

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

Date: 15.07.2019

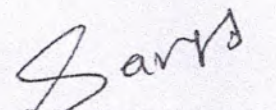
2019/ EC/ODD

Notice

All the students of 2nd and 3rd year are hereby informed that the department of Electronics and Communication Engineering is going to organize a Value Added Course on “**Arduino with Fundamentals of Programming**”. This course is designed to equip you with practical skills and knowledge that go beyond your regular curriculum, providing a competitive edge in your academic and professional pursuits.

Registration will be open from 29/07/2019 to 09/08/2019. Please ensure that you complete your registration within this timeframe.

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.
Dept. of Electronics & Comm. Engg.
Hindustan College of Science & Technology
Farah, Mathura


Director
Hindustan College of
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FARAH (MATHURA)

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



Value Added Course
VEC1902 – Arduino with Fundamentals of Programming

10th Aug '2019 – 30th Nov 2019 – Every Saturday: 3:10 PM – 4:50 PM

Students From Any Branch Can Join the Course



By

Mr. Ajeet Singh

Assistant Professor, Electronics & Communication Engineering
Research Interest: IoT based projects, Microprocessor

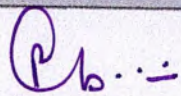
Registration Dates

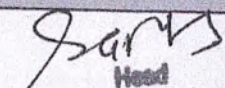
29th July 2019 – 09th Aug 2019

For Registration: Please contact

Mr. Sanjay Gupta, Lab Technician, Department of ECE

Prerequisites: Basic knowledge of electronics components with their uses. Also basic understanding of programming.


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Value Added Course

VEC1902 - Arduino with Fundamentals of Programming
10th Aug '2019 – 30th Nov 2019 – Every Saturday: 3:10 PM – 4:50 PM

Course Syllabus

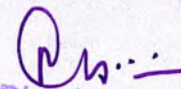
Course Objectives

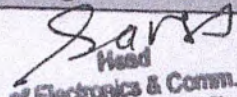
The main objective of this value added course are as follows:

1. This course provides a comprehensive understanding of Arduino, a popular open-source electronics platform.
2. The course aims to equip students with the necessary knowledge and skills to effectively work with Arduino boards and microcontrollers.
3. Participants will learn the fundamental concepts of programming and interfacing with Arduino, including the use of sensors, actuators, and various electronic components. Through hands-on projects and practical exercises, students will gain experience in designing, building, and programming Arduino-based systems and prototypes.
4. By the end of the course, participants will be able to apply their newfound skills to create innovative projects and automation solutions, fostering creativity and problem-solving abilities in the field of electronics and embedded systems.

Units	Details	Course Out comes
1	Getting Started With Arduino: Introduction to Arduino, ARDUINO history and family, Basics of embedded system, Microcontroller vs. Microprocessor, Pin configuration and architecture, Concept of digital and analog ports.	CO1
2	Arduino Programming Fundamentals: Introduction to Arduino IDE and programming language, Setting up the Arduino IDE, Basics of Embedded C programming for Arduino, Variables, data types, and operators, Control structures (if-else, loops), Functions and libraries, Familiarizing with Arduino Interfacing Board.	CO2
3	Basic Sensors And Actuators: Introduction to sensors and actuators, types of sensors and their use, how to connect and work with different sensors, such as Humidity, Proximity, IR Motion, Accelerometer, Sound, Light Distance, Pressure etc. to ARDUINO Board, reading various sensor data on serial monitor and LCD Display, functioning of actuator, how to work on Educational & engineering Level Actuator.	CO3
4	Controlling Devices Using Arduino: What is relay, types of relay, how to connect relays to ARDUINO Board, controlling Electrical appliances with electromagnetic relays, working of a matrix keypad, Interfacing a RF Module.	CO4
5	Making It A Reality (Arduino Projects): Home automation using RFID, solar Street Light system, car parking system, water level management system, automatic Irrigation System.	CO5

Prerequisites: Basic knowledge of electronics components with their uses. Also basic understanding of programming.


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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Value Added Course

VEC1902 - Arduino with Fundamentals of Programming
10th Aug '2019 – 30th Nov 2019 – Every Saturday: 3:10 PM – 4:50 PM

Course Outcomes

- CO1 Understanding of Arduino and develop an understanding of embedded systems, microprocessors and microcontrollers.
- CO2 Gain proficiency in programming Arduino boards using the Arduino IDE.
- CO3 Acquire skills in working with sensors and actuators with hands-on experience in connecting and interfacing sensors and actuators with Arduino boards.
- CO4 Demonstrate the ability to control devices and appliances using Arduino boards.
- CO5 Apply the knowledge gained to design and implement various Arduino-based projects.

CO-PO Mappings

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

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

[Signature]

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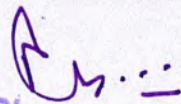


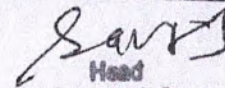
Value Added Course

VEC1902- Arduino with Fundamentals of Programming
10th Aug '2019 – 30th Nov 2019 – Every Saturday: 3:10 PM – 4:50 PM

Program Schedule

Session	Date	Time	No of Lectures	Session Topic	Resource Person
1	10-08-2019	3:10 PM – 4:50 PM	2	Preamble of the course	
2	17-08-2019	3:10 PM – 4:50 PM	2	Getting Started With Arduino: Introduction to Arduino, ARDUINO history and family	Mr. Ajeet Singh
3	31-08-2019	3:10 PM – 4:50 PM	2	Basics of embedded system, Microcontroller vs. Microprocessor	Mr. Ajeet Singh
4	07-09-2019	3:10 PM – 4:50 PM	2	Pin configuration and architecture, Concept of digital and analog ports	Mr. Ajeet Singh
5	14-09-2019	3:10 PM – 4:50 PM	2	Arduino Programming Fundamentals: Introduction to Arduino IDE and programming language, Setting up the Arduino IDE	Mr. Ajeet Singh
6	21-09-2019	3:10 PM – 4:50 PM	2	Basics of Embedded C programming for Arduino, Variables, data types, and operators	Mr. Ajeet Singh
7	28-09-2019	3:10 PM – 4:50 PM	2	Control structures (if-else, loops), Functions and libraries	Mr. Ajeet Singh
8	05-10-2019	3:10 PM – 4:50 PM	2	Familiarizing with Arduino Interfacing Board	Mr. Ajeet Singh
9	12-10-2019	3:10 PM – 4:50 PM	2	Basic Sensors And Actuators: Introduction to sensors and actuators, Types of sensors and their use	Mr. Ajeet Singh
10	19-10-2019	3:10 PM – 4:50 PM	2	How to connect and work with different sensors, such as Humidity, Proximity, IR Motion, Accelerometer, Sound, Light Distance, Pressure etc. to ARDUINO board.	Mr. Ajeet Singh
11	02-11-2019	3:10 PM – 4:50 PM	2	Reading various sensor data on serial monitor and LCD Display,	Mr. Ajeet Singh
12	09-11-2019	3:10 PM – 4:50 PM	2	Functioning of actuator, How to work on Educational & Engineering Level Actuator.	Mr. Ajeet Singh
13	23-11-2019	3:10 PM – 4:50 PM	2	Controlling Devices using ARDUINO: What is relay, Types of Relay, How to connect relays to ARDUINO board.	Mr. Ajeet Singh
14	29-11-2019	10:10 AM - 1:30 PM	4	Controlling Electrical appliances with electromagnetic relays, Working of a matrix keypad, Interfacing a RF Module.	Mr. Ajeet Singh
15	30-11-2019	11:00 AM - 4:50 PM	6	Making It A Reality (Arduino Projects): Home automation using RFID, Solar Street Light system., Car Parking System, Water level management system.	Mr. Ajeet Singh
Total Number of Lectures covered			36 (30 Hours)		


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Hindustan College of Science and Technology - Mathura
Department Name: Electronics & Communication Engineering
CLASS TIME TABLE FOR ODD SEMESTER 2019-20

SESSION:	2019-20		W.E.F.:	23-07-19	CLASS TEACHER:		Mrs. Deepti Gupta(DG)		
YEAR/SEM-SE	2nd/III-A		ROOM.NO :	309					
Time / Day	I	II	III	IV	V	VI	VII	VIII	
MONDAY	10:10 TO 11:00	11:00 TO 11:50	11:50 TO 12:40	12:40 TO 01:30	01:30 TO 02:20	02:20 TO 03:10	03:10 TO 04:00	04:00 TO 04:50	
	Cyber	DLD	ED	EE	LUNCH	NAS	ED LAB		
	TSS	DG	SJ	SS		AS	303		
309	309	309	309	309		Cyber	ED(T)	SKILL DEVELOPMENT PROGRAMM	
TUESDAY	Technical Comm	PDP		ED		309	TSS		SJ
	MS			309		309	309		309
	309			309		309	309	309	309
WEDNESDAY	Cyber	ED	Technical Comm	EE		DLD(T)	NAS LAB		
	TSS	SJ	MS	SS		DG	313		
	309	309	309	309		309			
THURSDAY	NAS	DLD	Technical Comm	EE		EE(T)	MINI PROJECT		
	AS	DG	MS	SS		SS	322		
	309	309	309	309		309			
FRIDAY	DLD	Digital system design LAB		NAS		PDP			Cyber(T)
	DG	321		AS					TSS
	309			309					309
SATURDAY	NAS	DLD	ED	EE		VAC (Arduino with fundamentals of programming)			309
	AS	DG	SJ	SS					
	309	309	309	309					
Name of the Subject		Subject Code	Name of the Faculty		Total No. of Lect./Tut./Practical				
Electronic Engineering		KOE-038	Sanjay Singh		Lect.	Tut.	Pract.		
Electronics Device		KEC-301	Dr. Sanjay Jain		4	1	0		
Digital Logic Design		KEC-302	Deepti Gupta		4	1	0		
Network Analysis & Synthesis(NAS)		KEC-303	Ajeet Singh		3	1	0		
Computer system security		KNC301	TSS Senthil		4	1	0		
Technical Communication		KAS-301	Mamta Sharma		3	1	0		
Digital System Design Lab		KEC-352	Deepti Gupta/Anchal Katiyar		3		0		
Electronic Device Lab		KEC-351	Ajeet Singh/Ashish Pratap Singh				2		
Network analysis synthesis Lab		KEC353	Ajeet Singh/Mohit Gupta				2		
Mini Project		KEC-354	Himanshi p Rajput/Ashish Pratap Singh				2		
VAC (Arduino with fundamentals of programming)		VEC1902	Ajeet Singh				2		

Signature
 Time Table Incharge: Ajeet Singh

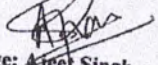
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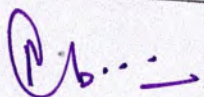
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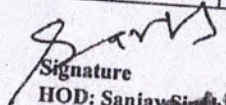
Hindustan College of Science and Technology - Mathura
Department Name: Electronics & Communication Engineering
CLASS TIME TABLE FOR ODD SEMESTER 2019-20

SESSION:	2019-20				CLASS TEACHER:			
YEAR/SEM-SEC:	3rd/Vth Sem		W.E.F :	24-07-2019			Ajeet Singh	
Time / Day	I	II	ROOM.NO :	306	CLASS TEACHER:			
	10:10 TO 11:00	11:00 TO 11:50	III	IV	V	VI	VII	VIII
MONDAY	POC	IC	11:50 TO 12:40	12:40 TO 01:30	01:30 TO 02:20	02:20 TO 03:10	03:10 TO 04:00	04:00 TO 04:50
	HPR	AS	IC LAB		LUNCH	ME	DSP	COUNSELLING
	306	306	308			SS	ML	
TUESDAY	CAO	DSP	COMM-I LAB			306	306	
	306	ML	305			PDP		
WEDNESDAY	IC	CAO	POC	DSP				HPR
	AS		HPR	ML				306
THURSDAY	306	306	306	306				ME
	IC	POC	CS	DSP(T)				SS
	AS	HPR	TSS	ML				306
FRIDAY	306	306	306	306				CAO(T)
	CAO		PDP					306
	306	CAD OF ELECTRONICS LAB		TSS				306
SATURDAY	IC	316		306				ME
	AS			ME				SS
	306			SS			306	
				306			VAC (Arduino with fundamentals of programming)	

Name of the Subject	Subject Code	Name of the Faculty	Total No. of Lect./Tut./Practical		
			Lect.	Tut.	Pract.
Integrated Circuits(IC)	REC-501	Ajeet Singh	4	1	0
Principal of Communications(POC)	REC-502	Himanshu P.Rajput	4	1	0
Computer Architecture & Organization	REC-052	Rupali Mahajan	4	1	0
Cyber Security	RUC-501	TSS Senthil	4	1	0
Managerial Economics	RAS-501	Shashi Shekhar	3	0	0
Digital Signal Processing	REC 503	A.Mukund Lal	3	0	0
Integrated Circuits(IC) LAB	REC 551	Himanshu P.Rajput/Mohit Gupta	4	1	0
COMMUNICATION -1 LAB	REC 552	Sanjay Singh/Anchal Katiyar			2
DSP LAB	REC 553	A.Mukund Lal/Ashish Pratap Singh			2
CAD OF ELECTRONICS LAB	REC 554	Himanshu P.Rajput/Mohit Gupta			2
VAC (Ardulno with fundamentals of programming)	VEC1902	Ajeet Singh			2

Signature 
 Time Table Incharge: Ajeet Singh


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 HOD: Sanjay Singh
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Hindustan College of Science & Technology, Farah , Mathura
Department of ELECTRONICS AND COMMUNICATION ENGINEERING

Value Added Course - Registration Sheet

Course Name: Arduino with fundamentals of Programming Course Code: VEC1902

Session 2019-20

From August, 2019 to November, 2019

Sr. No.	Roll No.	Name	Department	Semester
1	1806431001	Aastha Garg	ECE	III
2	1806431002	Abhay Goyal	ECE	III
3	1806431003	Arpit Yadav	ECE	III
4	1806431004	Devashish Verma	ECE	III
5	1806431005	Dhurv Chaudhary	ECE	III
6	1806431006	Gaurav Raj	ECE	III
7	1806431007	Gurman Singh Bhatia	ECE	III
8	1806431009	Harsh Yadav	ECE	III
9	1806431010	Hemant Parihar	ECE	III
10	1806431011	Lalita	ECE	III
11	1806431012	Moni Priya	ECE	III
12	1806431013	Piyush Pratap Singh	ECE	III
13	1806431015	Priyanshi Pachouri	ECE	III
14	1806431016	Shruti Mehra	ECE	III
15	1806431017	Vikas Tripathi	ECE	III
16	1900640319001	Aashi Gupta	ECE	III
17	1900640319002	Pragati Singh	ECE	III
18	1606431010	Dheerendra Singh	ECE	III
19	1706431001	Abhishek Kumar	ECE	V
20	1706431002	Akshat Jain	ECE	V
21	1706431003	Ayush Gupta	ECE	V
22	1706431004	Ayushi Shakya	ECE	V
23	1706431005	Divakar Yadav	ECE	V
24	1706431006	Harshit Agarwal	ECE	V
25	1706431007	Isika Gupta	ECE	V
26	1706431008	Jitendra Sharma	ECE	V
27	1706431009	Nikhil Tiwari	ECE	V
28	1706431010	Pragati Agrawal	ECE	V
29	1706431011	Pratiksha Mishra	ECE	V
30	1706431012	Prerna Sharma	ECE	V
31	1706431013	Priyanka Maurya	ECE	V
32	1706431014	Sagar Varshney	ECE	V
33	1706431015	Sanjana Pradhan	ECE	V
34	1706431016	Saurabh Singh	ECE	V
35	1706431017	Shilpi Kumari	ECE	V
36	1706431019	Shivangi Srivastava	ECE	V
37	1706431020	Shubh Sharma	ECE	V
38	1706431021	Sonam Sikarwar	ECE	V
39	1706431023	Tadinada Sairatna Kishore Rao	ECE	V
40	1706431024	Utkarsh Pundeer	ECE	V
41	1806431901	Aditya Pratap Singh	ECE	V
42	1806431902	Naman Jain	ECE	V

(Signature)

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Department of ELECTRONICS AND COMMUNICATION ENGINEERING

Value Added Course - Attendance sheet

Course Name: Arduino with Fundamentals of Programming Course Code: VEC1902

Session 2019-20 (Year-2019)

Session wise Attendance Sheet

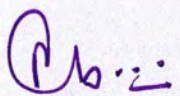
S. No.	Roll No.	Name	SEM	Signature of the Student														
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
				10-Aug	17-Aug	31-Aug	7-Sep	14-Sep	21-Sep	28-Sep	5-Oct	12-Oct	19-Oct	2-Nov	9-Nov	23-Nov	29-Nov	30-Nov
1	1806431001	Aastha Garg	III	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
2	1806431002	Abhay Goyal	III	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
3	1806431003	Arpit Yadav	III	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
4	1806431004	Devashish Verma	III	P	P	P	A	P	P	P	A	P	P	P	P	P	P	P
5	1806431005	Dhurv Chaudhary	III	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
6	1806431006	Gaurav Raj	III	P	A	P	P	P	A	P	P	P	P	P	P	P	P	P
7	1806431007	Gurman Singh Bhatia	III	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
8	1806431009	Harsh Yadav	III	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P
9	1806431010	Hemant Parihar	III	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
10	1806431011	Lalita	III	P	P	P	P	P	A	A	P	P	P	P	P	P	P	P
11	1806431012	Moni Priya	III	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P
12	1806431013	Piyush Pratap Singh	III	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P
13	1806431015	Priyanshi Pachouri	III	P	P	P	P	P	P	A	A	P	P	P	P	P	P	P
14	1806431016	Shruti Mehra	III	P	P	P	P	A	P	P	P	A	P	P	P	P	P	P
15	1806431017	Vikas Tripathi	III	P	P	P	P	P	P	P	A	P	P	A	P	P	P	P
16	1900640319001	Aashi Gupta	III	P	P	P	P	P	P	P	P	A	P	P	A	P	P	P
17	1900640319002	Pragati Singh	III	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P
18	1606431010	Dheerendra Singh	V	P	A	P	P	P	P	P	P	A	P	P	P	P	P	P
19	1706431001	Abhishek Kumar	V	P	P	A	P	P	P	P	P	P	P	A	P	P	P	P
20	1706431002	Akshat Jain	V	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
21	1706431003	Ayush Gupta	V	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
22	1706431004	Ayushi Shakya	V	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P

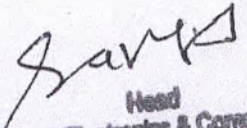
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23	1706431005	Divakar Yadav	V	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P
24	1706431006	Harshit Agarwal	V	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P
25	1706431007	Isika Gupta	V	A	P	P	A	P	P	P	P	P	P	P	P	P	P	P
26	1706431008	Jitendra Sharma	V	P	P	A	P	A	P	P	P	P	P	P	P	P	P	P
27	1706431009	Nikhil Tiwari	V	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
28	1706431010	Pragati Agrawal	V	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
29	1706431011	Pratiksha Mishra	V	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P
30	1706431012	Prerna Sharma	V	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
31	1706431013	Priyanka Maurya	V	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
32	1706431014	Sagar Varshney	V	P	P	P	P	P	P	A	A	P	P	P	P	P	P	P
33	1706431015	Sanjana Pradhan	V	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
34	1706431016	Saurabh Singh	V	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P
35	1706431017	Shilpi Kumari	V	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P
36	1706431019	Shivangi Srivastava	V	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P
37	1706431020	Shubh Sharma	V	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P
38	1706431021	Sonam Sikarwar	V	P	P	P	P	P	A	P	P	P	P	P	A	P	P	P
39	1706431023	Tadinada Sairatna Kishor	V	P	P	P	A	P	P	P	P	P	P	P	A	P	P	P
40	1706431024	Utkarsh Pundeer	V	P	A	P	P	P	P	P	P	P	P	A	P	P	P	P
41	1806431901	Aditya Pratap Singh	V	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P
42	1806431902	Naman Jain	V	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P


 Director
 Hindustan College of
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 FARAH (MATHURA)


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



HINDUSTAN COLLEGE OF SCIENCE & TECHNOLOGY,
FARAH -MATHURA



Certificate of Completion

*Department of ELECTRONICS & COMMUNICATION ENGINEERING
Academic Session 2019-20*

This is to certify that Mr Abhay Goyal (Roll No: 1806431002), III semester, Department of Electronics & Communication Engineering has successfully completed 30 hours of Value Added Course VEC1902 titled "Arduino with Fundamentals of Programming".

[Signature]
Head of Department

[Signature]
Course Coordinator

[Signature]
Director

[Signature]
Director
Hindustan College of
Science & Technology
FARAH (MATHURA)



HINDUSTAN COLLEGE OF SCIENCE & TECHNOLOGY,
FARAH -MATHURA



Certificate of Completion

*Department of ELECTRONICS & COMMUNICATION ENGINEERING
Academic Session 2019-20*

This is to certify that Ms Sanjana Pradhan (Roll No: 1706431015), V semester, Department of Electronics & Communication Engineering has successfully completed 30 hours of Value Added Course VEC1902 titled "Arduino with Fundamentals of Programming".

[Signature]
Head of Department

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Course Coordinator

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Director

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Director
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Science & Technology
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