

Accredited by NAAC with 'B+' Grade, 2(f) & 12B Status Institution by UGC

IG Valley, Madurai Main Road, Manikandam, Tiruchirappalli - 620012

NAAC DOCUMENTS

QUALITY INDICATOR FRAME WORK

CRITERION – 2

TEACHING-LEARNING AND EVALUATION

SUBMITTED BY

IQAC

INTERNAL QUALITY ASSURANCE CELL INDRA GANESAN COLLEGE OF ENGINEERING









Criteria2

Teaching-Learning and Evaluation

350

KeyIndicator-2.3.Teaching-Learning Process (40)

2020-2021

PARTICIPATIVE LEARNING

ELECTRONICS AND COMMUNICATION ENGINEERING and ME (VLSI DESIGN)

Activity	Number of Students Attended	Page No.
Value Added Course(VAC)	106	3
TOTAL STUDENTS ATTENDED	106	-







Criteria2

Teaching-Learning and Evaluation

350

KeyIndicator-2.3.Teaching-Learning Process(40)

2020-2021

ELECTRONICS AND COMMNUINCATION ENGINEERING and ME (VLSI DESIGN)

PARTICIPATIVE LEARNING VALUE ADDED COURSE



Department of Electronics and Communication Engineering

Academic Year 2020-2021 -Odd Semester

25.01.2021

DEPARTMENT CIRCULAR

Department of Electronics and Communication Engineering and IQAC of IGCE in association with Galwin Technology, is going to organize Value Added Course for all Second, Third and Final year students on "ARDUINO PROGRAMMING" from 01.02.2021 to 05.02.2021. Certificates will be issued to the eligible participants at the end of the Course. This training is to be provided in online mode.

Resource Person Detail

Mr.K.C.Tamil Vendhan, The Human Resource Manager, Galwin Technology, Trichy

Venue

Online Mode Link:

https://us05web.zoom.us/j/2423859769?pwd=K3JZ d1JiS3FqTk1kenJzWStNO0NDQT09

Hiwans

HOD/ECE

PRINTIPAL

Cc:

- · Principal office
- IQAC Co-Ordinator
- Class In charges II, III & IV-Year
- II, III & IV-Year ECE Students
- · Office File
- Notice Board

Dr. G. Balakrishnan, M.E., Ph.D.,

Principal



Value Added Course

"ARDUINO PROGRAMMING"

SYLLABUS

S.NO	TOPIC COVERED	DURATION (in hours)	DATE
1	Introduction to Embedded systems, Introduction to Arduino programming	3	01.02.2021
2	Basic Components, Introduction to the Concept of IoT Devices	3	01.02.2021
3	Types of Arduino, Arduino Toolchain	3	02.02.2021
4	Arduino Programming Structure -Sketches – Pins	3	02.02.2021
5	Input/Output From Pins Using Sketches	3	03.02.2021
6	Introduction to Arduino Shields	3	03.02.2021
7	Integration of Sensors and Actuators with Arduino	3	04.02.2021
8	IoT configurations, General Hardware Interfacings:	3	04.02.2021
9	Work with LED Controlled by Switch/potentiometer, 7 segment displays. How to connect relays andservomotors to ARDUINO Board.	3	05.02.2021
10	Project Based on embedded system design using Arduino board.	3	05.02.2021
11	Exam	1	05.02.2021
	Total Hours (Excluding Exam)	30	to me in the most to make it.

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VAC Coordinator

HOD/ECE

Dr. G. Balakrishnan, M.E., Ph.D.,

Principal



COLLEGE OF ENGINEERING Madural Main Road (NH-45B), Manikandam, Trichy-12. Approved by AICTE, NewDelhi & Affiliated to Anna University, Chennal

Value Added Course

"ARDUINO PROGRAMMING"

STUDENTS PARTICIPATION LIST

S.NO	REG NO	STUDENTS NAME	YEAR/ BRANCH
1	811217106001	Aishwariya S	IV/ECE
2	811217106002	Ancesha A	IV/ECE
3	811217106003	Deepika B	IV/ECE
4	811217106004	Durga D	IV/ECE
5	811217106005	Gangadevi M	IV/ECE
6	811217106006	Janani C	IV/ECE
7	811217106009	Karthick K	IV/ECE
8	811217106010	Kosiananth R	IV/ECE
9	811217106011	l akshmi M	IV/ECE
10	811217106012	Manikandan M	IV/ECE
11	811217106013	Mekala Devi S	IV/ECE
12	811217106014	Pandimeena R	IV/ECE
13	811217106016	Preethi V	IV/ECE
14	811217106017	Raashitha Jannath A	IV/ECE
15		Ranjitha T	IV/ECE
16		Riyas Mohammed K	IV/ECE
17		Saimouli N	IV/ECE
18	6, 5,000 1 week 14 40 400 300 4000	Sarumathi A	IV/ECE
19	811217106022	Shalini M	IV/ECE
20	811217106023	Siva Sankari M	IV/ECE
21	811218106001	Abinaya R	III/ECE
22	811218106002	\kila K	III/ECE
23	811218106004	Arthi M	III/ECE
24	811218106005	zhagu Meena M	III/ECE
25	811218106006	Devi K	III/ECE
26	811218106007	hanalakshmi S	III/ECE
27	811218106008	lari Krishnan S	III/ECE
28	811218106009 Ja	anani V	III/ECE
29	811218106010 Je	enifer C	III/ECE
30	811218106011 Je	mifer S	III/ECE
31	811218106012 K	esavamurthi M	III/ECE
32	811218106013 K	iruthika S	III/ECE
33	811218106015 M	aria Francis D	III/ECE
34	011010101011	acavi A	шиесе

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Principal

Indra Ganesan College of Engineering
IG Valley, Madurai Main Road

Admitted dom Trichy-620 012



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s.no	REG NO	STUDENTS NAME	YEAR/ BRANCE
35	811218106017	Ruthramoorthy M	III/ECE
36	811218106018	Sabarinathan K	III/ECE
37	811218106019	Sarmila M	III/ECE
38	811218106020	Sumathi	III/ECE
39	811218106021	l'hivya Priya R	III/ECE
40	811219106001	Dayana P	II/ECE
41	811219106002	Devika K	II/ECE
42	811219106003	Dinesh J	II/ECE
43	811219106004	Mohana Sundaram K	II/ECE
44	811219106005	Ravikumar B	II/ECE
45	811219106006	Santhanaraj A	II/ECE
46	811219106007	Shyam CR	II/ECE
47	811219106008	Srikanth M	II/ECE
48	811219106009	Surendran S	II/ECE
49	811219106010	Surya V	II/ECE
50	811219106011	Swetha K	II/ECE
51	811219106301	Yuvashree S	П/ЕСЕ
52	811219106701	Vijayalakshmi V	II/ECE
53	811219106702	Ponnarasu S	II/ECE

VAC Coordinator

HOD/ECE

Dr. G. Balakrishnan, M.E., Ph.D.,

Principal

THE STREET STREET, STR			REPORT ON	VALU	E ADD	ED COUI	RSE		
Title:	"A	RDUI	NO PROGRAMIN	IING"	POPOLA	Management	Pr Vocabilità de gallada (g	wage.	•00
Resource		The F	.C.TamilVendhan, Iuman Resource Man in Technology,	ager,	-1/1	Processor Andrews Control of Standard Angelonian	one and the second seco		CAN CAN
Date of co			01.02.2021	To:		2.2021	Duration:	30 F	Hours
Organized	l Departn	nent:	Electronics and C	ommun	ication	Engineeri	ng		-Mari
Participan	t Year:	2,3,4		-resis Assibily		No. of St	udents Registe	red:	53
Promote Promot	y	s05we	Link : bb.zoom.us/j/24238 d Course (VAC): /						
 Ex Ex Ex 	cplain the now the taplain the now the co	ypes oncept	embedded system c concepts of IoT of Arduino and co ept of sketches an ts of Aduino shields t based on embed	devices incepts ad pins i s, Senso	of Ard in Ardı rs and A	uino Tool iino progr Actuators	chain ramming struc	cture	AMAZIANA
	**************************************	-Mineral Installation of the Control	Asse	ssment	Proces	S			
attendan	ce is elig	ible to	ring more than 70 receive the certificand	ate for th	ne VAC	course co	nducted		7
AC Coord	Linator			HoD/E	RWE	mes		Prin	apal

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SAMPLE PHOTOS OF VAC ON ARDUINO PROGRAMMING

Title:

"ARDUINO PROGRAMMING"

Resource Person:

Mr.K.C.TamilVendhan.

The Human Resource Manager,

Galwin Technology,

Trichy

Date of conduct from:

01.02.2021

To:

05.02.2021 Duration:

30 Hours

Organized Department: Electronics and Communication Engineering

Participant Year:

2,3,4

No. of Students Registered:

Venue: Online Mode Link:

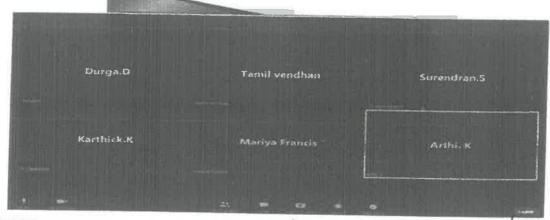
https://us05web.zoom.us/j/2423859769?pwd=K3JZd1JiS3FqTk1kenJzWStNQ0NDQT09

Sample Photos

What is an Arduino?

Open Source electronic prototyping platform based on flexible easy to use hardware and software.





VAC Coordinator

HoD/ECE

Principal

Dr. G. Balakrishnan, M.E., Ph.D.,

Principal

Name of the Student:

Year/Sem:

AU Register Number:

c) links

Value Added Course

"ARDI IINO PROGRAMMINO"

ANDOINO PROGRAMM	UNG"
MULTIPLE CHOICE OUESTIONS (2	25X1 = 25 Marks)
 What is Arduino? Programming language Image editing software Open-source electronics platform Text editor 	
2. How many types of Arduino do we have?a) 4b) 8c) 12d) 16	
 3. What language is a typical Arduino code based on? a) Assembly Code b) Python c) Java d) C/C++ 	
 4. Arduino shields are also called as	
5. What language is the Arduino IDE built on?a) Javab) HTMLc) C/C++d) Python	
6. How many analog pins are used in Arduino Mega board?a) 12b) 16c) 8d) 14	
7. 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()	Dr. G. Balakrishnan, M.E., Ph.D., Principal Indra Ganesan College of Engineering IG Valley, Madurai Main Road Manikandam, Trichy-620 012.
8. Arduino Codes are referred to as in the Arduino a) sketches b) drawings	



- 9. What is the default bootloader of the Arduino UNO?
- a) AIR-boot
- b) GAG
- c) Optiboot bootloader
- d) Bare box
- 10. What does p refer to in ATmega328p?
- a) Programmable on chip
- b) Power-Pico
- c) Production
- d) Pico-Power
- 11. 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
- 12. 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
- 13. 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
- 14. What is the microcontroller used in Arduino UNO?
- a) ATmega32114
- b) AT91SAM3x8E
- c) ATmega2560
- d) ATmega328p
- 15. Which board is the first to use a microcontroller within the build USB? a) RedBoard
- b) Leonardo
- c) LilyPad
- d) UNO
- 16. Which Arduino Board contains an onboard joystick?
- a) Arduino Nano
- b) Arduino UNO
- c) Arduino Esplora
- d) Arduino Due

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- 17. 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
- 18. Which processor supports the Arduino Zero?
- a) ARM Cortex M0+
- b) ARM Cortex M3
- c) Atmega32u4
- d) Atmega328P
- 19. Which software is used to upload the Arduino Sketches to the board?
- a) avrgcc
- b) g++
- c) cpython for windows
- d) avrdude
- 20. What is the use for the 2 serial pins on the Arduino Diecimila?
- a) To send PWM signals
- b) To send and receive Serial TTL signals
- c) To send and receive GPIO digital signals
- d) To receive analog signals
- 21. Which Arduino Boards use the Atmega2560?
- a) Arduino Micro and Due
- b) Arduino Nano and Fio
- c) Arduino Mega and Mega ADK
- d) Arduino Uno and Robot
- 22. 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
- 23. Which Arduino Boards use the Atmega32U4?
- a) Arduino Uno
- b) None Mega
- c) Arduino Micro
- d) Arduino Leonardo

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- 24. Is the Arduino code an Object-Oriented programming language or a Procedural programming language?
- a) The Arduino Code follows the Top-Down Procedural ideology
- b) The Arduino Code follows a custom Procedural Ideology
- c) The Arduino Code follows the Object-Oriented ideology
- d) The Arduino Code follows the Bottom-Up Procedural ideology
- 25. 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

The IDE executes the code while the compiler gives a graphical environment forwriting the code



Value Added Course

"ARDUINO PROGRAMMING"

ANSWER KEY

1	С	6	В	11	A	16	C	21	C
2	В	7	D	12	В	17	D	22	В
3	D	8	A	13	Α	18	A	23	D
4	C	9	С	14	D	19	D	24	С
5	Α	10	D	15	В	20	В	25	A

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VAC Coordinator

Dr. G. Balakrishnan, M.E., Ph.D.,

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Department of Electronics and Communication Engineering

Academic Year 2020-2021 - Odd Semester

VALUE ADDED COURSE ASSESMENT SHEET ARDUINO PROGRAMMING

Dr. G. Bafakrishnan, M.E., Ph.D.,

S.NO	S.NO REG NO		YEAR/	Attenda	ince Details	VAC-M	OVERALL	
***************************************	1 - 10-1 - Photographical Control of the Control of	STUDENTS NAME	BRANCH	No. of Session Attended	Attendance Mark(100) (A)	No of Correct Answers	MCQ Mark(100) (B)	MARK(100) (50% of A + 50% of B)
1	811217106001	Aishwariya S	IV/ECE	30	100			
2	811217106002	Aneesha A	IV/ECE	64 she'dday appropriately to	The state of the s	20	80	90
3	811217106003	The second second as a descend second	TV/ECE	27	90	19	76	90
4		Deepika B	IV/ECE	30	100	19	76	83
	811217106004	Durga D	IV/ECE	30			-Might projection	
5	811217106005	Gangadevi M	IV/ECE		100	22	84	87
6	811217106006	The second secon		27	90	19	76	83
7	109-material action majors as an object of the same	Janani C	IV/ECE	27	90	20	80	83
	811217106009	Karthick K	IV/ECE	30	100		76	Princerope versely, who is maintained himself
8	811217106010	Kosiananth R	IV/ECE	- Married Communical Designations		19		90
9	811217106011	J akshmi M		27	90	19	76	83
10	and constitution when the second	managed large to a home-transmission of demands appropriately appropriately as a second or	IV/ECE	27	90	20	80	83
	811217106012	Manikandan M	IV/ECE	27	90	1	77.C	***************************************
11	811217106013	Mekala Devi S	IV/ECE			19	76	83
		E	IV/ECE	30	100	20	80	92



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S.NO	REG NO	CTITEDAMO NI ANAT	YEAR/	Attenda	nce Details	VAC-M	OVERALI	
		STUDENTS NAME	BRANCH	No. of Session Attended	Attendance Mark(100) (A)	No of Correct	MCQ Mark(100)	MARK(100 (50% of A 50% of B)
12	811217106014	Pandimeena R	IV/ECE	27	the de landaries of the property control and the same	Answers	(B)	
13	811217106016	Preethi V	IV/ECE	grander or yet and the second	90	20	80	85
14	811217106017	Raashitha Jannath A	IV/ECE	30	100	22	88	92
15	811217106018	Ranjitha T		27	90	19	76	88
16	811217106019	Riyas Mohammed K	IV/ECE	27	90	20	80	83
17	811217106020		IV/ECE	27	90	19	76	80
18	The second secon	Saimouli N	IV/ECE	30	100	20	80	82
19	811217106021	Sarumathi A	IV/ECE	27	90	19	76	89
	811217106022	Shalini M	IV/ECE	27	90			-
20	811217106023	Siva Sankari M	IV/ECE	30	100	19	76	90
21	811218106001	Abinaya R	III/ECE	27	der abgeleite mannet versicht versicht der der der versicht der versic	22	88	87
22	811218106002	Akila K	III/ECE		90	19	76	80
23	811218106004	Arthi M	III/ECE	30	100	_22	88	87
24	811218106005	Azhagu Meena M	-	30	100	22	88	90
25	811218106006	Devi K	III/ECE	30	100	19	76	82
26	911019196907	Dhanalakshmi S	III/ECE	30	100	19	76	88
27	0113101040000	Hari Krishnan S	III/ECE	30	100	21	84	92
28	01101010000	Janani V	III/ECE	27	90	19	76	83
29	011010102010	Jenifer C	III/ECE	27	90	19	76	83
0	911219107011	Antidengang many epitrontyrujga	III/ECE	27	90	19	76	83
************		Jenifer S	III/ECE	27	90	19	76/	. 83

Dr. G. Balakrishnan, M.E., Ph.D.,
Principal

Indra Ganesan College of Engineering IG Valley, Madurai Main Road



Madural Main Road (NH-45B), Manikandam, Trichy-12.
Approved by AICTE, NewDelhi & Affiliated to Anna University, Chennal

s.no	REG NO	STUDENTS NAME	YEAR/	Attenda	ance Details	VAC-M	ICQ TEST	OVERALL
			BRANCH	No. of Session Attended	Attendance Mark(100)	No of Correct	MCQ Mark(100)	MARK(100) (50% of A + 50% of B)
31	811218106012	Kesavamurthi M	III/ECE	30	(A)	Answers	(B)	2010 OT D)
32	811218106013		III/ECE	Season Spinish and the Control of th	100	19	76	88
33	811218106015		to the same of the	27	90	19	76	83
34	811218106016	Rapavi A	III/ECE	24	80	21	84	82
35	811218106017	Ruthramoorthy M	III/ECE	27	90	20	80	85
36	811218106018	Sabarinathan K	III/ECE	30	100	21	84	92
37	811218106019	Onon manuali N	III/ECE	27	90	19	76	83
38	811218106020	Deminid IV	III/ECE	30	100	19	76	88
39	811218106021	omismi	III/ECE	27	90	22	88	88
40	we suppose the second supplies the same	Thivya Priya R	III/ECE	27	90	19	76	92
41	811219106001	Dayana P	II/ECE	30	100	t		PROSESSED DELLES LIBERTURESPORTERS PROPERTY CO.
	811219106002	Devika K	II/ECE	27	***	19	76	87
42	811219106003	Dinesh J	II/ECE		90	20	80	80
43	811219106004	Mohana Sundaram K	II/ECE	30	100	19	76	87
44	811219106005	Ravikumar B		27	90	19	76	90
45	811219106006	Santhanaraj A	II/ECE	30	100	20	80	90
46	811219106007	Shyam CR	II/ECE	30	100	19	76	88
47	811219106008		II/ECE	27	90	19	76	92
48	may to a management of the same	Srikanth M	II/ECE	27	90	19		THE PARTY NAMED IN COLUMN TWO IS NOT THE OWNER, THE OWN
*************	811219106009	Surendran S	II/ECE	30			76	83
49	811219106010	Surya V	II/ECE		100	20	80	80
z Dh		1988-1990 (Marie Ingreson - 1971-1978) (Marie Ingreson - 1971-1978) (Marie Ingreson - 1971-1978)		27	90	19	76	80

Dr. G. Balakrishnan, M.E., Ph.D.,



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S.NO	IO REG NO STUDE		STUDENTS NAME YEAR/ BRANCH	Attendance Details		VAC-M	OVERALL	
· carriers	KEG NO	STUDENTS NAME		No. of Session Attended	Attendance Mark(100) (A)	No of Correct Answers	MCQ Mark(100)	MARK(100) (50% of A + 50% of B)
50	811219106011	Swetha K	II/ECE	27		- Marrie	(B)	
51	811219106301	Yuvashree S			90	19	76	83
52			II/ECE	30	100	20	80	90
32	811219106701	Vijayalakshmi V	II/ECE	27	90	19		
53	811219106702	Ponnarasu S		Street, and a second	The second second second second	17	76	83
		ormandon o	II/ECE	24	80	21	84	82

VAC Coordinator

HOD/ECE

Dr. G. Balakrishnan, M.E., Ph.D.,





CERTIFICATE OF PARTICIPATION

This is to certify that Ms. RAGAVI.A, III Year, ECE has successfully completed the Value Added Course on "ARDUINO PROGRAMMING" organized by Department of Electronics and Communication Engineering and IQAC of our Institution in Association with Galwin Technology from 01st February 2021 to 05th February 2021 (5days) during the Academic year 2020-2021.

Pojl

Galwin Technology Mr.K.C.Tamil Vendhan Human Resource Manager. 304

Principal IGCE

Dr. G. Balakrishnan, M.E., Ph.D.,
Principal
Indra Ganesan College of Engineering
IG Valley, Madurai Main Road

Manikandam, Trichy-620 012.



Department of Electronics and Communication Engineering

Academic Year 2020-2021 -EVEN Semester

26.07.2021

DEPARTMENT CIRCULAR

Department of Electronics and Communication Engineering and IQAC of IGCE in association with Hitakey Infosys, is going to organize Value Added Course for all Second, Third and Final year students on "PLC & INDUSTRIAL NETWORKING" from 02.08.2021 to 06.08.2021. Certificates will be issued to the eligible participants at the end of the Course. This training is to be provided in online mode.

Resource Person Detail	Mrs.Shalom Jerlin, Technical Head, Hitakey Infosys, Trichy
Venue	Online Mode https://us05web.zoom.us/j/2423859769?pwd=K3JZ d1JiS3FqTk1kenJzWStNS0NDQT09

HOD/ECE

Cc:

- · Principal office
- IQAC Co-ordinator
- Class In charges II, III & IV-Year
- II, III & IV-Year ECE Students
- Office File
- Notice Board

PRINCIPAL

Dr. G. Balakrishnan, M.E., Ph.D.,
Principal



Value Added Course

"PLC & INDUSTRIAL NETWORKING" <u>SYLLABUS</u>

S.NO	TOPIC COVERED	DURATION (in hours)	DATE
1	Introduction to Logic Circuit: Logic Gates, Numbering System.	3	02.08.2021
2	Interfacing Peripheral Chips: F.F., Registers, Tristate Buffers, Latches, Decoders, Memory.	3	02.08.2021
3	Introduction to PLC: Microprocessor, I/OPorts, Isolation, Filters, Drivers, Microcontrollers/DSP, PLC/DDC. 3		03.08.2021
4	PLC Construction: What is a PLC, Why preferring PLC, PLC Memories, PLC I/O,PLC Programming, introduction to PLC Ladder, PLC Special I/O, PLC Types.	3	03.08.2021
5	PLC Basic Instructions: PLC Ladder Language, Ladder/Instruction List, PLC Basic Instructions, Basic Examples (Start Stop Rung, Entry/Reset Rung).	3	04.08.2021
6	Process Control Problems Classification: Types of Process Control, Interlock controldefinition, Sequential control definition, Random control definition, Interlockcontrol examples.	3	04.08.2021
7	Timers and Counters: Timers, Counters, Examples.	3	05.08.2021
8	Word and Branching Instruction: Data Handling Instruction, Arithmetic Instruction, PLC Internal Facilities, LogicInstruction, I/O Instruction, Program Control Instruction.	3	05.08.2021
9	Sensors, Switches, Solid State Relays, Sequential Process Control: Sequential control examples.	3	06.08.2021
Widosaposso e e despesa	Application Examples of Sequential Industrial Problem, Application Examples of Production Lines	3	06.08.2021
1	Exam	1	06.08.2021
	Total Hours (Excluding Exam)	30	Annual International Nation St. St.

VAC Coordinator

Dr. G. Balakrishnan, M.E., Ph.D.,

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Value Added Course

"PLC & INDUSTRIAL NETWORKING"

STUDENTS PARTICIPATION LIST

S.NO	REG NO	STUDENTS NAME	YEAR/ BRANCH
1	811217106001	Aishwariya S	IV/ECE
2	811217106002	Aneesha A	IV/ECE
3	811217106003	Deepika B	IV/ECE
4	811217106004	Durga D	IV/ECE
5	811217106005	Gangadevi M	IV/ECE
6	811217106006	Janani C	IV/ECE
7	811217106009	Karthick K	IV/ECE
8	811217106010	Kosiananth R	IV/ECE
9	811217106011	J akshmi M	IV/ECE
10	811217106012	Manikandan M	IV/ECE
11	811217106013	Mekala Devi S	IV/ECE
12	811217106014	Pandimeena R	IV/ECE
13	811217106016	Preethi V	IV/ECE
14	811217106017	Roashitha Jannath A	IV/ECE
15	811217106018	Ranjitha T	IV/ECE
16	811217106019	Riyas Mohammed K	IV/ECE
17	811217106020	Saimouli N	IV/ECE
18	811217106021	Sarumathi A	IV/ECE
19	811217106022	Shalini M	IV/ECE
20	811217106023	Siva Sankari M	IV/ECE
21	811218106001	Abinaya R	III/ECE
22	811218106002	Akila K	III/ECE
23	811218106004	Arthi M	ІШ/ЕСЕ
24	811218106005	Azhagu Meena M	III/ECE
25	811218106006	Devi K	III/ECE
26	811218106007	Dhanalakshmi S	III/ECE
27	811218106008	lari Krishnan S	III/ECE
28	811218106009	lanani V	III/ECE
29	811218106010	enifer C	III/ECE
0	0110101010101	enifer S	III/ECE
1		esavamurthi M	III/ECE
2	011010101010	Ciruthika S	III/ECE
3	04404040404	Jaria Francis D	III/ECE
4		lagavi A	ПИЕСЕ

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S.NO	REG NO	STUDENTS NAME	YEAR/ BRANCH
35	811218106017	Ruthramoorthy M	MI/ECE
36	811218106018		III/ECE
37	811218106019	The state of the s	III/ECE
38	811218106020	Sumathi	III/ECE
39	811218106021	Thivya Priya R	III/ECE
40	811219106001	Dayana P	II/ECE
41	811219106002	Devika K	II/ECE
42	811219106003	Dinesh J	II/ECE
43	811219106004	Mohana Sundaram K	II/ECE
44	811219106005	Ravikumar B	II/ECE
45	811219106006	Santhanaraj A	II/ECE
46	811219106007	Shyam CR	II/ECE
47	811219106008	Srikanth M	II/ECE
48	811219106009	Surendran S	II/ECE
49	811219106010	Surya V	II/ECE
50	811219106011	Swetha K	II/ECE
51	811219106301	Yuvashree S	II/ECE
52	811219106701	Vijayalakshmi V	II/ECE
3	811219106702	Ponnarasu S	II/ECE

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			REPORT ON	VALU	E ADD	ED COU	RSE			
Title:	"PLC & INDUSTRIAL NETWORKING"									
Resource	Person:	Mr	s. Shalom Jerli	in,	operation in any other than	***************************************		10700 7971 ONL		
		Tec	chnical head,							
		Tri	akey Infosys, chy							
Date of co	nduct fro	m:	02.08.2021	To:	06.08	3.2021	Duration:	30 Hou	rs	
Organized	Departm	nent:	Electronics and	Commu	nicatio	n Engine	ering	<u> </u>	**	
Participant	- methodological season	2,3,4	Name of the same	Přesi Přívablazaman. A.		The same and the s	tudents Registe	ered: 53	3	
	Online N https://u 9		link : b.zoom.us/j/2423	859769?	pwd=k)ND(
• Kr	ow abo	ut the	d Course (VAC): industrial periphenemories, PLC pr	eral chip	s, PLC	C/DDC			to	
* Ex	plain the C BasicI	PLC nstruct	Basic Instructions tions	: PLC La	dder L	anguage,	Ladder/Instruc	tion List,		
uel.	muon, K	andom	of Process Control, a control definition							
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DXa	often page	***************************************	CONTROL OF THE PROPERTY OF THE	ssment]	i ocess	- and Reconstructions				
Students,	who are	secur	ring more than 70	% on to	tal sco	re and se	cured more th	an 75% i	n	
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SAMPLE PHOTOS OF VAC ON PLC & INDUSTRIAL NETWORKING

Title:

"PLC & INDUSTRIAL NETWORKING"

Resource Person:

Mrs. Shalom Jerlin.

Technical head,

Hitakey Infosys,

Trichy

Date of conduct from: 02.08.2021 To: 06.08.2021 Duration:

30 Hours

Organized Department:

Participant Year:

Electronics and Communication Engineering

No. of Students Registered:

Venue:

Online Mode Link:

2,3,4

https://us05web.zoom.us/j/2423859769?pwd=K3JZd1JiS3FqTk1kenJzWStNS0NDQT0

Sample Photos

What is PLC?

PLC is an industrial computer control system that continuously monitors the state of input devices and makes decisions based upon a suctoiz proglare to control the state of output devices



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Name of the Student:

Year/Sem:

AU Register Number:

A. Modular, uniform PLC

Value Added Course

"PLC & INDUSTRIAL NETWORKING"

MULTIPLE CHOICE QUESTIONS (252	X1 = 25 Marks
1. Which is the first PLC model?	
A. PLC 086	
B. PLC 085	
C. PLC 084	
D. None	
2. How many apprecian stone does the programme blo	lacia annémallan kawan
2. How many operation steps does the programmable A. Two	logic controller nave:
B. One	
C. Four	
D. Three	
3. In PLC operationchecks the status at the	ie input side
A. Program scan	
B. Output scan	
C. Input scan	
D. None	
4. The components that make PLC works can be divided int	o core areas
A. Two	
B. One	
C. Four	
D. Three	
5. In PLC operationretrieves the data into an o	utput module
A. Output scan	
B. Input scan	
C. Program scan	
D. None of the above	
6. Before PLC's was created many industries used	
A. Capacitors	10.
*	Drich
B. Relays C. Resistors	Dr. G. Balakrishnan, M.E., Ph.D.
	Principal
D. None of the above	Indra Ganesan College of Engineering IG Valley, Madurai Main Road
7. What are the types of programmable logic controllers?	Manikandam, Trichy-620 012.

- B. Fixed and Modular PLC
- C. Fixed, uniform PLC
- D. None of the above

8.	The	rela	ys	col	asist	of	-
		-	-11				

- A. Load circuit
- B. Control circuit
- C. All of above
- D. None of above

9. Who invented the Programmable Logic Controller (PLC)?

- A. Dick Morley
- B. Jonas Wenstrom
- C. Thomas Davenport
- D. None of the above

10. In modular programmable logic controller _____

- A. Output is fixed
- B. Input is fixed
- C. All of above
- D. None of above

11. The control logic in a programmable logic controller can be programmed by

- A. Sequential logic
- B. Structured text
- C. FBD, ladder logic
- D. All of the above

12. CCTV cameras is an example for ____automation

- A. Office automation
- B. Scientific automation
- C. Industrial automation
- D. Building automation

13. The PLC's can be programmed in _____

- A. Instruction list, Functional block diagram
- B. Ladder logic, structured text
- C. Sequential function chart
- D. All of the above

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14. The programmable logic controllers are used in

- A. Cement manufacturing
- B. Process automation plants
- C. Glass and paper industry
- D. All of the above

15. The sequences are classified into	
A. One	
B. Two	
C. Three	
D. Four	
16. In modular type PLC, the PLC's are classified intoA. Transistor output PLCB. Relay output PLC	
C. Triac output PLC	
D. All of the above	
17. In fixed programmable logic controller	
A. Output is fixed	
B. Input is fixed	
C. None of the above	
D. All of above	
18. In the water level storage tank, the manual mode proceed by monitoring theswitch input A. High sensor switch B. Low sensor switch C. None of above D. All of above	ogram controls the water
19. The programmable logic controllers are classified in according tophysical size in modular type PLC	to
A. Micro PLC, Nano PLC	
B. Nano PLC, Mini PLC, Macro PLC	
C. Mini PLC, Micro PLC	
D. All of the above	
20. The programmable logic controller is classified into	
A. Three	
B. One	
C. Four	
D. Two	
21. The advantages of PLC are A. Reliability is high	Dr. C. Pala I
B. Small in size	Dr. G. Balakrishnan, M.E., Ph.D.,
C. Easy maintenance	Principal Indra Ganesan College of Engineering
D. All of the above	IG Valley, Madurai Main Road Manikandam, Trichy-620 012.
22. is an example for light automotion?	, vac.

A. Street solar lightening

B. Automated bottle filling stations



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- C. Rocket launching
- D. Smoke detectors

23. The CPU has ____

- A. Processor
- B. Power supply
- C. Memory system
- D. All of the above

24. Which one is the correct sequence for PLC operation?

- A. Self-test, logic scan, output scan, input scan
- B. Self-test, input scan, output scan, logic scan
- C. Self-test z, input scan, logic scan, output scan
- D. None of the above

25. _____is an example for scientific automation?

- A. Street solar lightening
- B. Automated bottle filling stations
- C. Rocket launching
- D. Smoke detectors

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Value Added Course

"PLC & INDUSTRIAL NETWORKING"

ANSWER KEY

1	С	6	В	11	D	16	D	21	D
2	D	7	В	12	A	17	D	22	A
3	С	8	C	13	В	18	В	23	D
4	С	9	A	14	D	19	D	24	С
5	A	10	С	15	С	20	D	25	C

VAC Coordinator

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Department of Electronics and Communication Engineering

Academic Year 2020-2021 - Even Semester

VALUE ADDED COURSE ASSESMENT SHEET PLC & INDUSTRIAL NETWORKING

Dr. G. Balakrishnan, M.E., Ph.D.,

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s.no	REG NO	STUDENTS NAME	YEAR/	Attendance Details		VAC-M	OVERALL	
			BRANCH	No. of Session Attended	Attendance Mark(100) (A)	No of Correct Answers	MCQ Mark(100)	MARK(100) (50% of A + 50% of B)
1	811217106001	Aishwariya S	IV/ECE	30	100		(B)	me did strategraphy a
2	811217106002	Aneesha A	specialism (1704 - 2000 - 100) and in the state of the st	Jenish ma, nome , 54		20	80	90
3	811217106003		IV/ECE	30	100	20	80	90
4	811217106003	Deepika B	IV/ECE	27	90	19	76	83
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5	811217106005	Ciangadevi M	IV/ECE	27	90		100 May 200 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	87
6	811217106006	Janani C	IV/ECE			19	76	83
7	811217106009	Karthick K	y	27	90	19	76	83
8	OC . Simony werkely commences proper of the specimental and the sp	Since the appearance of the Commission of the Co	IV/ECE	30	100	20	80	90
*	811217106010	Kosiananth R	IV/ECE	27	90	19	76	
9	811217106011	Lakshmi M	IV/ECE	27				83
10	811217106012	Manikandan M		1 - Mt - #10000/ Auran - mp - maran - M	90	19	76	83
11	811217106013		IV/ECE	27	90	19	76	83
**	01121/100013	Mekala Devi S	IV/ECE	30	100	21	84	92



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S.NO	REG NO	CURTURAL	YEAR/	Attendance Details		VAC-MCQ TEST		OVERALI
National desputation of the second section of the section		STUDENTS NAME	S	No. of Session Attended	Attendance Mark(100) (A)	No of Correct Answers	MCQ Mark(100)	MARK(100) (50% of A + 50% of B)
12	811217106014	l'andimeena R	IV/ECE	27	90	20	(B) 80	0.0
13	811217106016	Preethi V	IV/ECE	30	100			85
14	811217106017	Raashitha Jannath A	IV/ECE	30	100	21 19	84	92
15	811217106018	Ranjitha T	IV/ECE	27	90		76	88
16	811217106019	Riyas Mohammed K	IV/ECE	24	80	19	76	83
17	811217106020	Saimouli N	IV/ECE	24	***************************************	20	80	80
18	811217106021	Sarumathi A	IV/ECE	27	80	21	84	82
19	811217106022	Shalini M	***************************************		90	22	88	89
20	811217106023	Siva Sankari M	IV/ECE	30	100	20	80	90
21	811218106001	Andrew to administration to the state of the	IV/ECE	27	90	21	84	87
22	811218106002	Abinaya R	III/ECE	24	80	20	80	80
23	811218106004	Akila K	III/ECE	27	90	21	84	87
24	811218106005	Arthi M	III/ECE	30	100	20	80	90
25	811218106006	Azhagu Meena M	III/ECE	30	100	19	76	82
26	Mr. servergenzen e. Al mengaperannigage	Devi K	III/ECE	30	100	19	76	88
	811218106007	Dhanalakshmi S	III/ECE	30	100	21	84	92
27	811218106008	Hari Krishnan S	III/ECE	27	90	19	76	83
28	811218106009	Janani V	III/ECE	27	90	19	76	83
29	811218106010	Jenifer C	III/ECE	27	90	19	76	
30	811218106011	Jenifer S	III/ECE	27	90	19	76	83

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S.NO	REG NO		YEAR/	Attendance Details		VAC-MCQ TEST		OVERALL
	APA NO	STUDENTS NAME	BRANCH	No. of Session Attended	Attendance Mark(100) (A)	No of Correct Answers	MCQ Mark(100)	MARK(100 (50% of A - 50% of B)
31	811218106012	Kesavamurthi M	III/ECE	30	100	1	(B)	
32	811218106013	Kiruthika S	III/ECE	27		19	76	88
33	811218106015	Maria Francis D	III/ECE		90	19	76	83
34	811218106016	Ragavi A		24	80	21	84	82
35	811218106017	**************************************	III/ECE	27	90	20	80	85
36	811218106018	Ruthramoorthy M	III/ECE	30	100	21	84	92
37	811218106019	Sabarinathan K	III/ECE	27	90	19	76	83
38	811218106020	Sarmila M	III/ECE	30	100	19	76	88
39	in spenior and the state of	Sumathi	III/ECE	30	100	19	76	88
Marin Demograph in	811218106021	Thivya Priya R	III/ECE	30	100	21	84	92
40	811219106001	Dayana P	II/ECE	27	90	21	84	87
41	811219106002	Devika K	II/ECE	24	80	20	80	- Holon A., granter and
42	811219106003	Dinesh J	II/ECE	27	90	21		80
43	811219106004	Mohana Sundaram K	II/ECE	30	100		84	87
44	811219106005	Ravikumar B	II/ECE	27	*****	20	80	90
45	811219106006	Santhanaraj A	II/ECE	**************************************	90	19	76	83
46	811219106007	Shyam CR	* ************************************	30	100	19	76	88
47	811219106008	Srikanth M	II/ECE	30	100	21	84	92
48	811219106009	Surendran S	II/ECE	27	90	19	76	83
49	10th to	The work is the territorial with the production of the product of	II/ECE	24	80	20	80	80
(1)	811219106010	Surya V	II/ECE	24	80	20	80	80

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S.NO	REG NO	STUDENTS NAME	YEAR/ BRANCH	Attendance Details		VAC-MCQ TEST		OVERALL
				No. of Session	Attendance Mark(100)	No of Correct	MCQ Mark(100)	MARK(100) (50% of A +
50	811219106011	Swetha K		Attended	(A)	Answers	(B)	50% of B)
51	811219106301	Yuvashree S	II/ECE	27	90	19	76	83
52			II/ECE	30	100	20	P in telepope	
	811219106701	Vijayalakshmi V	II/ECE			Personal Contract Con	80	90
53	811219106702	Ponnarasu S	***************************************	27	90	19	76	83
	March Persons, Many Springers	P VALLEY US U	II/ECE	24	80	21	84	82

VAC Coordinator

HOD/ECE

Dr. G. Balakrishnan, M.E., Ph.D.,





CERTIFICATE OF PARTICIPATION

This is to certify that Ms. PREETHI.V, IV Year, ECE has successfully completed the Value Added Course on "PLC & INDUSTRIAL NETWORKING" organized by Department of Electronics and Engineering and IQAC of our Institution in Association with Hitakey Infosys from 02nd August 2021 to 06th August 2021 (5days) during the Academic year 2020-2021.

Mrs.Shalom Jerlin,

Technical Head,

Hitakey Infosys.

3

Dr. G. Balakrishnan, M.E., Ph.D.,

Indra Ganesan College of Engineering IG Valley, Madurai Main Road Manikandam, Trichy-620 012.

Principal IGCE