

(Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai)
UG - CSE, EEE & MECH Programs Accredited by NBA, New Delhi.
(An ISO 9001:2015 Certified Institution)
TRICHY - PUDUKKOTTAI ROAD, TIRUCHIRAPPALLI - 620 007.
Email: principalengg@miet.edu, contact@miet.edu
Website: - www.miet.edu



Ph: 0431 - 2660 303

1.2.2 Number of Add on /Certificate programs offered during the last five years (10)

	2019-2020	
Sl. No	Name of Add on /Certificate programs offered	Pg.No
	EE19201 - Electrical Safety and Maintenance	•
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	Circular	3
	Syllabus	4
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Ph: 0431 - 2660 303

Date: 20.05.2019

To

The Principal

M.I.E.T Engineering College,

Trichy - 620007

Respected Madam,

Sub: Permission to conduct the certificate program - Reg...

We have planned to conduct the certificate program for our final year students from 23.05.2019 to 29.05.2019 at 09.30 AM – 05.00 PM.

Name of the Certificate Program	Course Coordinator
Electrical Safety and Maintenance	Mr.S.Samaya sanjeevi., APÆEE

So kindly give us permission to conduct the course and to utilize the class room.

Thanking you

Course Coordinator

HoD/EEE

Principal



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Ph: 0431 - 2660 303 27.11.2019

CIRCULAR

Sub: Certificate Program

It is planned to conduct the Certificate Program for the final year Electrical and Electronics Engineering students.

The Certificate Program is short term certificate courses which are designed and offered by our department for the benefit of our students. Certificate Program will be conducted at free of cost and based on the performance of the participated students, the merit certificate will be issued after the successful completion of the course.

Students those who are willing to attend the below mentioned course can enroll their name to the course coordinator.

Name of the Certificate Program	Course Coordinator
Electrical Safety and Maintenance	Mr.S.Samaya snajeevi., AP/EEE
. Commencement of course Time: 09.30 A	

S. Duya High Course Coordinator

IQAC Coordinator

HoD/EEE

Principal

M.I.E.T ENGINEERING COLLEGE, TRICHY - 7. DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Certificate Courses (IV Year - VII Semester)

Name of the course: Electrical Safety and Maintenance

Course Code: EE19201

Course Coordinator: Mr.S.Samaya snajeevi., AP/EEE

Total Hours: 32

Academic Year: 2019-2020

Objective

- To provide the knowledge of the possible hazards caused by electricity.
- To create an awareness on safety measures and practices to avoid electrical hazards.

Unit I - Electricity Basics

Ohm's Law -Types of Electrical Faults -Overloads - Short Circuits - Over current Protective Devices - Interrupting Rating- Current Limitation - Fuses - Circuit Breakers - Circuit Protection.

Unit II - Electrical Safety Codes and Standards

Working on De-energized Equipment- Establish a Safe Work Condition - Working on Energized equipment-Energized Electrical Work Permit -Employer and Employee Responsibilities.

Unit III - Arc-Flash and Other Electrical Safety Hazards

Electrical Safety Hazards - Electric Shock - Arc-Flash and Arc Blasts - Arc-Flash Metrics - Arc-Blast Effect - Light and Sound Effects.

Unit IV - Electrical Hazard Analysis

Shock Hazard Analysis - Approach Boundaries - Flash Hazard Analysis - Arc-Flash Calculations.

Unit V - Electrical Maintenance

Preventive Maintenance (PM) - Predictive Maintenance (PdM) - Failure Finding Tasks (Hidden Failures) -Consequence Reduction Tasks (RTF).

Course Outcome

The students will be able to

i) Know the installation, commissioning and maintenance of different electrical components.

ii) Understand the concepts of commissioning, maintenance, electrical safety, installation and maintenance of domestic.

References

- 1. Ralph H. Lee, "The Other Hazard Electric Arc Blast Burns" Lee Electrical Engineering,
- 2. Ralph H. Lee, "Pressures Developed By Arcs" (@1986, IEEE) Lee Electrical Engineering, Inc.
- 3. Occupational Safety & Health Administration Standards 29 CFR 1910.331 -1910.335
- 4. National Electric Code®
- Industrial Electrical Safety, (©1991)



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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING Willing Student list

CP1 Coordinator: A.Abirami AP/EEE
CP2 Coordinator: S.Samaya Snajeevi /EEE

Academic Year: 2019-2020

SL. NO	STUDENT NAME	<u>CP1</u> Basic Industrial Automation using PLC	CP12 Electrical Safety and Maintenance
1.	Abdul Basith. B	✓	
2.	Abdul Rahim. J	✓	
3.	Ahamed Basha, A	✓	
4.	Ajay. P		
5.	Croose Divahar. S	Y	
6.	Izaz Sarbudeen. M	✓	
7.	Karthikeyan. P	✓	
8.	Mahaveer. M	· ·	
9.	Mohamed Basil, S	1	
10.	Mohamed Fazil. N	/	
11.	Mohamed Mufaris, K	/	
12.	Mohamed Osama, M		
13.	Mohamed Thajmeel. Z	✓	
14.	Mohamed Yasin. S	/	
15.	Nandhini. V	✓	
16.	Nithese Kanna. A	✓ ·	
17.	Rubini. U	V.	
18.	Siddiq Basha. M	· ·	
19.	Sirajideen. B	√	

SL. NO	STUDENT NAME	EP1 Basic Industrial Automation using PLC	<u>CP12</u> Electrical Safety and Maintenance
20.	Sri Kumaran. K	✓	
21.	Subarethinam. P	✓	
22.	Thameena Begum. M	✓	
23.	Thamizhvalavan. M	✓	
24.	Vceramani. K	/	1
25.	Gowshik, Ms	✓	
26.	Jeeva. R	✓	
27.	Mohamed Fazil. S	✓	3
28.	Nafeez Ahamed. A	✓	
29.	Ramesh Kumar	✓	
30.	Rifaykhan. J	1	
31.	Vasim Akram. A	✓	
32.	Mohamed Niyasudeen. M		
33.	Mohamed Rilwan. S	-	
34.	Abdullah J		
35.	Ajmal ahamed maraicar Y		
36.	Arman salih ahmad.A		✓
37.	Arulsakthi V		✓
38.	Azarudeen S		✓
39.	Britto \$		✓
40.	Chandhru G		✓
41.	Dinakaran T	-	✓
42.	Divakaran N		~
43.	Elansezhiyan M		✓ .
44.	Farook dheen P		✓
45.	Ganeshkumar J		· ·

SL. NO	STUDENT NAME	CP1 Basic Industrial Automation using PLC	<u>CP12</u> Electrical Safety and Maintenance
46.	Gayathri N		✓
47.	Haja najimudeen A		
48.	Jaffer hussain S		✓ ·
49.	Judith A		· /
50.	Kalaithasan P		~
51.	Kalpana K	17 17	✓
52.	Kayalarasu N		
53.	Kiruthika J		1
54.	Manikandan M		7
55.	Manikandan P		
56.	Mohamed shalik m Y		✓
57.	Mohamed abdul malik R		✓
58.	Mohamed aslam S		*
59.	Mohamed bashajan S		✓
60.	Mohamed basith S		74
61.	Mohamed ismail R		✓
62.	Muhammed althaf S	4	
63.	Nancy D		1
64.	Nazar M		
65.	Nisha U		1
66.	Nivedha S		✓
67.	Pavithra J		✓
68.	Pradeep		✓
69.	Ram kavi N	and the second s	✓
70.	Riyas mohamed A		✓
71.	Riyaz ahamed S		✓ *

SL. NO	STUDENT NAME	Basic Industrial Automation using PLC	Electrical Safety and Maintenance
72.	Rooban raj J		✓
73.	Sakthivel J		1
74.	Salam B		~
75.	Salman khan I		
76.	Sameerali S		V -
77.	Saravanakumar G		✓
78.	Seeni mohamed S		✓
79.	Sellarasu M		✓
80.	Shaik rahuman S		✓
81.	Shanmugaraja J		1
82.	Sivaranjani M		
83.	Srihari S		
84.	Sujith S		
85.	Theresline joice J		Se
86.	Thivakar D		
87.	Vignesh		
88.	Vikram S		
89.	Arun nisanthan N		✓
90.	Dheenadayalan Y		✓ ·
91.	Manikandan T		
92.	Mohamedethayath R		
93.	Mohamedjainudeen J.B		
94.	Mohamed khan M		1
95.	Mohamed rhiswan roslan H		✓
96.	Muhamedrishwan J		i i
97.	Rajmohamed S		

SL. NO	Saminathan B	CP1 Basic Industrial Automation using PLC	<u>CP12</u> Electrical Safety and Maintenance
98.	Saiyadrihaan A		
99.	Saminathan B		
100.	Sheik ismail B		✓
101.	Syedyaship S		1
102.	Yacobunathan S		

S. Que Piris Course Coordinator

H₀D/EEE

Principal



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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING Certificate Program (IV Year - VII Semester)

Course Delivery

Name of the Course: Basic Electrical Safety and Maintenance

Course Code: EE19201

Course Coordinator: Mr.S.Samayasnajeevi., AP/EEE

Total Hours: 32

Academic Year: 2019-2020

SI.No	Part Part Part Part Part Part Part Part		Date of Delivery
1.	Ohm's Law -Types of Electrical Faults -Overloads		
2.	Short Circuits - Over current Protective Devices	7	22.05.10
3.	Interrupting Rating- Current Limitation - Fuses	/	23.05.19
4.	Circuit Breakers -Circuit Protection		
5.	Working on De-energized Equipment- Establish a Safe Work Condition		
6.	Working on Energized equipment	7	24.05.19
7.	Energized Electrical Work Permit		
8.	Employer and Employee Responsibilities		
9.	Electrical Safety Hazards - Electric Shock		
10.	Arc-Flash and Arc Blasts		
11.	Arc-Flash Metrics	6	27.05.19
12.	Arc-Blast Effect - Light and Sound Effects		
13.	Shock Hazard Analysis		
14.	Approach Boundaries	6	28.05.19
15.	Flash Hazard Analysis		26.03.19
16.	Are-Flash Calculations		
17.	Preventive Maintenance (PM)		
18.	Predictive Maintenance (PdM)	6	29.05.19
19.	Failure Finding Tasks (Hidden Failures)		
20.	Consequence Reduction Tasks (RTF)		

O, Quya Airi Course Coordinator

HoD/EEE

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING Resource Person Details

Title of the program	Electrical Safety and Maintenance
Course Code	EE19201
Duration and timing of the program	32 Hrs, , 09.30 AM – 05.00 PM
Name of the resource person	SATHISHKUMAR. S
Photo of the resource person	
Email address	caddzonetrichy@gmail.com
Contact number	90920 74444
Designation	SENIOR FACULTY
Educational qualification	Bachelor of Engineering
Experience	➢ Industrial experience8Years➢ Teaching Experience5 Years.



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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING
Certificate Courses (IV Year – VII Semester)

Attendance Sheet

Name of the course: Electrical Safety and Maintenance Course code: EE19201 Course coordinator: Mr.S.Samaya snajeevi., AP/EEE Academic Year: 2019-2020

SL.NO	STUDENT NAME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	18	20	21
SL.NO	STODENT NAME	20X	23	23	25	3%	23	2%	201/	2//	2%	些	2/2	24	24	07/8	双-	2/	2/5	27	21/2	23
1.	Arman salih ahmad.A	1	1	1	1	1	1	.)	,	1	1	1	1	,	',	a	R	2	a	a	a	a
2.	Arulsakthi V	1	1	,	1	1	1	1	1	1	,	1	1	1	./	,	,	1	1	1	1	,
3.	Azarudeen S	,	1	^	J.	1	1	1	1	7	1	1	1	,	,	1	1	1	^	1	1	1
4.	Britto S	1	1	1	1	1	1	1	,	,	1	,	,	1	1		1	,	1	1	,	,
5.	Chandhru G	1	1	7	1	1	,	1	,	1	1	1	-	1	1	,	,	,	,	1	1	1
6.	Dinakaran T	1	,	1	1	t	1	1	-	1	1	,	1	1	1	1	1	1	1	^	1	1
7.	Divakaran N	1	1	1	1	1	1	J	1	1	1	1	1	1	1	1	1	1	,	1	1	1
8.	Elansezhiyan M	1	1	t	1	1	t	1	1	1	1	,	1	,	1	1	1	1	1	1	1	1
9.	Farook dheen P	1	!	1	1	1	t	1	1	1	,	,	,	1	1	1	1	1	1	1	1	1
10.	Ganeshkumar J	a	a	a	a	a	0	a		. t	,	1	1	1	- 1	1	1	1	1	1	1	1
11.	Gayathri N	1	1	t	1	1	,	1	a	a	0	a	0	1	1	1	1	1	1	1	1	1
12,	Jaffer hussain S	r	1	,	1	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	,

SL.NO	STUDENT NAME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	1.8	20	21
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13.	Judith A	100	1	1	6	1	1	1	1	1	1	1	1	1	1	,	1	1	1	,	10	1
14.	Kalaithasan P	1	1	٨	1	1	1	1	^	1	,	1	,	1	-	a	a	a	a	a	a	,
15.	Kalpana K	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	,	1	,	,	1
16.	Kiruthika J	,	1	,	,	1	1	1	ı	1	,	1	1	^	1	d	1	,	1	,	1	1
17.	Mohamed shalik m Y	1	1	1	,	1	1	1	1	1	1	1	,	1	1	1	1	,	1	,	5	1
18.	Mohamed abdul malik R	1	1	1	1	,	1	1	1	1	1	1	1	,	1	1	1	1	1	1	1	1
19.	Mohamed bashajan S		,	,	1	1	,	1	1	1	1	1	1	,		,	1	,	1	1	1	1
20.	Mohamed ismail R	,	1	^	1	1	1	1	ai	1	a	a	a	a	9	1	1	1	1	1	1	1
21.	Nancy D	1	1	1	1	1	1	1	1	1	1	1	,	1	1	1	1	1	1	,	1	1
22.	Nisha U	1	1	,	1	,	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
23.	Nivedha S	1	1	1	1	1	1	1	1	1	1	,	1	1	1	1	1	1	1		1	1
24.	Pavithra J	1	,	1	7	1	1	1		1	,	,	1	,	1	1	1	1	1	1	1	1
25.	Pradeep	1	1	^	1	1	1	1	0	1	1	1	1	1	1	1	1	,	1	1		1
26.	Ram kavi N	1	1	1	1	1	1	1	1	1		1	1	1	1	^	1	1	a	a	a	,
27.	Riyas mohamed A	1	1	1	, ,		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
28.	Riyaz ahamed S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	,	1
29.	Rooban raj J	1	1	11	1	./.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	,
30.	Sakthivel J	1	1	1	1	1	1	1	t	1	1	1	1	1	1	1	1	1	1	1	1	,
31.	Salam B	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	*	1	1
32.	Sameerali S	1	1	1	1	1	1	1	1	1	1	1	1	,	1	1	,	1	•	1	,	,

or No	CTUDENT NILLOG	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	180	20	21
SL.NO	STUDENT NAME	29/	234	23/5	23/	-27/	-23/	2/1	2/5	Sty	The state of	200	22/	24	4	27/2	些	29	27	2%	27/2	28/
33.	Saravanakumar G	1	1	1	7	1	1	1	ſ	Ĩ	1	1	1	1	1	1	1	1	1	17	1	1
34.	Seeni mohamed S	1	1	1	1		1	1.	1	1	1	1	,	1	1	1	1	1	1	1	1	1
35.	Sellarasu M	1	1		^	1		1	/	1	1	1	1	1	1	1	1	7	1	1	1	1
36.	Shaik rahuman S	/	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
37.	Shanmugaraja J	1	_ /*	1	1	1	1	1	1	1	1	1	1	1	1	a	a	a	a	a	a	a
38.	Arun nisanthan N	1	1		1	1.	1	1	1	1	1	1	1	1	1	R	X	A	1	1	1	11
39.	Dheenadayalan Y	1	1	/	1	1	人	1	1	\nearrow	1	1	1	1	1	.1	1	,	1	/	1	1
40.	Mohamed khan M	,	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	,	1	/	1	
41.	Mohamed rhiswan roslan H	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		,	1	-
42.	Sheik ismail B	^	1		C	1	1	11	1	1	1	1	(1	1	1	/	1	7	1	1	1
43.	Syedyaship S	K	P	R	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

L.NO	STUDENT NAME	22	23	24	25	26	27	28	29	30	31	32
L.NO	STUDENT NAME	22/5	Dry.	27/5	RY/	25%	网络	29/5	21/	24/5	245	09/
1.	Arman salih ahmad.A	1	1	1	1	1	1	1	1	1	1	1
2.	Arulsakthi V	R	x	1	a	a	1	1	^	1	1	r
3.	Azarudeen S	,	1	1	1	1 -	1	1	1	10.	1	1
4.	Britto S	- 7	1	1	- 1	1	1	1	1	a	a	a
5.	Chandhru G	1	1	1	1	,	^	,	1	,	,	,
6.	Dinakaran T	1	,	1	10	1	,	- /	,	1	1	1
7.	Divakaran N		1	a	a	a	1	1	1	^	1	,
8.	Elansezhiyan M	-,-	1	a	a	a	^	1	1	1	1	
9.	Farook dheen P	1	1	1	1	1	1	1	1	,	1	1
10.	Ganeshkumar J	· /	1	1	1	,	1	1	/	1	1	1
11.	Gayathri N	. ,	1	1	1	, ,	,	,	,	1	1	1
12.	Jaffer hussain S	í	1	1	1	1	1	1	1	1	1	Ť
13.	Judith A	1	1	1	7	1	^	1	,	,	_	1
14.	Kalaithasan P		"	1	1	,	1	1	1	1	1	7
15.	Kalpana K	1	1	1	· ·	1	1	,	,	1	1	-
16.	Kiruthika J	(1	1	1	,	1	1	,	1	,	1
17.	Mohamed shalik m Y	1	1	1	1	1.	1	1	,	1	,	1
18.	Mohamed abdul malik R	1	1	1	1	1	1	1	1	,	,	1
19.	Mohamed bashajan S	1	1	1	1	1	1	,	1	1	1	7
20.	Mohamed ismail R	1	,	1	A	1	a.	a	a.	a	a	a

SL.NO	STUDENT NAME	22	23	24	25	26	27	28	29	30	31	32
30.110	STUDENT NAME	29/5	D.W.	88/5	28/5	2245	29/5	29/	20/5	295	27/5	29/8
21.	Nancy D	1	1	1	1	,	1	1	1	1	1	1
22.	Nisha U		1	1	1	,	1			1	,	1
23.	Nivedha S		,	,	1	-	1	1	1	-/	1	1
24.	Pavithra J	,	1	1	1	1	1	, ,	1	a	a	C
25.	Pradecp	, ·	1	,	,	1	1	,	1.	,	1	,
26.	Ram kavi N	1	1	1	1	_/_	1	1	1	,	1	
27.	Riyas mohamed A	1	1	1	,	1	1	1	1	1	1	1
28.	Riyaz ahamed S	1	1	1	,		1	,	1	,	1	,
29.	Rooban raj J	1	1	,	1	1	1	^	1	,	18	-/
30.	Sakthivel J	1	1	1	1	1	1	1	1	^	1	1
31.	Salam B	1	1	,	1	1	1	,	1	1	1	
32.	Sameerali S	1	1	1	,	1	1	1	1	1	1	1
33.	Saravanakumar G	1	1	1	1	1.	1	1	- 1	1	1	
34.	Seeni mohamed S	^	7	1	. 1	1	1	1	1	1	7	,
35.	Sellarasu M	/	1	,	1	1	1	,	1	1	1	1
36.	Shaik rahuman S	1	1	1	1	1	1		1	7	,	,
37.	Shanmugaraja J	1	1	1	1	1	,	,	7	,	1	1
38.	Arun nisanthan N	1	1	1	1	1	1	,	1	1	7	,
39.	Dheenadayalan Y	1	1	1	1	1	,	,	1	1	1	1
40.	Mohamed khan M		1	1	1	1	,		-	·,	1	1

SL.NO	STUDENT NAME	22	23	24	25	26	27	28	29	30	31	32
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41.	Mohamed rhiswan roslan H		1	1	1	1	CR	0	a	à	d	d
42.	Sheik ismail B	,	,	1	1	1	1	7	1	1	1	1
43.	Syedyaship S	/	1	a	n	a	,	1	,	,	,	1

3. Aug Digitalingtor

HODGEE



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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING Certificate Program Assessment Test

Name of the course: Electrical Safety and Maintenance

Course Code: EE192021 Academic Year: 2019-2020 Date: 03.06.19 Time: 01:30 hrs

Answer All the Questions (5*2=10)

PART-A

- 1. What is short circuit?
- 2. What is de-energized equipment?
- 3. Write the difference between Arc flash and Arc blasts.
- 4. Write down the safety precautions for electric shock.
- 5. Define preventive maintenance in electricity.

Answer All the Questions (4*10=40)

PART-B

6.a. Describe the electrical faults.

(Or)

- 6.b. Explain the working principle of over current protective device.
- 7.a, What Energized Electrical Work Permit and discuss it.

(Or)

- 7.b. Elaborate Shock Hazard Analysis.
- 8.a. Write in detail about the employer and employee responsibilities.

(Or)

- 8.b. Discuss about Flash Hazard Analysis.
- 9.a. Write in brief about Arc-Blast Effect Light and Sound Effects

(Or)

9.b. Write in detail about Consequence Reduction Tasks (RTF).

Course Coordinator

HoD/EEE



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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING One Page Report

Name of the course: Electrical Safety and Maintenance

Course Code: EE19201

Course Coordinator: Mr.S.Samaya snajeevi., AP/EEE

Total Hours: 32

Academic Year: 2019-2020

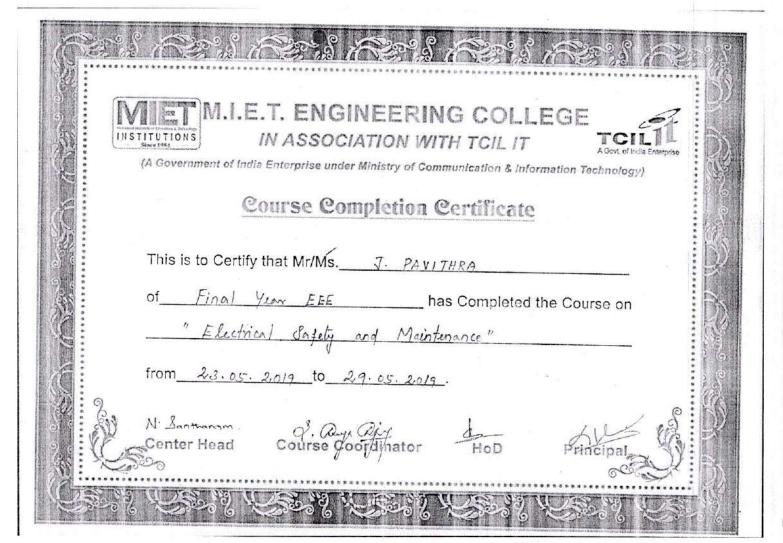
I hereby affirm that the entire course contents in the certificate program "Electrical Safety and Maintenance" listed in the course syllabus have been performed by the students as the part of the prescribed co – curricular activities through add on course by NAAC and NBA.

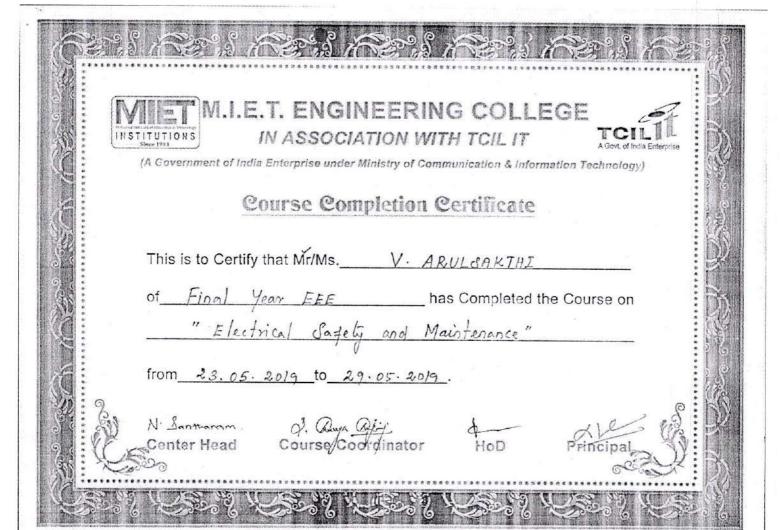
I confirmed that the certificate program title as "Electrical Safety and Maintenance" was done by me in the beginning of the semester and course delivery with attendance of the students were recorded.

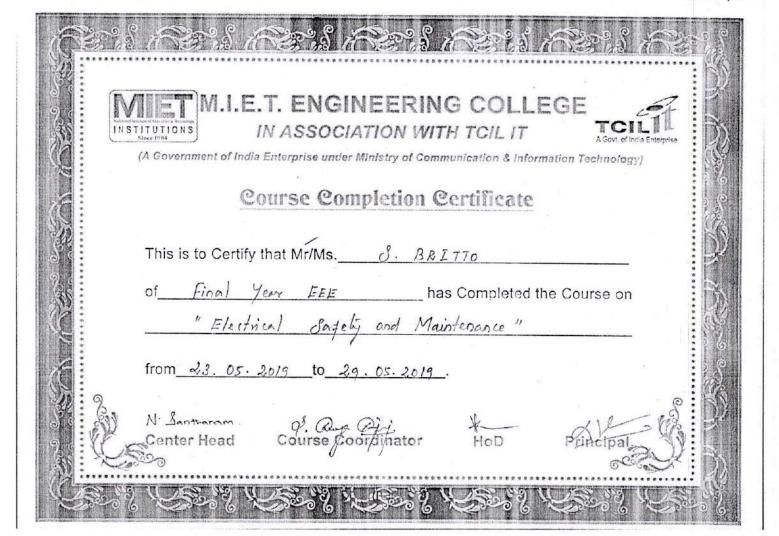
I confirmed that all the students for this certificate program were actively attended and performed well throughout the duration and eligible students received the participation certificate.

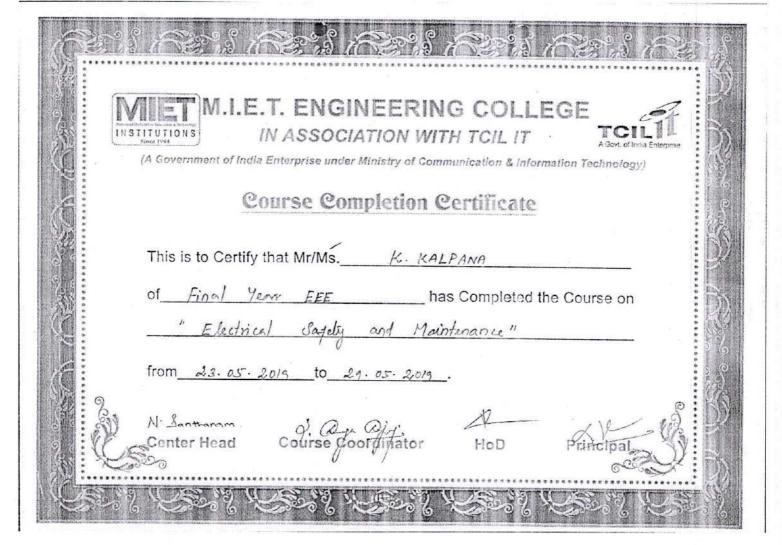
S. Quit Off Course Coordinator

HOWEEE











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Ph: 0431 - 2660 303

Date: 20.05.2019

To

The Principal

M.I.E.T Engineering College,

Trichy - 620007

Respected Madam,

Sub: Permission to conduct the certificate program - Reg...

We have planned to conduct the certificate program for our second year students from 23.05.2019 to 29.05.2019 at 09.30 AM - 05.00 PM

Name of the Certificate Program	Course Coordinator
Basic Industrial Automation Using PLC	Ms.A.Abirami., AP/EEE

So kindly give us permission to conduct the course and to utilize the class room.

Thanking you

Course Coordinator

HoD/EEE



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Website: - www.miet.edu

Ph: 0431 - 2660 303

21.05.2019

CIRCULAR

Sub: Certificate Program

It is planned to conduct the certificate program for the second year Electrical and Electronics Engineering students.

The certificate program is short term certificate program which are designed and offered by our department for the benefit of our students. Certificate program will be conducted at free of cost and based on the performance of the participated students, the merit certificate will be issued after the successful completion of the course.

Students those who are willing to attend the below mentioned course can enroll their name to the course coordinator.

Commencement of course fro Time: 09.30 AM -	
Basic Industrial Automation using PLC	Ms.A.Abirami., AP/EEE
Name of the Certificate Program	Course Coordinator

Course Coordinator

IQAC Coordinator

HoD/EEE

Principal

M.I.E.T ENGINEERING COLLEGE, TRICHY - 7

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Certificate Courses (II Year - III Semester)

Course Syllabus

Name of the course: Basic Industrial Automation Using PLC

Course Code: EE19202

Course Coordinator: Ms.A.Abirami., AP/EEE
Total Hours: 34 Academic Years: 2019-2020

Objective

To Impart the knowledge to the students with PLC.

To make the students understand the processes involved in the industries

Unit I - Nature of Industrial Process

7

Continuous & Discrete state sequential process-process variables and their classification.

Unit II - Introduction to Programmable Logic Controllers

7

Advantages & Disadvantages of PLC with respect to relay logic-PLC architecture-Input Output modules-PLC interfacing with plant- Memory structure of PLC.

Unit III -PLC Programming Methodologies

7

ladder diagram- STL, functional block diagram- creating ladder diagram from process control descriptions- introduction to IEC61131 international standard for PLC.

Unit IV -PLC Functions

7

Bit logic instructions- Ladder diagram examples-Interlocking- Latching- Inter dependency and Logical functions-PLC timer & Counter functions on-delay timer -Off-delay timers- Retentive On-Delay Timers- Pulse Timers- Timer Examples- Up-Counter- Down-Counter and Up-Down counter- Counter examples-Register basics.

Unit V -PLC Program Control and Interrupts

6

Jumps- Subroutine- Sequence control relay- Watchdog.

Course Outcome

The students will be able to

- Understand the basics of automation.
- Understand the need for Industrial electronic circuits in the controlled applications.
- · Understand basic concepts of PLC and develop its programming and applications.

References

These are some of the books which can help students in increasing their knowledge base and clarification of the doubts.

- JOHN WEBB: Programmable Logic Controllers Principles & applications, PHI
- T. A. HUGHES: Programmable Controllers
- . C. D. JOHNSON: Process Control Instrumentation

Course Coordinator

IQAC Coordinator

HoD/EEE

Principal

PRINCIPAL
M.I.E.T. ENGINEERING COLLEGE
GUNDUR, TIRUCHIRAPPALLI-520 997.

Page 26 of 45



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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING Willing Student list

CP1 Coordinator: A.Abirami AP/EEE
CP2 Coordinator: S.Samaya Snajeevi /EEE

Academic Year: 2019-2020

SL. NO	STUDENT NAME	CP1 Electrical Safety and Maintenance	CP2 Basic Industrial Automation using PLC
1.	Abdul Basith. B	✓	
2.	Abdul Rahim. J	✓	
3.	Ahamed Basha. A	V	-
4.	Ajay. P	1	
5.	Croose Divahar. S	~	MININE MATERIAL PROPERTY OF THE PROPERTY OF TH
6.	Izaz Sarbudeen. M		
7.	Karthikeyan, P	/	The state of the s
8.	Mahaveer. M	✓	***************************************
9.	Mohamed Basil. S	✓	TOTAL CONTROL OF THE
10.	Mohamed Fazil. N	✓	
11.	Mohamed Mufaris. K		200 100 100 100 100 100 100 100 100 100
12.	Mohamed Osama, M	1	
13.	Mohamed Thajmeel. Z	. 1	
14.	Mohamed Yasin. S	1	
15.	Nandhini. V	V	
16.	Nithese Kanna. A	1	1
17.	Rubini, U	✓	
18.	Siddiq Basha. M	✓	

SL. NO	STUDENT NAME	CP1 Electrical Safety and Maintenance	Basic Industrial Automation using PLC
19.	Sirajideen. B	✓	
20.	Sri Kumaran. K	✓	
21.	Subarethinam. P	✓	= 2
22.	Thameena Begum. M	✓	
23.	Thamizhvalavan. M	✓	The state of the s
24.	Veeramani. K	✓	
25.	Gowshik. Ms		
26.	Jeeva, R	✓	
27.	Mohamed Fazil. S	✓ ·	
28.	Nafeez Ahamed. A	✓	
29.	Ramesh Kumar	✓	
30.	Rifaykhan. J	✓	
31.	Vasim Akram. A	· ·	
32.	Abdullah J		
33.	Ajmal ahamed maraicar Y		(1
34.	Arman salih ahmad.A		✓
35.	Arulsakthi V		✓
36.	Azarudeen S		✓
37.	Britto S		~
38.	Chandhru G		✓
39.	Dinakaran T		
40.	Divakaran N		√
41.	Elansezhiyan M		✓
42.	Farook dheen P		√
43.	Ganeshkumar J		✓.
44.	Gayathri N		✓



SL. NO	STUDENT NAME	<u>CP1</u> Electrical Safety and Maintenance	CP2 Basic Industrial Automation using PLC
45.	Haja najimudeen A		
46.	Jaffer hussain S		√
47.	Judith A		✓
48.	Kalaithasan P		
49.	Kalpana K		
50.	Kayalarasu N	- 2	/
51.	Kiruthika J		✓
52.	Manikandan M		
53.	Manikandan P		The state of the s
54.	Mohamed shalik M Y		1
55.	Mohamed abdul malik R		/
56.	Mohamed aslam S		
57.	Mohamed bashajan S		✓
58.	Mohamed basith S		vandage aus e
59.	Mohamed ismail R		~
60.	Muhammed althaf S		
61.	Nancy D		✓
62.	Nazar M		
63.	Nisha U		✓
64.	Nivedha S		4
65.	Pavithra J		✓
66.	Pradeep		✓
67.	Ram kavi N		✓
68.	Riyas mohamed A		√
69.	Riyaz ahamed S		✓.
70.	Rooban raj J		✓



SL. NO	STUDENT NAME	CP1 Electrical Safety and Maintenance	CP2 Basic Industrial Automation using PLC
71.	Sakthivel J		✓
72.	Salam B		. 4
73.	Salman khan I		41
74.	Sameerali S		✓
75.	Saravanakumar G		✓
76.	Seeni mohamed S		~
77.	Sellarasu M		✓
78.	Shaik rahuman S		✓
79.	Shanmugaraja J		✓
80.	Sivaranjani M		(*)
81.	Srihari S	Pi Pi	
82.	Sujith S		
83.	Theresline joice J		
84.	Thivakar D		
85.	Vignesh		
86.	Vikram S	(a)	2
87.	Arun nisanthan N		✓ .
88.	Dheenadayalan Y		✓
89.	Manikandan T		
90.	Mohamedethayath R		
91.	Mohamed jainudeen J.B		
92.	Mohamed khan M		✓
93.	Mohamed rhiswan roslan H		~
94.	Muhamed rishwan J		
95.	Rajmohamed S		
96.	Saiyad rihaan A		

SL. NO	STUDENT NAME	CP1 Electrical Safety and Maintenance	EP2 Basic Industrial Automation using PLC
97.	Saminathan B		
98.	Sheik ismail B		✓ ·
99.	Syedyaship S		1
100.	Yacobunathan S		

Course Coordinator

H₀D/EEE

Principal



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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING Certificate Program (II Year – III Semester)

Course Delivery

Name of the Course: Basic Industrial Automation using PLC

Course Code: EE19202

Course Coordinator: Ms.A.Abirami., AP/EEE

Total Hours: 34

Academic Year: 2019-2020

SI.No	Topics to be Covered	Hours	Date of Delivery
1.	Continuous state sequential process		
2.	Discrete state sequential process		
3.	Process variables	7	23.05.19
4.	Classifications of process variables		
5.	Type of Relays		
6.	Ladder Logic Methodology		
7.	Ladder Symbols		
8.	Ladder Diagram	7	
9.	STL		
10.	Functional Block Diagram		24.05.19
11.	Creating Ladder Diagram From Process Control Descriptions		
12.	Introduction to IEC61131 International Standard For PLC		
13.	PLC Functions		
14.	Bit Logic Instructions		
15.	Interlocking		-
16.	Latching	7	27.05.19
17.	PLC Timer & Counter Functions	1	
18.	Off-Delay Timers	1	
19.	Retentive On-Delay Timers		
20.	Pulse Timers		
21.	Up-Counter And Down-Counter	7	28.05.19
22.	PLC Data Handling		



Sl.No	Topics to be Covered	Hours	Date of Delivery
23.	Data Move Instructions		
24.	PLC Fifo&Lifo	7.77	
25.	PLC Arithmetic And Logical Functions		
26.	PLC Compare And Convert Functions		
27.	PLC Program Control And Interrupts		
28.	Jumps And Subroutine		
29.	Sequence Control Relay	6	29.05.19
30.	Watchdog Timer		
31.	Analog Value Processing		
32.	Types Of Analog Modules		
33.	Analog Input And Output		
34.	PID Control Of Continuous Process		

A. Alufuly.
Course Coordinator

HOD/EEE

Principal



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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING Resource Person Details

Title of the program	Basic Industrial Automation using PLC
Course Code	EE19202
Duration and timing of the program	34 Hrs, 09.30 AM – 05.00 PM
Name of the resource person	A.Abirami
Photo of the resource person	
Email address	abirami.a@miet.edu
Contact number	9597276994
Designation	Assistant Professor
Educational qualification	 Completed B.E., Instrumentation and Control Engineering from Saranathan College of Engineering during 2011-2015. Completed M.E., Power Electronics and Drives from M.I.E.T Engineering College during 2015-2017.
Experience	➤ Teaching Experience – 2 Years.



DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING Certificate Courses (II Year – III Semester)

Attendance Sheet

Name of the course: Basic Industrial Automation using PLC Course code: EE19202 Course coordinator: Ms.A.Abirami., AP/EEE Academic Year: 2019-2020

et NO	POLL NO	CTUDENT MANE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	18	20
SL.NO	ROLL NO	STUDENT NAME	23/5	23/5	27/5	2%	23/5	23/5	23/5	24/5	21/5	24/5	21/5	20%	245	24/5	27.	以外	27/5	21/5	級	初
1.	E 1183001	Abdul Basith, B	/	-	-	1	1	1	/	-	-	1	1	/	_	1	-	-	-	-		1
2.	E 1183002	Abdul Rahim, J	/	-	-	1		_	-	-	1	1	1	a	a	a	_	_	-	1	-	-
3.	E1183003	Ahamed Basha, A	1	1	1	-	-	-	-	1	-	1	/	_	-	1		~	-	-	-	-
4.	E 1183004	Ajay. P	1	1	1	1	-	-	-	-	1	1	1	-		-	-		-	_	,,,	1
5.	E 1183005	Croose Divahar, S	1	1	-	-	-	_	1	-	-	-	1	1	-	1	-	-	-	1	-	1
6.	E 1183006	Izaz Sarbudeen, M	a	a	a	a		-	-	-	1	,	1	1		/	-	/	1	1	1	1
7.	E 1183007	Karthikeyan, P	_	-	-	/	-	_	1	/	-	1	/		-	-	_	-	1	1	1	1
8.	E 1183008	Mahaveer. M	/	1	-	-		-	-	-	1	1	-	1	1	1	-	-	1	1	1	1
9.	E 1183009	Mohamed Basil, S	/	1	-	1	_	-	-	-	/	1	1	-		1	-	-	1	/	1	1
10.	E 1183010	Mohamed Fazil, N	-	-	-	1		_	-	a	a	a	a	_	-	1	_	-		1	1	1
11.	E 1183011	Mohamed Mufaris, K	1	1		-	-	1	~	-	-	1	1	/	_	,	_	/	1	-	1	1
12.	E 1183012	Mohamed Osama, M	1	1	-	1		_	1	_		,	,	-	,	7	_	-	1	1	1	1

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13.	E 1183013	Mohamed Thajmeel. Z	-	1	-	1	-	1	-	_	1	1	1	-	-	-	-	-	1	1	-	-
14.	E 1183014	Mohamed Yasin, S		-	-	-	-	-	-	_	1	-	1	_	1	1	-	/	-	1	-	1
15.	E 1183015	Nandhini. V	_	1	-	-	a	æ	a	-	1	1	1	-	1	-	-	1	-	1	1	1
16.	E 1183016	Nithese Kanna. A	-	1	-	-	-	-	-	-	1	1	1	-	1	-	-	1	1	1	1	1
17.	E 1183017	Rubini, U	_	1	-	/	-	_	1	/	1	-	/	-	1	-	-	1	-	1	1	1
18.	E 1183018	Siddiq Basha, M		1	-	-	-	_	/	-	-	-	1	-	-	-	-	/	_	1		1
19.	E 1183019	Sirajideen, B		1	1	1	1	1	-	-	/	-	1	1	1	1	a	a	a	a	-	/
20.	E 1183020	Sri Kumaran, K	-	1	-	1	_	_	1	/	1	_	1	1	1	-		-	-	-		-
21.	E1183021	Subarethinam, P		/	1	-	-	-	/	a	a	a	a	1	1	-	_	-	7	1	1	-
22.	E1183022	Thameena Begum, M	/	1	-	_	_	_	1	_	_	-	1	1	/	/	-	1		1	1	-
23,	E 1183023	Thamizhvalavan. M	/	,	/	1	1	1	1	-	1	/	1	a	a	a		1	1	1	/	-
24.	E 1183024	Veeramani, K		1	_	1	/	/	1	-	1	-	1	1	-	-	-	/	/	1	1	1
25.	E 2193025	Gowshik, Ms	/	-	-	1	-	/	/	/	1	-	-	-	,		_	1	-	1	_	1
26.	E 2193026	Jeeva, R		1	1	1	-	/	1	_	-	-	1	-	1	7	-	1	-		1	/
27.	E 2193027	Mohamed Fazil. S	a	a	a	a	_	_	1	-	1	-	1	-	1	-		1	-	1	a	a
28.	E 2193028	Nafeez Ahamed. A		-	-	-	-	_	/		1	-	1	-	1	1	-	4	1	1	-	-
29.	E 2193029	Ramesh Kumar	-	1	_	1	/	_	-	/	-	-	1	1	/	-	_	/	-	1	-	1
30.	E 2193030	Rifaykhan, J	-	1	1	1	-	1	1	/	1	-	,	-	-	-	/	-	-		-	-
31.	E 2193031	Vasim Akram, A		-		_	1	1	,	_	/	-	-		/	-		_	1	1		-

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1.	E1183001	Abdul Basith. B	1	-	-	-		-	1	1	/	1	1	-	1	/	
2.	E 1183002	Abdul Rahim, J	/	1	-	-	1	-	1	-	1	1	-	-	/	7	
3,	E 1183003	Ahamed Basha, A	-	-	1	1	1	/	1	1	1	/	1	1	-	1	
4.	E1183004	Ajay. P	1	-	1	1	/	_	1	1	1	1	1	1	1	1	
5.	E 1183005	Croose Divahar, S	1	1	1	1	1	-	1	1	a	a	a	-	1	/	
6.	E1183006	Izaz Sarbudeen, M	-	/	1	1	1	-	1	-	_	1	/	/	/	/	H
7.	E1183007	Karthikeyan, P		-	1	1	1	_	,	-	-	1	1	-	1	_	1
8.	E1183008	Mahaveer, M	1	1	1	1	1	-	1		1	1	-	1	1	/	
9.	E1183009	Mohamed Basil, S	1	/	/	/	1	-	1	1	1	/	-	a	a	a	
10.	E1183010	Mohamed Fazil, N	/	a	a	a	a	/	1	-	/	1	-	-	1	/	
11.	E1183011	Mohamed Mufaris, K	1	_	-	1	-	_	1	,	/	1	-	-	1	/	
12.	E1183012	Mohamed Osama, M.		-	1	/	1	-	1	-	-	_	1		1	1	
13.	E1183013	Mohamed Thajmeel, Z	1	/	1		1	_	/	1	-	/	1	-	7	1	
14.	E1183014	Mohamed Yasin, S	1	-	1	,	1	a	a	a	_	-	_	/	/		
15.	E1183015	Nandhini. V	1	-	1	1	1	_		1	1	-	7	/	-	1	
16.	E1183016	Nithese Kanna, A	1	-	1	-	/	-	/	/	,	1	1	1	1	/	
17.	E1183017	Rubini, U		-	1	-	/	-	1	-	-	-	-	/	1	_	
18.	E1183018	Siddiq Basha, M	-	-	1	1	1	-	/	-	,	-	-	-	1	/	
19.	E 1183019	Sirajideen, B	1		-		-			-	1	-		-		-	-

SL.NO	ROLL NO	CTUDENT NAME	21	22	23	24	25	25	23-	28	28	39	34	312-	33	37.	34
SUNO	ROLL NO	STUDENT NAME	29/5	28/5	20/5	22/5	22/5	2%	28/5	28/5	28/6	29/5	29/4	29/_	21/4	29/5	29/
20.	E 1183020	Sri Kumaran. K	1	-	-	-	-	1	1	1	-		7	1	-	-	
21.	E 1183021	Subarethinam, P	1	-	/	1	1	/	1	1	-	1	_			_	
22.	E 1183022	Thameena Begum. M	- /	1	1	1	1	a	a	a	-	1	-	a	a	a	
23.	E 1183023	Thamizhvalavan, M	1	1	1	1	/	_	/	1	1	1	-	-	-	-	
24.	E 1183024	Veeramani. K	/	a	a	a	a	/	1	/	1	1	-	-	1	1	
25.	E 2193025	Gowshik, Ms	-		1	_	1	/	/	1	a	a	a	1	1	1	
26.	E 2193026	Jeeva. R	/		1	_	1	1	1	-	_	1	-	-	1	1	
27.	E 2193027	Mohamed Fazil, S	B.	-	1	-	1	1	1	-	1	1	/	-	1	1	
28.	E 2193028	Nafeez Ahamed. A	-	_	1	-	1	-	/	-	-	1	-	-	1	1	
29.	E 2193029	Ramesh Kumar	- /	-	/	-	/	1	1	-	-	1	-		1	-	
30.	E 2193030	Rifaykhan. J	_	-	1	-	1	1	1	-	-	7	1		_	-	
31.	E 2193031	Vasim Akram. A	1	,	1	_	/		1	-					-	_	

A · Alegier.
Course Coordinator

HoD/EEE

Principal



(Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai)
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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING Certificate Program Assessment Test

Name of the course: Basic Industrial Automation Using PLC

Course Code: EE19202 Academic Year: 2019-2020 Date: 03.06.19 Time: 01:30 hrs

Answer All the Questions (5*2=10)

PART-A

- 1. Define automation in industry.
- 2. Enumerate the advantages and disadvantages in Ladder logic method
- 3. Classify the types of PLC interface in plant.
- 4. What is STL?
- 5. Difference between On delay and Off delay timer.

Answer All the Questions (4*10=40)

PART-B

6.a. Describe the sequential process in industry.

(Or)

- 6.b. Discuss the impact of automation in industry.
- 7.a. What is relay logic and explain about PLC architecture.

(Or)

- 7.b. Elaborate the input and output modules.
- 8.a. Write the program in ladder logic to control the motor speed at different level.

(Or)

- 8.b. Discuss the different international standards for PLC.
- 9.a. Write the program in ladder logic for controlling the water bottle filling plant.

(Or)

9.b. Write in detail about sequence control relay.

Course Coordinator

HoD/EEE

Principal



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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING One Page Report

Name of the course: Basic Industrial Automation Using PLC

Course Code: EE19202

Course Coordinator: Ms.A.Abirami., AP/EEE

Total Hours: 34

Academic Year: 2019-2020

I hereby affirm that the entire course contents in the certificate program "Basic Industrial Automation using PLC" listed in the course syllabus have been performed by the students as the part of the prescribed co – curricular activities through add on course by NAAC and NBA.

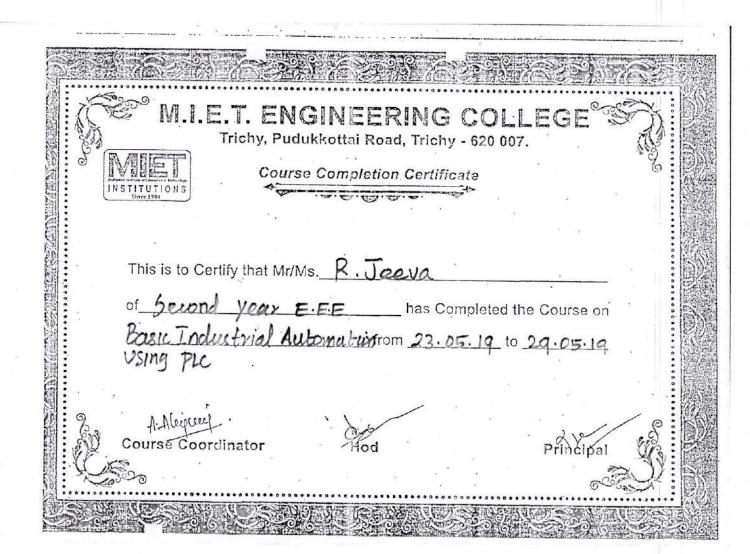
I confirmed that the certificate program title as "Basic Industrial Automation using PLC" was done by me in the beginning of the semester and course delivery with attendance of the students were recorded.

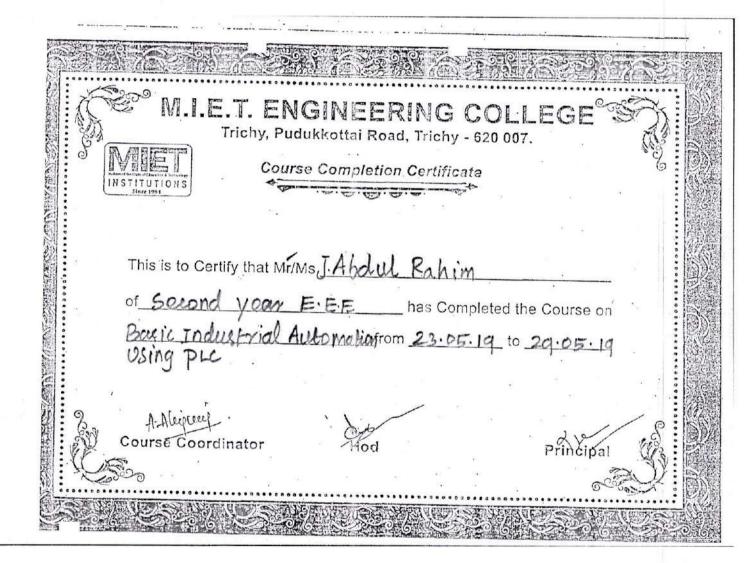
I confirmed that all the students for this certificate program were actively attended and performed well throughout the duration and eligible students received the participation certificate.

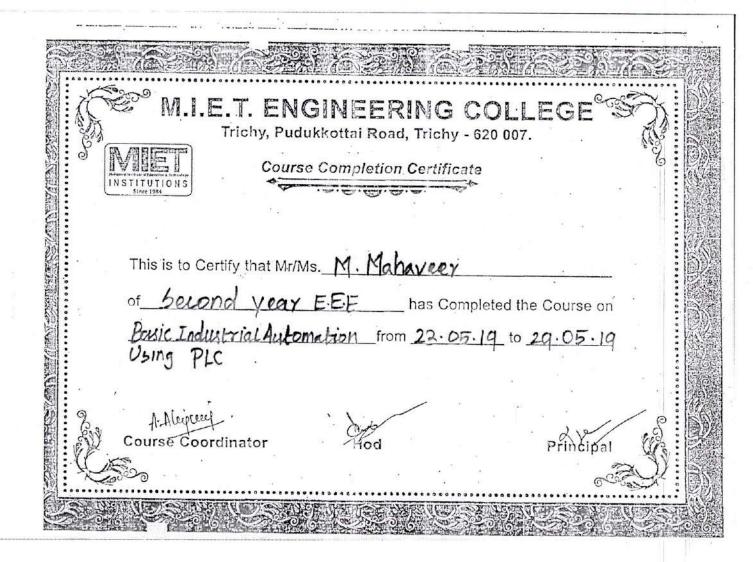
Course Coordinator

Principal

M.I.E.T. ENGINEERING COLLEGE GUNDUR, TIRUCHIRAPPALLI-620 007







GUNDUR, TIRUCHIRAPPALLI-620 007.



GUNDUR, TIRUCHIRAPPALLI-620 007.

Trichy, Pudukkottai Road, Trichy - 620 007.



Course Completion Certificate

This is to Certify that Mr/Ms. M. Thameena Begum

of Second Year E.E.E has Completed the Course on

Basic Industrial Automationrom 23.05.19 to 29.05.19

A-Aleigere Course Coordinator