



SRI BHARATHI

ENGINEERING COLLEGE FOR WOMEN

(Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai)
Kaikkurichi, Pudukkottai -622 303

www.sbec.edu.in

NAAC DOCUMENTS



Quality Indicator Frame Work

Criterion – 2

Teaching-Learning and Evaluation

Submitted by

IQAC

Internal Quality Assurance Cell

Sri Bharathi Engineering College for Women



SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN

(Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai-25)

Kaikkurichi, Pudukkottai, Tamil Nadu – 622 303, India

Criteria 2

Teaching-Learning and Evaluation

350

Key Indicator- 2.3. Teaching- Learning Process (40)

2022-2023

ELECTRICAL AND ELECTRONICS ENGINEERING

PARTICIPATIVE LEARNING

Activity	Number of Students Attended	Page No.
Value Added Course (VAC)	36	3
Symposium, Seminar and Workshop	21	68
TOTAL STUDENTS ATTENDED	57	-



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Criteria 2

Teaching-Learning and Evaluation

350

Key Indicator- 2.3. Teaching- Learning Process (40)

2022-2023

**ELECTRICAL AND ELECTRONICS
ENGINEERING**

PARTICIPATIVE LEARNING

VALUE ADDED COURSE



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KAIKKURUCHI, PUDUKOTTAI – 622 303

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

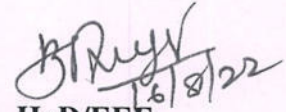
ACADEMIC YEAR 2022-2023 / ODD SEMESTER

DEPARTMENT CIRCULAR

Date: 16 / 08 / 2022

A Value added course on “Internet of Things with Python“ will be conducted by **GALWIN Technology, Trichy** in the college campus for all Second year from 22.08.2022 to 26.08.2022. Certificates will be issued to all the participants at the end of the Course.

S.No.	Name of the Course	Resource Person
1.	Internet of Things With Python	Resource Person: Mr.Kamalakaran Trainer GALWIN Technology



HoD/EEE

HOD EEE

SRI BHARATHI ENGINEERING
COLLEGE FOR WOMEN

KAIKKURUCHI,

PUDUKKOTTAI - 622 303.

Cc:

- Principal's Office
- IQAC Coordinator
- Class In charges - II year of EEE
- II -year EEE Students
- Notice Board



Dr. S.THILAGAVATHI M.E., Ph.D.,
PRINCIPAL

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Kaikkuruchi - 622 303, Pudukkottai Dt.



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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING
VALUE ADDED COURSE

ACADEMIC YEAR ODD SEMESTER(2022-2023)


INTERNET OF THINGS WITH PYTHON

SCHEDULE

S.NO	TOPIC COVERED	DURATION (in hours)	DATE FN/AN
1	Understanding IoT fundamentals - IOT Architecture and protocols	3	22.08.2021
2	Various Platforms for IoT - Real time Examples of IoT	3	22.08.2021
3	Arduino Uno Architecture - Setup the IDE, Writing Arduino Software - Arduino Libraries	3	23.08.2021
4	Overview of IoT components and IoT Communication Technologies - Challenges in IOT	3	23.08.2021
5	Basics of Embedded C programming for Arduino	3	24.08.2021
6	Interfacing LED, push button and buzzer with Arduino	3	24.08.2021
7	Interfacing Arduino with LCD	3	25.08.2021
8	Overview of Sensors working - Analog and Digital Sensors	3	25.08.2021
9	Interfacing of Temperature, Humidity, Motion, Light and Gas Sensor with Arduino	3	26.08.2021
10	Interfacing of Actuators with Arduino	3	26.08.2021
Total Periods :		30	


VAC COORDINATOR


Dr. **S.THILAGAVATHI** M.E., Ph.D.,
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Kaikkurchi - 622 303, Pudukkottai Dt.

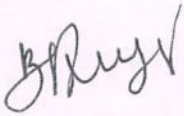

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING
ACADEMIC YEAR ODD SEMESTER (2022-2023)
STUDENT NAME LIST FOR VALUE ADDED COURSE
INTERNET OF THINGS WITH PYTHON

S.NO	NAME	REG.NO	YEAR & SEMESTER
1.	GOKULAPRAVEENA A	912621105001	II & III
2.	SUMITHRA S	912621105004	II & III


VAC COORDINATOR


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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

ACADEMIC YEAR ODD SEMESTER (2022-2023)

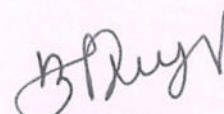
ATTENDANCE SHEET FOR VALUE ADDED COURSE

INTERNET OF THINGS WITH PYTHON

S.NO	REG. NO	NAME	YEAR/ SEM	22.08.22		23.08.22		24.08.22		25.08.22		26.08.22		NO. OF CLASS ATTENDED	SIGN OF STUDENT
				F.N	A.N	F.N	A.N	F.N	A.N	F.N	A.N	F.N	A.N		
1	912621105001	GOKULAPRAVEENA A	II&III	/	/	/	/	/	/	/	/	/	/	10	A.Gokul.
2	912621105004	SUMITHRA S	II&III	/	/	/	/	/	/	/	/	/	/	10	S.Sumy.


VAC COORDINATOR


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Kaikkurichi, Pudukkottai, Tamil Nadu – 622 303, India

Report on Value Added Course

Title: INTERNET OF THINGS WITH PYTHON

Resource Person: Mr.M.Kamalakann
Trainer
Galwin Technology

Date of conduct from : 22.08.2022 To: 26.08.2022 Duration: 30 Hours

Organized Department : ELECTRICAL AND ELECTRONICS ENGINEERING

Participant Year: 2 Semester: ODD No. of Students Registered : 02

Venue: Auditorium

Outcome of Value Added Course (VAC)

At the end of the VAC course the student can able to

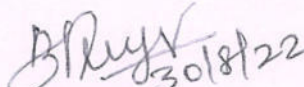
- Explain fundamentals about IoT.
- Illustration of IoT Access technologies.
- Design methodology and different IoT hardware platforms.
- Identify with the application areas of IOT.
- Realize the revolution of Internet in Mobile Devices, Cloud & Sensor Networks.
- Describe the building blocks of Internet of Things and characteristics.


No. of students successfully completed the VAC course is 02 students based on the following assessment process.

Assessment Process

Students, who are securing **more than 60% on total score** and secured more than **75%** in attendance is eligible to receive the certificate for the VAC course conducted. Total Score = $(0.5 * \text{Attendance in VAC out of 100 percentage} + 0.5 * \text{Test mark in VAC out of 100 marks})$


VAC Coordinator


HoD/EEE


Principal

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PUDUKKOTTAI - 622 303.

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PUDUKKOTTAI DISTRICT


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Certificate of completion

VALUE ADDED PROGRAM

This is to certify that Ms. SUMITHRA S of II EEE has successfully completed Value Added Course on "INTERNET OF THINGS WITH PYTHON" organized by the Department of Computer Science and Engineering in association with Galwin Technology from 22.08.2022 to 26.08.2022 during the academic year 2022-2023 [5 Days].

Managing Director
Galwin Technology

HOD/CSE
SBECW

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SBECW

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Certificate of completion

VALUE ADDED PROGRAM

This is to certify that Ms. GOKULAPRAVEENA A of II EEE has successfully completed Value Added Course on "INTERNET OF THINGS WITH PYTHON" organized by the Department of Computer Science and Engineering in association with Galwin Technology from 22.08.2022 to 26.08.2022 during the academic year 2022-2023 [5 Days].

Managing Director
Galwin Technology

HoD/CSE
SBECW

PRINCIPAL
SBECW

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

ACADEMIC YEAR ODD SEMESTER (2022-2023)

Name of the Student :

Year/Sem:

AU Register Number:

Value Added Course on “Internet of Things With Python”

MCO QUESTIONS (25X1 = 25 Marks)

- Which of the following is false about IoT devices?
 - IoT devices use the internet for collecting and sharing data
 - IoT devices need microcontrollers
 - IoT devices use wireless technology
 - IoT devices are completely safe
- Which of the following is not an IoT platform?
 - Amazon Web Services
 - Microsoft Azure
 - Salesforce
 - Flipkart
- Which of the following is not an application of IoT?
 - BMP280
 - Smart home
 - Smart city
 - Self-driven cars
- Which of the following is not a fundamental component of an IoT system?
 - Sensors
 - Connectivity and data processing
 - User interface
 - Transformer
- Which layer is used for wireless connection in IoT devices?
 - Application layer
 - Network layer
 - Data link layer
 - Transport layer
- Which of the following is false about the IoT components?
 - A light sensor (photoresistor) is an analog sensor
 - A microphone is a digital sensor
 - A push button is a digital sensor
 - A keyboard is a digital sensor
- Which of the following is used to capture data from the physical world in IoT devices?
 - Sensors
 - Actuators
 - Microprocessors
 - Microcontrollers
- Which of the following command is used to trigger the Amazon echo IOT device?
 - Hello
 - Suri
 - Alexa
 - Hey


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9. Which of the following is false about the MANET IoT network?
- a) It is a self-configuring network
 - b) It has a low data rate
 - c) It doesn't have any encryption
 - d) Power is readily available for complex security
10. Which of the following is not a sensor in IoT?
- a) BMP280
 - b) DHT11
 - c) Photoresistor
 - d) LED
11. Which of the following is not an actuator in IoT?
- a) Stepper motor
 - b) A fan
 - c) An LED
 - d) Arduino
12. What is the use of PWM signals in IoT development boards?
- a) They are used by sensors to have analog input
 - b) They are used by sensors to have digital input
 - c) They are used by actuators to have analog input
 - d) They are used by actuators to have digital input
13. Which of the following is used to reprogram a Bootloader in IoT devices?
- a) VHDL programming
 - b) IDE
 - c) ICSP
 - d) MANET
14. Which of the following is true about Arduino IoT devices?
- a) They are open-source software
 - b) They can only read analog inputs
 - c) They have their own operating systems
 - d) They don't have pre-programmed firmware
15. How many number of elements in the Open IoT Architecture?
- a) 3 elements
 - b) 7 elements
 - c) 8 elements
 - d) 6 elements
16. IoT-A stands for _____
- a) Internet of Things Area
 - b) Industrial of things Architecture
 - c) Internet of Things Address
 - d) Internet of Things Architecture
17. Which of the following is not a feature of the Raspberry PI model B IoT device?
- a) It has 256 MB SDRAM
 - b) It has a single USB connector
 - c) It has its own operating system
 - d) It has an Ethernet port
18. Which of the following processor is used in the Raspberry PI 3 IoT device?
- a) Broadcom BCM2711
 - b) Broadcom BCM2837
 - c) Broadcom BCM2838
 - d) Intel 8085



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19. Which library is used to access I2C in Arduino IoT devices?
- a) EEPROM
 - b) Wire
20. Which of the following is not related to Arduino IDE IoT software?
- a) Serial monitor
 - b) Verify
 - c) Upload
 - d) Terminate
21. Which of the following is a complete line of home IoT devices that include smart switches?
- a) Belkin's WeMo
 - b) Cinder
 - c) Awair
 - d) Canary
22. IoT gateway must provide _____
- a) Protocol abstraction
 - b) Data storage
 - c) Security with hardware
 - d) Simple and fast installation
23. What IoT collects?
- a) Device data
 - b) Machine generated data
 - c) Sensor data
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24. Which of the following protocol is used to link all the devices in the IoT?
- a) HTTP
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25. Which service permits the changes to the IoT services?
- a) Update
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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

ACADEMIC YEAR ODD SEMESTER (2022-2023)
VALUE ADDED COURSE
INTERNET OF THINGS WITH PYTHON

ANSWER KEY FOR MCQ

1	d	6	b	11	d	16	d	21	a
2	d	7	a	12	c	17	a	22	a
3	a	8	c	13	c	18	b	23	b
4	d	9	d	14	a	19	b	24	d
5	c	10	d	15	b	20	d	25	a

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

ACADEMIC YEAR ODD SEMESTER (2022-2023)

Name of the Student : S. SUMITHRA

Year/Sem: II / IV

AU Register Number: 912621105004

23
25

Value Added Course on "Internet of Things With Python"

MCO QUESTIONS (25X1 = 25 Marks)

- Which of the following is false about IoT devices?
 - IoT devices use the internet for collecting and sharing data
 - IoT devices need microcontrollers
 - IoT devices use wireless technology
 - IoT devices are completely safe
- Which of the following is not an IoT platform?
 - Amazon Web Services
 - Microsoft Azure
 - Salesforce
 - Flipkart
- Which of the following is not an application of IoT?
 - BMP280
 - Smart home
 - Smart city
 - Self-driven cars
- Which of the following is not a fundamental component of an IoT system?
 - Sensors
 - Connectivity and data processing
 - User interface
 - Transformer
- Which layer is used for wireless connection in IoT devices?
 - Application layer
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- Which of the following is false about the IoT components?
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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

ACADEMIC YEAR ODD SEMESTER (2022-2023)

Name of the Student : A. Gollula Praveena Year/Sem: II / IV

AU Register Number: 912621105001

22
25

Value Added Course on "Internet of Things With Python"

MCO QUESTIONS (25X1 = 25 Marks)

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12. What is the use of PWM signals in IoT development boards?
- a) They are used by sensors to have analog input
 - b) They are used by sensors to have digital input
 - c) They are used by actuators to have analog input
 - d) They are used by actuators to have digital input
13. Which of the following is used to reprogram a Bootloader in IoT devices?
- a) VHDL programming
 - b) IDE
 - c) ICSP
 - d) MANET
14. Which of the following is true about Arduino IoT devices?
- a) They are open-source software
 - b) They can only read analog inputs
 - c) They have their own operating systems
 - d) They don't have pre-programmed firmware
15. How many number of elements in the Open IoT Architecture?
- a) 3 elements
 - b) 7 elements
 - c) 8 elements
 - d) 6 elements
16. IoT-A stands for _____
- a) Internet of Things Area
 - b) Industrial of things Architecture
 - c) Internet of Things Address
 - d) Internet of Things Architecture
17. Which of the following is not a feature of the Raspberry PI model B IoT device?
- a) It has 256 MB SDRAM
 - b) It has a single USB connector
 - c) It has its own operating system
 - d) It has an Ethernet port
18. Which of the following processor is used in the Raspberry PI 3 IoT device?
- a) Broadcom BCM2711
 - b) Broadcom BCM2837
 - c) Broadcom BCM2838
 - d) Intel 8085

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19. Which library is used to access I2C in Arduino IoT devices?
a) EEPROM
b) Wire
c) Upload
d) Terminate
20. Which of the following is not related to Arduino IDE IoT software?
a) Serial monitor
b) Verify
c) Upload
d) Terminate
21. Which of the following is a complete line of home IoT devices that include smart switches?
a) Belkin's WeMo
b) Cinder
c) Awair
d) Canary
22. IoT gateway must provide _____
a) Protocol abstraction
b) Data storage
c) Security with hardware
d) Simple and fast installation
23. What IoT collects?
a) Device data
b) Machine generated data
c) Sensor data
d) Human generated data
24. Which of the following protocol is used to link all the devices in the IoT?
a) HTTP
b) UDP
c) Network
d) TCP/IP
25. Which service permits the changes to the IoT services?
a) Update
b) Registered service status
c) Enable from suspension
d) Enable

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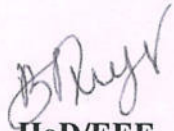
ACADEMIC YEAR ODD SEMESTER (2022-2023)

MARK SHEET FOR VALUE ADDED COURSE

INTERNET OF THINGS WITH PYTHON

S.NO	NAME	REG NO.	YEAR/ SEM	ATTENDANCE 50% (A)		VAC -MCQ 50%(B)		OVERALL MARK (A+B)
				No of Session Attended	MARKS	No of Correct Answer	MARKS	
1	GOKULAPRAVEENA A	912621105001	II&IV	10	100	22	88	94
2	SUMITHRA S	912621105004	II&IV	10	100	23	92	96


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ACADEMIC YEAR 2022-2023 / ODD SEMESTER

DEPARTMENT CIRCULAR

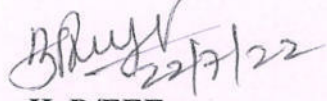
Date: 22/07/2022

Value Added Course offered by the Department of EEE will be conducted in association with **SD PRO SOLUTIONS**, Trichy for III, IV year students on “**ESP8266 NODE MCU FOR IoT**” from 03.08.2022 to 09.08.2022 (except Sunday 07.08.2022). Certificates will be issued to the eligible participants at the end of the Course. The resource person details are shown in the following table.

RESOURCE PERSON DETAILS:

Name	Mr.J.Mathes Kumar
Designation:	Senior Embedded Developer
Company name with address	SD PRO SOLUTIONS No. 64, 1st floor,Sri Krishna complex, Opp to E.R Higher Sec School,Chinthamani,Trichy-2.
Mail id	sdprotrichy@gmail.com


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Cc:

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- IQAC Coordinator
- Class In charges III & IV-year of EEE
- III & IV-year EEE Students
- Notice Board



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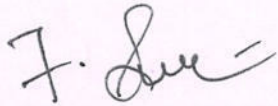
ACADEMIC YEAR 2022-2023/ODD SEMESTER

VALUE ADDED COURSE

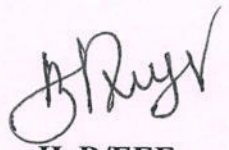
ESP8266 NODE MCU FOR IOT

SCHEDULE

S.NO	TOPICS	DURATION	DATE
1.	Need for NODE MCU in embedded system boards and various available in market	3 HOURS	03.08.2022
2.	Types of GPIO headers	3 HOURS	03.08.2022
3.	Interfacing Node MCU to PC	3 HOURS	04.08.2022
4.	Interface Node MCU with the IDE and types of inbuilt command and internal circuitry structure	3 HOURS	04.08.2022
5.	Programming the LED, Real time Demonstration – LED blinking duration control	3 HOURS	05.08.2022
6.	Circuit diagram - LED blinking (Breadboard based), and by Direct connection	3 HOURS	05.08.2022
7.	Arduino IDE, Generating animated patterns on LCD	3 HOURS	06.08.2022
8.	Interfacing LCD with Node MCU	3 HOURS	06.08.2022
9.	Source code – Programming the LCD	3 HOURS	08.08.2022
10.	Node MCU Web Server, Circuit Diagram – Controlling AC appliance	3HOURS	08.08.2022
11.	Web Server code, Source code	3 HOURS	09.08.2022
12.	Implementing web based remote control and its Hardware components	3HOURS	09.08.2022
TOTAL HOURS		36 HOUR	


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ACADEMIC YEAR 2022-2023 / ODD SEMESTER

STUDENT NAME LIST FOR VALUE ADDED COURSE

ESP8266 NODE MCU FOR IOT

S.NO	NAME	REG.NO	YEAR & SEMESTER
1	KAYALVIZHI K	912620105001	III & V
2	RAMADEVI S	912620105002	III & V
3	SRINANTHANA S	912620105003	III & V
4	KAVIYA R	912620105302	III & V
5	KOPPERUNDEVI S	912620105303	III & V
6	SRIBHARATHI S	912620105305	III & V
7	AASHIKA R	912619105001	IV & VII
8	ABINAYA S	912619105002	IV & VII
9	ABITHA P	912619105003	IV & VII
10	ARTHY N	912619105004	IV & VII
11	DEEPIKA R	912619105005	IV & VII
12	NISHA S	912619105007	IV & VII
13	PAVITHRA M	912619105008	IV & VII
14	PRAGADEESHWARI A	912619105009	IV & VII
15	SIVARANJANI S	912619105010	IV & VII
16	RAGAVI R	912619105301	IV & VII

F. Suresh
VAC COORDINATOR

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ACADEMIC YEAR 2022-2023 / ODD SEMESTER ATTENDANCE SHEET FOR VALUE ADDED COURSE EPS8266 NODE MCU FOR IOT

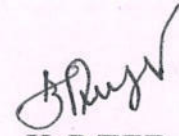
S.NO	REG. NO	NAME	YEAR/ SEM	03.08.22		04.08.22		05.08.22		06.08.22		08.08.22		09.08.22		NO. OF CLASS ATTENDED	SIGN OF STUDENT
				F.N	A.N	F.N	A.N	F.N	A.N	F.N	A.N	F.N	A.N	F.N	A.N		
1	912620105001	KAYALVIZHI K	III & V	/	/	/	/	/	/	/	/	/	/	/	/	12	<i>K. Kayalvizhi</i>
2	912620105002	RAMADEVI S	III & V	/	/	/	/	/	/	/	/	/	/	/	/	12	<i>R. Ramadevi</i>
3	912620105003	SRINANTHANA S	III & V	/	a	/	/	/	/	/	/	/	/	/	/	11	<i>S. Srinantha</i>
4	912620105302	KAVIYA R	III & V	/	/	/	/	/	a	/	/	/	/	/	/	11	<i>R. Kaviya</i>
5	912620105303	KOPPERUNDEVI S	III & V	/	/	/	/	/	/	/	/	/	/	/	/	12	<i>S. Kopperundevi</i>
6	912620105305	SRIBHARATHI S	III & V	/	/	/	/	/	/	/	/	/	/	/	/	12	<i>S. Sri Bharathi</i>
7	912619105001	AASHIKA R	IV & VII	/	/	/	/	/	/	/	/	/	/	/	/	12	<i>R. Aashika</i>
8	912619105002	ABINAYA S	IV & VII	a	a	/	/	/	/	/	/	/	/	/	a	09	<i>S. Abinaya</i>
9	912619105003	ABITHA P	IV & VII	/	/	/	/	/	/	/	/	/	/	/	/	12	<i>P. Abitha</i>

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10	912619105004	ARTHY N	IV & VII	/	/	/	/	/	/	/	/	/	/	/	/	/	12	N. Arthy
11	912619105005	DEEPIKA R	IV & VII	/	/	/	/	/	/	/	/	/	/	/	/	/	12	R. Deepa
12	912619105007	NISHA S	IV & VII	/	/	/	/	/	/	/	/	/	/	/	/	/	12	S. Nisha
13	912619105008	PAVITHRA M	IV & VII	/	/	/	/	/	/	/	/	/	/	/	/	/	12	M. Deepa
14	912619105009	PRAGADEESHWARI A	IV & VII	a	a	/	/	/	/	/	/	/	/	/	/	/	10	A. Pragadeeshwari
15	912619105010	SIVARANJANI S	IV & VII	/	/	/	/	/	/	/	/	/	/	/	/	/	12	S. Sivaranjani
16	912619105301	RAGAVI R	IV & VII	/	/	/	/	a	a	/	/	/	/	/	/	/	10	R. Ragavi


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Kaikkurichi, Pudukkottai, Tamil Nadu – 622 303, India

Report on Value Added Course

Title:	ESP8266 NODE MCU FOR IOT				
Resource Person:	Mr.J.Mathes Kumar, Senior Embedded Developer, SD Pro Solutions, No. 64, 1st floor, Sri Krishna complex, Opp to E.R Higher Sec School,Chinthamani,Trichy-2. Mail id: sdprotrichy@gmail.com				
Date of conduct from :	03.08.2022	To:	09.08.2022 (except Sunday 07.08.2022)	Duration:	36 Hours
Organized Department :	ELECTRICAL AND ELECTRONICS ENGINEERING				
Participant Year:	3/4	Semester:	ODD	No. of Students Registered :	16
Venue:	Tutorial Hall:42,SBECW				

Outcome of Value Added Course (VAC)

At the end of the Course, Students can able to

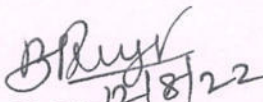
- Explain about the need for NODE MCU in embedded system boards and types of GPIO headers.
- Describe about the interfacing Node MCU to PC and with the IDE and types of inbuilt command and internal circuitry structure.
- Obtain the insight about Programming the LED, Real time Demonstration – LED blinking duration control.
- Comprehend about Arduino IDE, Interfacing LCD with Node MCU.
- Demonstrate about Node MCU Web Server, Controlling AC appliance.
- Illustrate about implementing web based remote control and its Hardware components.


No. of students successfully completed the VAC course is 16 students based on the following assessment process.

Assessment Process

- Students, who are securing **more than 60% on total score** and secured more than **75%** in attendance is eligible to receive the certificate for the VAC course conducted.
- Total Score = $(0.5 * \text{Attendance in VAC out of 100 percentage} + 0.5 * \text{Test mark in VAC out of 100 marks})$


VAC Coordinator


HoD/ EEE


Principal

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Email id: sdprotrichy@gmail.com



CERTIFICATE OF PARTICIPATION

This is to certify that Ms RAMADEVIS, Reg no: 912620105002, III year, EEE department has successfully completed the Value added Course on "ESP8266 NODE MCU for IoT" conducted at **Sri Bharathi Engineering College for Women, Pudukkottai** in association with **SD PRO SOLUTIONS PVT LTD, Trichy** from 03.08.2022 to 09.08.2022.

MR.J.MATHES KUMAR
SENIOR EMBEDDED DEVELOPER

PRINCIPAL
SBECW

Dr. S.THILAGAVATHI M.E., Ph.D.,
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Email id: sdprotrichy@gmail.com



CERTIFICATE OF PARTICIPATION

This is to certify that Ms SRINANTHANA S, Reg no: 912620105003, III year, EEE department has successfully completed the Value added Course on "ESP8266 NODE MCU for IoT" conducted at **Sri Bharathi Engineering College for Women, Pudukkottai** in association with **SD PRO SOLUTIONS PVT LTD, Trichy** from 03.08.2022 to 09.08.2022.

MR.J.MATHES KUMAR
SENIOR EMBEDDED DEVELOPER

PRINCIPAL
SBECW

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Email id: sdprotrichy@gmail.com



CERTIFICATE OF PARTICIPATION

This is to certify that Ms AASHIKA R, Reg no: 912619105001, IV year. EEE department has successfully completed the Value added Course on "ESP8266 NODE MCU for IoT" conducted at **Sri Bharathi Engineering College for Women, Pudukkottai** in association with **SD PRO SOLUTIONS PVT LTD, Trichy** from 03.08.2022 to 09.08.2022.

MR.J.MATHES KUMAR
SENIOR EMBEDDED DEVELOPER

PRINCIPAL
SBECW

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ACADEMIC YEAR 2022-2023 / ODD SEMESTER

VALUE ADDED COURSE

ESP8266 NODE MCU FOR IOT

Name of student:

Year/Sem:

AU Reg.No:

MULTIPLE CHOICE QUESTIONS (25 X1 =25 MARKS)

1. What is ESP8266?
 - a) A Wi-Fi based Micro controller
 - b) Relay module
 - c) Pressure sensor
 - d) Bluetooth module
2. What among them is an application of NodeMCU?
 - a) Creates a Library for Lua Script
 - b) Tells the time
 - c) Home automation
 - d) All of these
3. What is the use of the ESP8266 Wifi Module?
 - a) Monitors motion
 - b) Evaluates air pressure
 - c) Network provider
 - d) Switches circuits
4. How many pins are present in the ESP8266 Wifi Module?
 - a) 12
 - b) 10
 - c) 8
 - d) 50
5. What is the use of TX pin?
 - a) Upload
 - b) Download
 - c) Ground
 - d) Power input
6. What will happen if we supply a voltage of 250kV to the ESP8266 Wifi Module?
 - a) Damages caused
 - b) Module will shut down
 - c) Module will not respond for the time the voltage is applied
 - d) Module will function normally
7. What is the maximum source current that is required to operate the ESP8266 Wifi module?
 - a) 28A
 - b) 12mA
 - c) 100mA
 - d) 1A


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8. What is the optimum supply current that is required to operate the ESP8266 Wifi Module?
a) 28A b) 13mA c) 100mA d) 1A
9. What kind of device is the ESP8266 Wifi module?
a) Passive Sensor b) Active Sensor
c) Networking Devices d) Switching Device
10. What is type of waves that the ESP8266 Wifi module detects?
a) Infra red b) Radio signal
c) Dc signal d) Hybrid signal
11. What mode does the ESP8266 Wifi module switch to when fed the sequence 11 to its GPIO-0 and GPIO-2 Pins?
a) URAT mode b) Sleep mode
c) Active mode d) Flash mode
12. What mode does the ESP8266 Wifi module switch to when fed the sequence 01 to its GPIO-0 and GPIO-2 Pins?
a) URAT mode b) Sleep mode
c) Active mode d) Flash mode
13. Which are the following IDEs are suitable for NodeMCU programming?
a) Node MCU WebIDE b) Lua tool
c) Arduino IDE d) None of These
14. Baud Rate of NodeMCU is _____.
a) 9600 b) 115200 c) 1115200 d) 8421
15. How many PWM pins/channels are present in ESP8266?
a) 6 b) 8 c) 10 d) 4
16. Which pin is used to power any Micro controller board through external power?
a) Vin b) Vcc c) GND d) EN
17. What are the two buttons present in the ESP8266 board?
a) Vcc and GND b) 3V3 and GND
c) RST and EN d) FLASH and RST


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18. Which among the following IDE's can't be used for ESP8266?
a) Arduino IDE b) Lua IDE
c) ESPlorer d) Code Blocks
19. How many GND (ground) pins are present in the NodeMCU ESP8266?
a) 1 b) 2 c) 3 d) 4
20. What is the resolution of the ADC present in ESP8266?
a) 8-bit b) 10-bit c) 12-bit d) 16-bit
21. What are some of the external features integrated with NodeMCU?
a) Hall effect sensor b) Temperature sensor
c) Touch sensor d) ADC
22. What is the voltage at which the ESP8266 works?
a) 5V b) 4.8V c) 3.3V d) 12V
23. What does GPIO stand for?
a) General Purpose Input Output b) Generic Purpose Input Output
c) General Periodic Input Output d) General Purpose Input Only
24. How many GPIO pins are present in Node MCU (ESP8266)?
a) 14 b) 12 c) 15 d) 17
25. What does ADC stand for in Electronics?
a) Analog Digital Communication b) Analog to Digital Converter
c) Apparent Digital Communication d) None of the above

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ACADEMIC YEAR 2022-2023 / ODD SEMESTER

VALUE ADDED COURSE
ESP8266 NODE MCU FOR IOT.

ANSWER KEY FOR MCQ

1	a	2	a	3	c	4	c	5	a
6	a	7	b	8	c	9	c	10	b
11	d	12	a	13	c	14	b	15	d
16	b	17	d	18	d	19	c	20	b
21	d	22	c	23	a	24	d	25	b


Dr. S. THILAGAVATHI M.E., Ph.D.,
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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

ACADEMIC YEAR 2022-2023 / ODD SEMESTER

VALUE ADDED COURSE

ESP8266 NODE MCU FOR IOT

Name of student: K. Kayalvizhi

Year/Sem: III / V

AU Reg.No: 912620105001

MULTIPLE CHOICE QUESTIONS (25 X1 =25 MARKS)

23
25

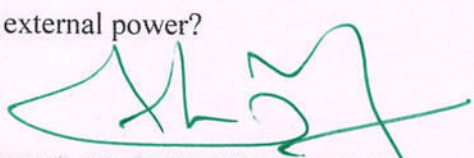
1. What is ESP8266?
a) A Wi-Fi based Micro controller b) Relay module
c) Pressure sensor d) Bluetooth module
2. What among them is an application of NodeMCU?
a) Creates a Library for Lua Script b) Tells the time
c) Home automation d) All of these
3. What is the use of the ESP8266 Wifi Module?
a) Monitors motion b) Evaluates air pressure
c) Network provider d) Switches circuits
4. How many pins are present in the ESP8266 Wifi Module?
a) 12 b) 10 c) 8 d) 50
5. What is the use of TX pin?
a) Upload b) Download c) Ground d) Power input
6. What will happen if we supply a voltage of 250kV to the ESP8266 Wifi Module?
a) Damages caused
b) Module will shut down
c) Module will not respond for the time the voltage is applied
d) Module will function normally
7. What is the maximum source current that is required to operate the ESP8266 Wifi module?
a) 28A b) 12mA c) 100mA d) 1A


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8. What is the optimum supply current that is required to operate the ESP8266 Wifi Module?
a) 28A b) 13mA c) 100mA d) 1A
9. What kind of device is the ESP8266 Wifi module?
a) Passive Sensor b) Active Sensor
 c) Networking Devices d) Switching Device
10. What is type of waves that the ESP8266 Wifi module detects?
a) Infra red b) Radio signal
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11. What mode does the ESP8266 Wifi module switch to when fed the sequence 11 to its GPIO-0 and GPIO-2 Pins?
a) URAT mode b) Sleep mode
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12. What mode does the ESP8266 Wifi module switch to when fed the sequence 01 to its GPIO-0 and GPIO-2 Pins?
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13. Which are the following IDEs are suitable for NodeMCU programming?
a) Node MCU WebIDE b) Lua tool
 c) Arduino IDE d) None of These
14. Baud Rate of NodeMCU is _____.
a) 9600 b) 115200 c) 1115200 d) 8421
15. How many PWM pins/channels are present in ESP8266?
a) 6 b) 8 c) 10 d) 4
16. Which pin is used to power any Micro controller board through external power?
a) Vin b) Vcc c) GND d) EN
17. What are the two buttons present in the ESP8266 board?
a) Vcc and GND b) 3V3 and GND
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18. Which among the following IDE's can't be used for ESP8266?
a) Arduino IDE b) Lua IDE
c) ESPlorer d) ~~Code Blocks~~
19. How many GND (ground) pins are present in the NodeMCU ESP8266?
a) 1 b) 2 c) ~~3~~ d) 4
20. What is the resolution of the ADC present in ESP8266?
a) 8-bit b) ~~10-bit~~ c) 12-bit d) 16-bit
21. What are some of the external features integrated with NodeMCU?
a) Hall effect sensor b) Temperature sensor
c) Touch sensor d) ~~ADC~~
22. What is the voltage at which the ESP8266 works?
a) 5V b) 4.8V c) ~~3.3V~~ d) 12V
23. What does GPIO stand for?
a) ~~General Purpose Input Output~~ b) Generic Purpose Input Output
c) General Periodic Input Output d) General Purpose Input Only
24. How many GPIO pins are present in Node MCU (ESP8266)?
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25. What does ADC stand for in Electronics?
a) Analog Digital Communication b) ~~Analog to Digital Converter~~
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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

ACADEMIC YEAR 2022-2023 / ODD SEMESTER

VALUE ADDED COURSE

ESP8266 NODE MCU FOR IOT

Name of student: **N. ARTHY**

Year/Sem: **IV / VII**

AU Reg.No: **912619105004**

MULTIPLE CHOICE QUESTIONS (25 X1 =25 MARKS)

20

25

1. What is ESP8266?
a) A Wi-Fi based Micro controller b) Relay module
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2. What among them is an application of NodeMCU?
a) Creates a Library for Lua Script b) Tells the time
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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

ACADEMIC YEAR 2022-2023 / ODD SEMESTER

VALUE ADDED COURSE

ESP8266 NODE MCU FOR IOT

Name of student: S.Nisha

Year/Sem: IV / VII

AU Reg.No: 912619105007

MULTIPLE CHOICE QUESTIONS (25 X1 =25 MARKS)

21

25

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a) A Wi-Fi based Micro controller b) Relay module
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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

ACADEMIC YEAR 2022-2023 / ODD SEMESTER

MARK SHEET FOR VALUE ADDED COURSE
ESP8266 NODE MCU FOR IOT

S.NO	REG. NO	NAME	YEAR/ SEM	ATTENDACE 50% (A)		VAC -MCQ 50%(B)		OVERALL MARK (A+B)
				No of Session Attended	MARKS	No of Correct Answer	MARKS	
1	912620105001	KAYALVIZHI K	III & V	12	100	23	92	96
2	912620105002	RAMADEVI S	III & V	12	100	24	96	98
3	912620105003	SRINANTHANA S	III & V	11	92	20	80	86
4	912620105302	KAVIYA R	III & V	11	92	23	92	92
5	912620105303	KOPPERUNDEVI S	III & V	12	100	21	84	92
6	912620105305	SRIBHARATHI S	III & V	12	100	24	96	98
7	912619105001	AASHIKA R	IV & VII	12	100	22	88	94
8	912619105002	ABINAYA S	IV & VII	9	75	21	84	80
9	912619105003	ABITHA P	IV & VII	12	100	24	96	98
10	912619105004	ARTHY N	IV & VII	12	100	20	80	90
11	912619105005	DEEPIKA R	IV & VII	12	100	24	96	98
12	912619105007	NISHA S	IV & VII	12	100	21	84	92
13	912619105008	PAVITHRA M	IV & VII	12	100	23	92	96
14	912619105009	PRAGADEESHWARI A	IV & VII	10	83	24	96	90
15	912619105010	SIVARANJANI S	IV & VII	12	100	20	80	90
16	912619105301	RAGAVI R	IV & VII	10	83	23	92	88


VAC COORDINATOR


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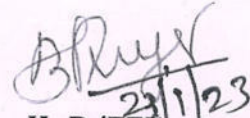
ACADEMIC YEAR 2022-2023 / EVEN SEMESTER

DEPARTMENT CIRCULAR

Date: 23/01/2023

This is to inform that certificate course offered by the Department of Electrical and Electronics Engineering will be conducted for all Second, Third & Final year on **“REAL TIME APPLICATIONS OF ARDUINO UNO BOARDS”** from 30.01.2023 to 03.02.2023. Certificates will be issued to the eligible participants at the end of the Course. The resource person details are shown in the following table.

Sl.No.	Name of the Course	Course Coordinator
1.	Real Time Application of Arduino Uno Boards	Mr. T. PARTHIBAN Assistant professor, EEE department, SBECW

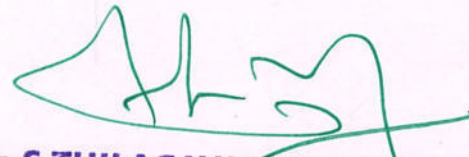

23/1/23
HoD/EEE

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PUDUKKOTTAI - 622 303.

Cc:

- Principal's Office
- IQAC Coordinator
- Class In charges - II, III & IV-year of EEE
- II, III & IV-year EEE Students
- Notice Board



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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

ACADEMIC YEAR 2022-2023/ EVEN SEMESTER

CERTIFICATE COURSE

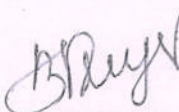
REAL TIME APPLICATIONS OF ARDUINO UNO BOARDS

SCHEDULE

SI .NO	TOPICS	DURATION (in hours)	DATE
1.	Course Introduction	3	30.01.2023
2.	Understanding Arduino Syntax	3	30.01.2023
3.	Serial Port Communication	3	31.01.2023
4.	Pulse Width Modulation using analogWrite ()	3	31.01.2023
5.	Comparison Operators and Condition	3	01.02.2023
6.	Using a Keyboard for Data Collection	3	01.02.2023
7.	State Change Detection and the Modulo Operator	3	02.02.2023
8.	De-bouncing a Button	3	02.02.2023
9.	Analog I/O and Serial Communications	3	03.02.2023
10.	Smoothing Data	3	03.02.2023
TOTAL HOURS		30 HOURS	


COURSE COORDINATOR


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ACADEMIC YEAR 2022-2023 / EVEN SEMESTER

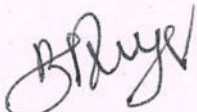
STUDENT NAME LIST FOR CERTIFICATE COURSE

REAL TIME APPLICATIONS OF ARDUINO UNO BOARDS

S.NO	NAME	REG.NO	YEAR & SEMESTER
1.	GOKULAPRAVEENA A	912621105001	II&IV
2.	SUMITHRA S	912621105004	II&IV
3.	KAYALVIZHI K	912620105001	III &VI
4.	RAMADEVI S	912620105002	III &VI
5.	SRINANTHANA S	912620105003	III &VI
6.	KAVIYA R	912620105302	III &VI
7.	KOPPERUNDEVI S	912620105303	III &VI
8.	SRIBHARATHI S	912620105305	III &VI
9.	AASHIKA R	912619105001	IV &VIII
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12.	ARTHY N	912619105004	IV &VIII
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14.	NISHA S	912619105007	IV &VIII
15.	PAVITHRA M	912619105008	IV &VIII
16.	PRAGADEESHWARI A	912619105009	IV &VIII
17.	SIVARANJANI S	912619105010	IV &VIII
18.	RAGAVI R	912619105301	IV &VIII


COURSE COORDINATOR


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KAIKKURICHI, PUDUKKOTTAI-622 303

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

ACADEMIC YEAR 2022-2023 / EVEN SEMESTER

ATTENDANCE SHEET FOR CERTIFICATE COURSE REAL TIME APPLICATIONS OF ARDUINO UNO BOARDS

S.NO	REG. NO	NAME	YEAR/ SEM	30.01.2023		31.01.2023		01.02.2023		02.02.2023		03.02.2023		NO. OF CLASS ATTENDED	SIGN OF STUDENT
				F.N	A.N	F.N	A.N	F.N	A.N	F.N	A.N	F.N	A.N		
1	912621105001	GOKULAPRAVEENA A	II&IV	/	/	/	/	/	/	/	/	/	/	10	A. b. k. s.
2	912621105004	SUMITHRA S	II&IV	/	/	/	/	/	/	/	/	/	/	10	S. Sumy.
3	912620105001	KAYALVIZHI K	III & VI	/	/	/	a	/	/	/	/	/	/	09	K. Kayalvizhi
4	912620105002	RAMADEVI S	III & VI	/	/	/	/	/	/	/	/	/	/	10	S. Ramy.
5	912620105003	SRINANTHANA S	III & VI	/	/	/	/	/	/	/	/	/	/	10	S. Srinay.
6	912620105302	KAVIYA R	III & VI	/	/	/	/	/	/	/	/	/	/	10	R. Kaviya
7	912620105303	KOPPERUNDEVI S	III & VI	/	/	/	/	/	/	/	/	/	/	10	S. K. s.
8	912620105305	SRIBHARATHI S	III & VI	/	/	/	/	/	/	/	/	/	/	10	S. Srihar.


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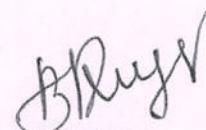
9	912619105001	AASHIKA R	IV & VIII	/	/	/	/	/	/	/	/	/	/	/	10	R. Aashika
10	912619105002	ABINAYA S	IV & VIII	/	a	/	/	/	/	/	/	/	/	/	09	S. Abinaya
11	912619105003	ABITHA P	IV & VIII	/	/	/	/	/	/	/	/	/	/	/	10	P. Abitha
12	912619105004	ARTHY N	IV & VIII	/	/	/	/	/	/	/	/	/	/	/	10	D. Arthy
13	912619105005	DEEPIKA R	IV & VIII	/	/	a	a	/	/	/	/	/	/	/	08	R. Deepi
14	912619105007	NISHA S	IV & VIII	/	/	/	/	/	/	/	/	/	/	/	10	S. Nisha
15	912619105008	PAVITHRA M	IV & VIII	/	/	/	/	/	/	/	/	/	/	/	10	M. Pavithra
16	912619105009	PRAGADEESHWARI A	IV & VIII	/	/	/	/	/	/	/	/	/	/	/	10	A. Pragadeeshwari
17	912619105010	SIVARANJANI S	IV & VIII	/	/	/	/	/	a	/	/	/	/	/	09	S. Sivaranjani
18	912619105301	RAGAVI R	IV & VIII	/	/	/	/	/	/	/	/	/	/	/	10	R. Ragavi



COURSE COORDINATOR



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HOD/EEE
HOD EEE
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Kaikkurichi, Pudukkottai, Tamil Nadu – 622 303, India

Report on Value Added Course

Title: REAL TIME APPLICATIONS OF ARDUINO UNO BOARDS

Resource Person: T.Parthiban,
Assistant professor,
EEE department, SBECW.

Date of conduct from : 30.01.2023 To: 03.02.2023 Duration: 30 Hours

Organized Department : ELECTRICAL AND ELECTRONICS ENGINEERING

Participant Year: 2/ 3 /4 Semester: EVEN No. of Students Registered : 18

Venue: Tutorial Hall:42 ,SBECW


Outcome of Value Added Course (VAC)

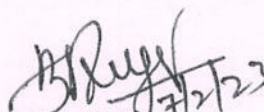
- At the end of the Course, Students can able to
- Explain about the Hardware Overview - Download and Install the Arduino IDE Arduino IDE and its Syntax.
 - Describe about using Variables Blink an LED - digitalRead () and Serial Port Communication - analogRead () and Serial Port Communications Reading Analog Pins.
 - Obtain insight about converting the Input to a Voltage - Fade an LED with Pulse Width Modulation using analog Write ().
 - Comprehend about If-Else Statement - Comparison Operators and Condition - For Loop Iteration - How to Use Arrays Switch Case Statement.
 - Demonstrate about blink an LED without using the delay () Function.
 - Illustrate about analog I/O and Serial Communications - Analog Input – Calibration - Smoothing Data.

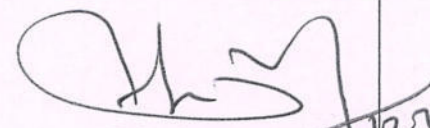
No. of students successfully completed the VAC course is 18 students based on the following assessment process.

Assessment Process

Students, who are securing **more than 60% on total score** and secured more than **75%** in attendance is eligible to receive the certificate for the VAC course conducted. Total Score = (0.5 *Attendance in VAC out of 100 percentage + 0.5 *Test mark in VAC out of 100 marks)


Course Coordinator


HoD/ EEE
HOD EEE


Principal
02/02/23
PRINCIPAL

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KAIKKURICHI,
PUDUKKOTTAI - 622 303.

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KAIKKURICHI - 622 303
PUDUKKOTTAI DISTRICT


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KAIKKURICHI, PUDUKKOTTAI-622303

DEPARTMENT OF EEE

CERTIFICATE OF PARTICIPATION

This is to certify that Ms. GOKULAPRAVEENA A (912621105001),II year has successfully completed the Certificate Course on "REAL TIME APPLICATIONS OF ARDUINO UNO BOARDS" held at the college from 30th January 2023 to 3rd February 2023 (5 Days).

COURSE COORDINATOR

HOD/EEE

PRINCIPAL

Dr. **S.THILAGAVATHI** M.E., Ph.D.,

PRINCIPAL

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DEPARTMENT OF EEE

CERTIFICATE OF PARTICIPATION

This is to certify that Ms. KAYALVIZHI K (912620105001), III year has successfully completed the Certificate Course on "REAL TIME APPLICATIONS OF ARDUINO UNO BOARDS" held at the college from 30th January 2023 to 3rd February 2023 (5 Days).

COURSE COORDINATOR

HOD/EEE

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KAIKKURICHI, PUDUKKOTTAI-622303

DEPARTMENT OF EEE

CERTIFICATE OF PARTICIPATION

This is to certify that Ms. AASHIKA R (912619105001),IV year has successfully completed the Certificate Course on "REAL TIME APPLICATIONS OF ARDUINO UNO BOARDS" held at the college from 30th January 2023 to 3rd February 2023 (5 Days).


COURSE COORDINATOR


HOD/EEE


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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

ACADEMIC YEAR 2022-2023 / EVEN SEMESTER

CERTIFICATE COURSE

REAL TIME APPLICATIONS OF ARDUINO UNO BOARDS

Name of student:

Year/Sem:

AU Reg.No:

MULTIPLE CHOICE QUESTIONS (25 X1 =25 MARKS)

1. What is Arduino?
a) Programming language b) Image editing software
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2. What language is a typical Arduino code based on?
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7. What is the default bootloader of the Arduino UNO?
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8. What does p refer to in ATmega328p?
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9. What is the use of the Arduino.h header file?
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- a) ATmega32114
 - b) AT91SAM3x8E
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 - d) To provide the voltage corresponding to the standard GPIO working voltage of the board
15. Which software is used to upload the Arduino Sketches to the board?
- a) avrgcc
 - b) g++
 - c) python for windows
 - d) avrdude
16. What is the operating voltage of Atmega328?
- a) 1.9V to 5V
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17. What is the difference between an IDE and a compiler?
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18. Where does the Arduino IDE search if it needs to find out the Name of a type of Arduino Board?

- a) Arduino.h b) build.txt c) boards.txt d) build.core

19. What is the use of the ESP8266 WiFi Module?

- a) Network Provider b) Switches circuits
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20. Why is the Arduino Mega more a viable solution when dealing with complex projects, than the Arduino UNO?

- a) More flash memory on the Arduino Mega b) Higher power rating on the Arduino Mega
c) Higher SRAM on the Arduino Mega d) More number of GPIO pins on the Arduino Mega

21. The Atmega168 is an _____ bit chip.

- a) 32 b) 64 c) 8 d) 16

22. Why does every compilation of a source code in Arduino check for previous compilations?

- a) To copy the previously generated “.o” files
b) To relocate the previously generated “.o” files
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23. What type of signal does the analogWrite() function output?

- a) Pulse Code Modulated Signal b) Frequency Modulated Signal
c) Pulse Width Modulated Signal d) Pulse Amplitude Modulated Signal

24. What is the use of the SD.h Library in Arduino?

- a) To communicate with the computer b) To communicate with the internet
c) To communicate with the SD Card Module d) To communicate with another microcontroller

25. Which chipset is the LCD library for Arduino based on?

- a) Hitachi HDD4780 b) Hitachi HD46780
c) Hitachi HD45780 d) Hitachi HD44780

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

ACADEMIC YEAR 2022-2023 / EVEN SEMESTER

CERTIFICATE COURSE

REAL TIME APPLICATIONS OF ARDUINO UNO BOARDS.

ANSWER KEY FOR MCQ

1	c	2	d	3	c	4	a	5	d
6	a	7	c	8	d	9	a	10	b
11	a	12	d	13	c	14	d	15	a
16	b	17	a	18	c	19	a	20	b
21	c	22	d	23	c	24	c	25	d

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

ACADEMIC YEAR 2022-2023 / EVEN SEMESTER

CERTIFICATE COURSE

REAL TIME APPLICATIONS OF ARDUINO UNO BOARDS

Name of student: *A. Gokula Praveena*

Year/Sem: II / IV

AU Reg.No: *912621105001*

MULTIPLE CHOICE QUESTIONS (25 X1 =25 MARKS)

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22

25

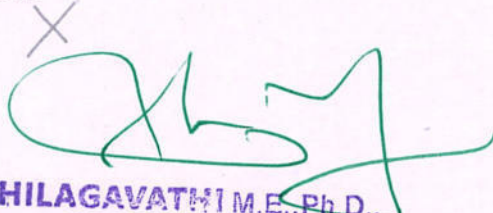
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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

ACADEMIC YEAR 2022-2023 / EVEN SEMESTER

CERTIFICATE COURSE

REAL TIME APPLICATIONS OF ARDUINO UNO BOARDS

Name of student: *S. Ramadevi*

Year/Sem: III / V

AU Reg.No: *912620105002*

MULTIPLE CHOICE QUESTIONS (25 X1 =25 MARKS)

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X

$$\frac{24}{25}$$


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23. What type of signal does the analogWrite() function output?

- a) Pulse Code Modulated Signal b) Frequency Modulated Signal
c) Pulse Width Modulated Signal d) Pulse Amplitude Modulated Signal

24. What is the use of the SD.h Library in Arduino?

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25. Which chipset is the LCD library for Arduino based on?

- a) Hitachi HDD4780 b) Hitachi HD46780
 c) Hitachi HD45780 d) Hitachi HD44780


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ACADEMIC YEAR 2022-2023 / EVEN SEMESTER

CERTIFICATE COURSE

REAL TIME APPLICATIONS OF ARDUINO UNO BOARDS

Name of student: **AASHIKA R**

Year/Sem: **IV / VIII**

AU Reg.No: **912619105001**

MULTIPLE CHOICE QUESTIONS (25 X1 =25 MARKS)

1. What is Arduino?
a) Programming language b) Image editing software
c) Open-source electronics platform d) Text editor
2. What language is a typical Arduino code based on?
a) Assembly Code b) Python
c) Java d) C/C++
3. Arduino shields are also called as _____
a) Another Arduinos b) Extra peripherals
 c) Add on modules d) Connectivity modules
4. What language is the Arduino IDE built on?
 a) Java b) HTML
c) C/C++ d) Python
5. Arduino IDE consists of 2 functions. What are they?
a) Loop() and build() and setup() b) Build() and loop()
c) Setup() and build() d) Setup() and loop()
6. Arduino Codes are referred to as _____ in the Arduino IDE.
 a) sketches b) drawings
c) links d) notes
7. What is the default bootloader of the Arduino UNO?
a) AIR-boot b) GAG
 c) Optiboot bootloader d) Bare box
8. What does p refer to in ATmega328p?
a) Programmable on chip b) Power-Pico
 c) Production d) Pico-Power

20

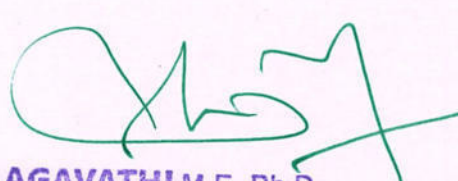
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9. What is the use of the Arduino.h header file?
a) It enables the programmer to access all of Arduino's core functionality
b) It doesn't have any use and can be omitted at any point of time in the code
c) It gives root access to the microcontroller's file system
d) It allows other people to create libraries for the Arduino code
10. What is the use of the Vin pin present on some Arduino Boards?
a) To ground the Arduino Board b) To power the Arduino Board
c) To provide a 5V output d) Is used for plugging in 3V supply
11. What is the correct execution process of an Arduino code?
a) Editor->Preprocessor->Compiler b) Preprocessor->Editor->Compiler
c) Compiler->Preprocessor->Editor d) Editor->Compiler->Preprocessor X
12. What is the microcontroller used in Arduino UNO?
a) ATmega32114 b) AT91SAM3x8E
c) ATmega2560 d) ATmega328p
13. Which Arduino Board contains an onboard joystick?
a) Arduino Nano b) Arduino UNO
c) Arduino Esplora d) Arduino Due
14. What is the function of the IOREF pin on the Arduino UNO?
a) To take input voltage and set it as a reference for all GPIO operations
b) To provide a constant 12V DC supply
c) To provide ground
d) To provide the voltage corresponding to the standard GPIO working voltage of the board
15. Which software is used to upload the Arduino Sketches to the board?
a) avrgcc b) g++
c) cpython for windows d) avrdude
16. What is the operating voltage of Atmega328?
a) 1.9V to 5V b) 1.8V to 5.5V
c) 1.1V to 5V d) 12V to 9V X
17. What is the difference between an IDE and a compiler?
a) The compiler executes the code while the IDE gives a graphical environment for writing the code
b) The compiler links the code to the respective files and the IDE takes it from there
c) The compiler and the IDE are the same thing


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MARK SHEET FOR CERTIFICATE COURSE
REAL TIME APPLICATIONS OF ARDUINO UNO BOARDS

S.NO	NAME	REG NO.	YEAR/ SEM	ATTENDANCE 50% (A)		VAC -MCQ 50%(B)		OVERALL MARK (A+B)
				No of Session Attended	MARKS	No of Correct Answer	MARKS	
1	GOKULAPRAVEENA A	912621105001	II&IV	10	100	22	88	94
2	SUMITHRA S	912621105004	II&IV	10	100	24	96	98
3	KAYALVIZHI K	912620105001	III &VI	9	90	22	88	89
4	RAMADEVI S	912620105002	III &VI	10	100	24	96	98
5	SRINANTHANA S	912620105003	III &VI	10	100	22	88	94
6	KAVIYA R	912620105302	III &VI	10	100	21	84	92
7	KOPPERUNDEVI S	912620105303	III &VI	10	100	23	92	96
8	SRIBHARATHI S	912620105305	III &VI	10	100	24	96	98
9	AASHIKA R	912619105001	IV &VIII	10	100	20	80	90
10	ABINAYA S	912619105002	IV &VIII	9	90	23	92	91
11	ABITHA P	912619105003	IV &VIII	10	100	21	84	92
12	ARTHY N	912619105004	IV &VIII	10	100	24	96	98
13	DEEPIKA R	912619105005	IV &VIII	8	80	24	96	88
14	NISHA S	912619105007	IV &VIII	10	100	21	84	92
15	PAVITHRA M	912619105008	IV &VIII	10	100	20	80	90
16	PRAGADEESHWARI A	912619105009	IV &VIII	10	100	23	92	96
17	SIVARANJANI S	912619105010	IV &VIII	9	90	22	88	89
18	RAGAVI R	912619105301	IV &VIII	10	100	23	92	96


COURSE COORDINATOR


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Criteria 2

Teaching-Learning and Evaluation

350

Key Indicator- 2.3. Teaching- Learning Process (40)

2022-2023

**ELECTRICAL AND ELECTRONICS
ENGINEERING**

PARTICIPATIVE LEARNING

SYMPOSIUM, SEMINAR AND WORKSHOP



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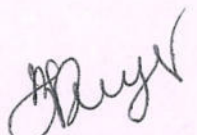
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ACADEMIC YEAR 2022-2023

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	912621105004	SUMITHRA S			
2	912620105302	KAVIYA R	III/VI		
	912620105303	KOPPERUNDEVI S			
	912620105003	SRINANTHANA S			
	912620105305	SRIBHARATHI S			
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	912619105009	PRAGADEESHWARI A			
	912619105010	SIVARANJANI S			
7	912619105009	PRAGADEESHWARI A	IV/VIII	PARTICIPATIVE LEARNING- SYMPOSIUM	
	912619105301	RAGAVI R			


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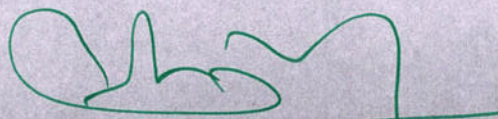
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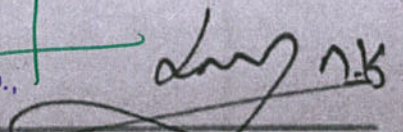
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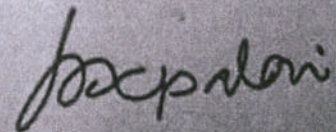
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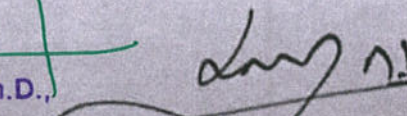
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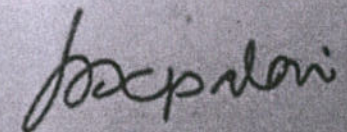
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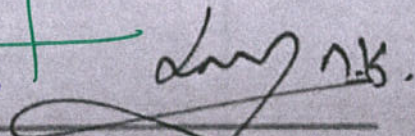
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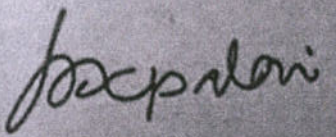
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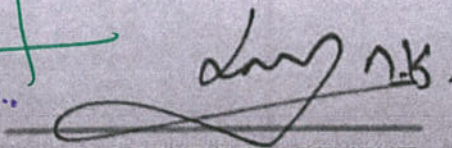
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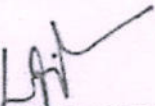
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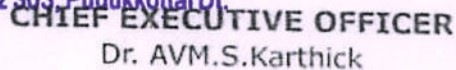
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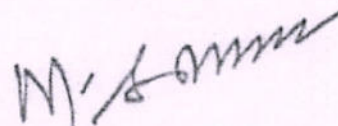
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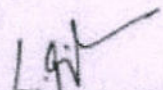
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Department of Electrical and Electronics Engineering

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Innovation, Incubation and Entrepreneurship Development Centre

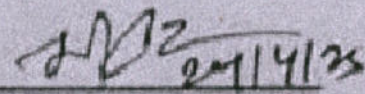
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April 24, 2023.


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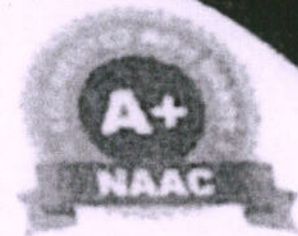
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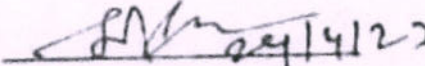
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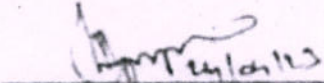
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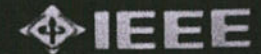

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M&P.THIRUMAGAL, AP/EEE

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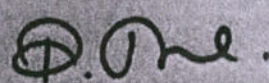
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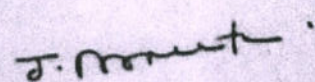
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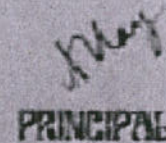
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