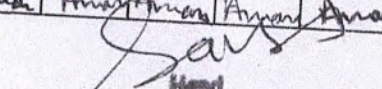
Value Added Course - Attendance sheet
Course Name: Internet of Things (IOT) and its Applications Course Code: VEC2205
 Session 2022-23 (Year 2022)

Session wise Attendance Sheet

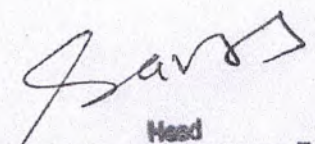
S. No.	Roll No.	Name	SEM	Signature of the Students													
				1	2	3	4	5	6	7	8	9	10	11	12	13	14
				3-Sep	10-Sep	17-Sep	24-Sep	1-Oct	8-Oct	22-Oct	5-Nov	12-Nov	19-Nov	26-Nov	3-Dec	10-Dec	17-Dec
1	2100640310001	Ankit Kumar	III	Ankit	Ankit	A	Ankit	Ankit	Ankit	Ankit	Ankit	A	Ankit	Ankit	Ankit	Ankit	Ankit
2	2100640310002	Anshika Solanki	III	Anshika	Anshika	Anshika	Anshika	A	Anshika	Anshika	Anshika	Anshika	A	Anshika	Anshika	Anshika	Anshika
3	2100640310003	Anushka Jadon	III	Anushka	A	Anushka	Anushka	Anushka	Anushka	Anushka	Anushka	Anushka	A	Anushka	Anushka	Anushka	Anushka
4	2100640310004	Gaurav Saraswat	III	Gaurav	Gaurav	Gaurav	Gaurav	Gaurav	Gaurav	Gaurav	Gaurav	Gaurav	Gaurav	Gaurav	Gaurav	Gaurav	Gaurav
5	2100640310005	Harsh Vardhan Dubey	III	Harsh	Harsh	Harsh	Harsh	A	Harsh	Harsh	Harsh	Harsh	Harsh	Harsh	Harsh	Harsh	Harsh
6	2100640310006	Khushi Gupta	III	K	K	K	K	K	K	A	K	K	K	K	K	K	K
7	2100640310007	Krishna Dhaked	III	Kd	Kd	Kd	Kd	Kd	Kd	Kd	Kd	Kd	Kd	Kd	Kd	Kd	Kd
8	2100640310008	Obaish Iliyasi	III	Obaish	A	Obaish	Obaish	Obaish	Obaish	Obaish	A	Obaish	Obaish	Obaish	Obaish	Obaish	Obaish
9	2100640310011	Vineet Kumar Sharma	III	Vineet	Vineet	Vineet	Vineet	Vineet	Vineet	Vineet	Vineet	Vineet	Vineet	Vineet	Vineet	Vineet	Vineet
10	2100640310012	Vishesh Garg	III	V.garg	V.garg	V.garg	V.garg	V.garg	V.garg	V.garg	V.garg	V.garg	V.garg	V.garg	V.garg	V.garg	V.garg
11	2100640310013	Yashi Yadav	III	Yashi	Yashi	Yashi	Yashi	Yashi	Yashi	Yashi	Yashi	A	Yashi	A	Yashi	Yashi	Yashi
12	2200640319001	Harsh Kumar	III	Harsh	Harsh	Harsh	A	Harsh	Harsh	A	Harsh	Harsh	Harsh	Harsh	Harsh	Harsh	Harsh
13	2200640319002	Rohit Rawat	III	Rohit	Rohit	Rohit	Rohit	Rohit	Rohit	Rohit	Rohit	Rohit	Rohit	Rohit	Rohit	Rohit	Rohit
14	2200640319003	Tanisha Jakhmola	III	Tanisha	Tanisha	Tanisha	Tanisha	A	Tanisha	Tanisha	Tanisha	Tanisha	A	A	Rohit	Rohit	Rohit
15	2000640310001	Aman Singh	V	Aman	Aman	Aman	Aman	Aman	Aman	Aman	A	Aman	Aman	Aman	Aman	Aman	Aman

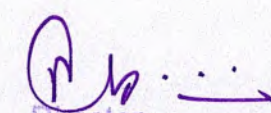

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16	2000640310002	Sakshi Bansal	V	Sakshi	Sakshi	A	Sakshi	Sakshi	Sakshi	Sakshi	A	Sakshi	Sakshi	Sakshi	Sakshi	Sakshi	Sakshi
17	2000640310003	Sneh Kumar	V	S.Kumar	S.Kumar	S.Kumar	S.Kumar	S.Kumar	S.Kumar	S.Kumar	A	S.Kumar	S.Kumar	S.Kumar	S.Kumar	S.Kumar	S.Kumar
18	2100640319001	Anushka Singh Patel	V	An	An	An	An	An	An	An	An	An	An	An	An	An	An
19	2100640319002	Chanchal Chauhan	V	Chanchal	Chanchal	Chanchal	Chanchal	Chanchal	Chanchal	Chanchal	Chanchal	Chanchal	Chanchal	Chanchal	Chanchal	Chanchal	Chanchal
20	2100640319003	Kabir Singh	V	K.Singh	K.Singh	A	K.Singh	K.Singh	K.Singh	K.Singh	K.Singh	K.Singh	K.Singh	K.Singh	K.Singh	K.Singh	K.Singh
21	2100640319004	Saurav Thainua	V	Saurav	Saurav	Saurav	Saurav	Saurav	Saurav	Saurav	A	Saurav	Saurav	Saurav	Saurav	Saurav	Saurav
22	2100640319005	Umesh Kushwah	V	Um	Um	A	Um	Um	Um	Um	Um	Um	Um	Um	Um	Um	Um


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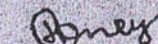


Certificate of Completion

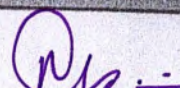
*Department of ELECTRONICS & COMMUNICATION ENGINEERING
Academic Session 2022-23*

*This is to certify that Mr Krishna Dhaked (Roll No: 2100640310007), III semester,
Department of Electronics & Communication Engineering has successfully completed 30
hours of Value Added Course VEC2205 titled "Internet of Things (IOT) and its
Applications".*


Head of Department


Course Coordinator


Director


Director
Hindustan College of
Science & Technology
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Certificate of Completion

Department of **ELECTRONICS & COMMUNICATION ENGINEERING**
Academic Session 2022-23

This is to certify that Ms Chanchal Chauhan (Roll No: 2100640319002), V semester, Department of Electronics & Communication Engineering has successfully completed 30 hours of Value Added Course VEC2205 titled "Internet of Things (IOT) with and its Applications".

[Signature]
Head of Department

[Signature]
Course Coordinator

[Signature]
Director

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