NANDHA ENGINEERING COLLEGE

(Autonomous)

Erode - 638 052, Tamil Nadu

Department of Electrical and Electronics Engineering

Submitted to Principal:

Sub: Value added course -Reg

On behalf of Department of Electrical and Electronics Engineering, we would like to request your kind permission towards the conduct of value added course titled "PCB Designing" subject code "17EEI01" for the current II year students during 07-04-23 to 10-04-23. The exam is scheduled on 10-04-23 from 02.30 p.m. to 4.00 p.m. A total of 45 students have registered and will be attending the class as per the above schedule. The name list of the 45 students attending is enclosed with this letter.

Hence we would kindly request you to grant us permission to conduct the above course on the scheduled date.

Course Incharge

HoD/EEE

Copy to:

1. COE office
2. Department office
3. Overall academic coordinator & academic coordinator II
4. Department exam cell coordinator

20.3.23

NANDHA ENGINEERING COLLEGE, ERODE -52

(AUTONOMOUS)

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Submitted To Principal 27-03-2023

Sub: Value added course -Reg

On behalf of Electrical and Electronics Engineering, we have planned to conduct the value added for second year students (EEE) with collaboration of Caliber Embedded Technologies India (P) Ltd at Coimbatore. The course is scheduled to be conduct on 07-04-23 to 10-04-23 upon discussing with the company people. A total of **45 students** have registered for the course and the fee is **Rs.350 (Rupees Three hundred and Fifty Only)** per student for the course. The name list of the registered students is enclosed with this letter. In this connection we would like to request you to collect the course fees from the students. As the fees has to be paid at the end of the course.

27/3/23

Course Incharge

27/3/23

HoD/EEE

27.3.23

NANDHA ENGINEERING COLLEGE, PERUNDURAI, ERODE-638052

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

II YEAR EVEN SEM -BATCH 2021-2025 (ACADEMIC YEAR 2022-23)

VALUE ADDED COURSE- NAME LIST

17EE101 - PCB DESIGNING

S. No.	Reg No.	Name
1	21EE001	ABIRAMI M
2	21EE002	ABISHEK M
3	21EE003	AJAY A
4	21EE004	AKASH J
5	21EE006	ARAVINTH KUMAR A
6	21EE008	ARCHITA B
7	21EE009	DEEPASARAN S D
8	21EE010	DEEPTHI N
9	21EE011	DHARANI C R
10	21EE012	DHARANIKA R
11	21EE013	DHEEPAK S M
12	21EE014	DINESH KUMAR A L
13	21EE015	ENEYA SRI C
14	21EE016	GOWTHAM RAJA R
15	21EE017	HARISH S
16	21EE018	ILAMATHI M
17	21EE020	KABILAN G
18	21EE021	KAMALANATHAN T
19	21EE022	KAVIN M
20	21EE023	KAVINKUMAR G
21	21EE024	KAVIYA SRI K C
22	21EE028	NITHISH G
23	21EE029	PRAKASH M
24	21EE030	REETA MERY R

02/11/2023

S. No.	Reg No.	Name
25	21EE031	SABAREESWARAN A
26	21EE033	SANTHOSH S (31-12-2003)
27	21EE034	SANTHOSH S (18-04-2004)
28	21EE036	SARATHI S
29	21EE037	SARMITHA D
30	21EE038	SELVAMURUGAN K
31	21EE039	SHERIN R
32	21EE041	SOWBARNIGHA B
33	21EE043	SRINATH M
34	21EE045	SUKUMAR K
35	21EE046	SUNDHARA PANDI M
36	21EE047	THOMAS G
37	21EE048	VASANTH S
38	21EE049	VIGNESH V
39	21EEL03	DEEPAKKUMAR V
40	21EEL08	HARIKARTHIKEYAN M
41	21EEL10	JAYAVEL U
42	21EEL11	KARAN RAJ M
43	21EEL12	KEERTHIVASAN A
44	21EEL15	LOGESHWARAN J
45	21EEL20	TAMILSELVAN M

22/3/23
Staff Incharge

22/3/23
HOD/EEE

17EEI01 – PCB DESIGNING

Aim:

To equip the students with the knowledge of PCB design and fabrication processes.

Objective:

1. To make familiar with PCB design and various processes involved.
2. To provide in-depth core knowledge in design, performance analysis and fabrication of Printed Circuit Boards.
3. To provide the knowledge in PCB fabrication process and factors affecting PCB performance.

Syllabus:

Module 1: PCB DESIGN PROCESS AN OVERVIEW **(12Hrs)**

Conception Level Introduction: Specifying Parts, Packages and Pin Names, The Partlist, The Netlist, Making Netlist Files, Placing Parts, Routing Traces, Adding Text, Plot and Drill Files, PCB Layout, Layer List and Selection Mask, Panning and Zooming, Projects, PCB Elements

Module 2: PCB DESIGN PROCESS **(12Hrs)**

Board Outline; Parts-Anatomy of a Part, Partlist, Editing Parts, Reference Designator; Mounting Holes; Nets, Ratlines and Routing; Nets- Netlist; Ratlines; Vias; Modifying Traces, Swapping Pins; Importing Netlist; Copper Areas; Text; Solder Mask Cutouts; Groups; Design Rule Checking; Exporting Drill and Gerber Files; Drills; Footprints and Libraries Adding and Editing Pins, Polylines

Module 3: Application Oriented Design and Fabrication **(12Hrs)**

Schematic Diagram, Creating the Project, Importing the Netlist File, Drawing the Board Outline, Adding Mounting Holes, Placing Parts, Adding Parts and Editing Nets, Adding Copper Areas, Routing, Nets, Ratlines and Routings, Adding Text, Checking Design Rules, Making Gerber and Drill Files, Fabrication Process and Methodology

NANDHA ENGINEERING COLLEGE

(Autonomous)

Approved by AICTE, NewDelhi, Accredited by NAAC & NBA Affiliated to Anna University, Chennai.

Department of Electrical and Electronics engineering

Certificate of Participation

is is to certify that Mr./Ms. DEEPTHI N from II Year has activ ticipated in the four-day value-added courses on "17EEI01- I SIGNING" Organized by Nandha Engineering College in association w iber Embedded Technologies from April 07, 2023 to April 10, 2023.

Dr.G.Ramani
HoD/EEE
NEC

Mr.M.Parthiban
Project Head
Caliber Embedded
Technologies,Erode

Dr.N.Rengarajan
Principal
NEC

NANDHA ENGINEERING COLLEGE

(Autonomous)

Erode - 638 052, Tamil Nadu

Department of Electrical and Electronics Engineering

27-03-23

Submitted to Principal:

Sub: Value added course -Reg

On behalf of Department of Electrical and Electronics Engineering, we would like to request your kind permission towards the conduct of value added course titled "PLC Automation" subject code "17EEI02" for the current III year students during 07-04-23 and 10-04-23. The exam is scheduled on 10-04-23 from 02.30 p.m. to 04.00 p.m. A total of 28 students have registered and will be attending the class as per the above schedule. The name list of the 28 students attending is enclosed with this letter.

Hence we would kindly request you to grant us permission to conduct the above course on the scheduled date.

27/3/23

Course Incharge

27/3/23

HoD/EEE

Copy to:

1. COE office.
2. Department office.
3. Overall academic coordinator & academic coordinator III.
4. Department exam cell coordinator.

27.3.23

NANDHA ENGINEERING COLLEGE, ERODE -52

(AUTONOMOUS)

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Submitted To Principal

27-03-2023

Sub: Value added course -Reg

On behalf of Electrical and Electronics Engineering, we have planned to conduct the value added course for Third year students (EEE) with collaboration of Axis Global Technologies at Coimbatore. The course is scheduled to be conduct on 07-04-23 to 10-04-23 upon discussing with the company people. A total of **28 students** have registered for the course and the fee is **Rs.550 (Rupees Five hundred and Fifty Only)** per student for the course. The name list of the registered students is enclosed with this letter. In this connection we would like to request you to collect the course fees from the students. As the fees has to be paid at the end of the course.

27/3/23

Course Incharge

28/3/23

HoD/EEE

27.3.23

Syllabus

- Course Title: PLC AUTOMATION
- Course Code: 17EEI02
- Course Followers: Students of EEE in 6th semester of 3rd year
- Course Dates : 07.04.23 to 10.04.23 (4 days)

Course Introduction

This course gives EEE department students necessary knowledge and understanding of Siemens or Mitsubishi PLC (Programmable Logic Controller) that are widely used in the industrial field. This course deals with some fundamentals of PLC-based control systems. This PLC course is designed to equip the novice with no prior PLC programming experience with the basic tools required to create a complete PLC program using ladder logic common to most current platforms. Using Siemens or Mitsubishi PLC software, we will be covering such topics as general controls, digital and analog IO, ladder logic programming, alarm/notification handling, emulation, best practices and more. The student will write, enter, and execute application programs using the programmable controllers. The use of the PLC Lab equipment will give the student practical programming and troubleshooting skills used in the maintenance of automated systems.

Course Objectives

Main objective:

The main objective is learning PLC operation and programming.

Learning objectives:

1. Characteristics of a PLC
2. Know general PLC issues
3. Understanding of PLC programming, ladder logic.
4. Understand and design basic input and output wiring
5. Analysis and classification of the process control
6. Interlocking process control
7. Sequential process control
8. Random process control
9. Understand the operation of a PLC
10. Understanding of Siemens or Mitsubishi PLC hardware units and utilizing them.

Learning Outcomes

By the end of this practice, EEE department students will be able to:

1. Describe typical components of a Programmable Logic Controller.
2. Explain the basic concepts of a Programmable Logic Controller.
3. State basic PLC terminology and their meanings.
4. Explain and apply the concept of electrical ladder logic, its history, and its relationship to programmed PLC instruction.
5. Use ladder language programming for real cases.
6. Explain the concept of basic digital electronics and data manipulation.
7. Learn the difference between digital and analog signals and how to bring them into a PLC, process them, and send them back out.
8. Use latch, timer, counter, and other intermediate programming functions.
9. Design and program basic PLC circuits for entry-level PLC applications.
10. Design and program a small, automated industrial production line.
11. Explore basic, standard controls techniques for all process control which classified into Interlock control, Sequential control, and Random control.
12. By the end of this practice, students will be able to create a PLC program from scratch and find some solutions for real-time industrial automation problems

Textbooks

The course textbooks are:

1. Mano, M. Morris. Digital logic and computer design. Pearson Education India, 2017.

2. Kamel, Khaled, and Eman Kamel. Programmable logic controllers: Industrial control. McGraw Hill Professional, 2013.

3. Handbook, P. L. C. "Practical Guide to Programmable Logic Controllers." AutomationDirect. com.

4. Jack, Hugh. Automating manufacturing systems with PLCs. Lulu. com, 2010.

5. CHUNGPA, "User's Manual :Universal PLC Training System CPS-3580U", Englishver1, 2020.

6. Egyptian Company for the Development of Technical Education (ECDTE), PLC KitManual: ECDTE 1000.1 Laboratory Manual, 2018.

SANDHIA ENGINEERING COLLEGE, PERUNDURAI, ERODE-638052

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

III YEAR EVEN SEM BATCH 2020-2024 (ACADEMIC YEAR 2022-23)

VALUE ADDED COURSE - NAME LIST

17EE102 PLC AUTOMATION

S. No.	Reg No.	Name
1	20EE001	ABINAYA G
2	20EE005	DHARANEESH K
3	20EE009	GOKUL S
4	20EE010	GOKULAN S
5	20EE011	GOKULAPRIYA S
6	20EE012	GOWTHAM M
7	20EE016	JEFFRIN SAMUEL S
8	20EE017	KARTHI P
9	20EE018	KARTHIKEYAN G
10	20EE022	MANOJ A
11	20EE023	MOHAN CHANDRU R
12	20EE025	PRASANTH R J
13	20EE027	RAGUL RITHEESH S
14	20EE029	SABARINATH V
15	20EE032	SANJAYSABARI S
16	20EE034	SEKAR P
17	20EE036	SINDHUVARSHNI K
18	20EE040	SUNDARA VIGNESH K S
19	20EE041	SURIYAPRAKASH N
20	20EE042	TAMIL SELVAN V
21	20EEL03	DHANANJAYDEEPAK S
22	20EEL07	DINESH V
23	20EEL11	LOGESH R
24	20EEL13	PRAVEEN K
25	20EEL14	RAMESH S
26	20EEL15	SANJEEV K
27	20EEL16	SANTHOSHKUMAR C
28	20EEL17	VIKRAM P

Staff Incharge

HOD/EEE

NANDHA ENGINEERING COLLEGE

(Autonomous)

Approved by AICTE, NewDelhi, Accredited by NAAC & NBA Affiliated to Anna University, Chennai.

Department of Electrical and Electronics engineering

Certificate of Participation

s is to certify that ~~Mr.~~/Ms. ABINAYA G from III YEAR has actively participa
he five days value-added courses on "17EEI02-PLC AUTOMATION" Organi
Nandha Engineering College in association with AXIS Global Technologies fi
il 07, 2023 to August 10, 2023

Dr.G.Ramani
HoD/EEE
NEC

Mr.S.Sudhakar
Project Head
AXIS Global Technologies

Dr.N.Rengarajan
Principal
NEC

02/11/2023

NANDHA ENGINEERING COLLEGE, ERODE-52

(AUTONOMOUS)

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

NEC/EEE/2022-23/01

Date:30.09.2022

CIRCULAR

This is to inform that; value added course will be organized for third year students in the academic year of 2022-2023 (Odd Sem). The Course Plan is Listed in the table below

S.NO	DATE	YEAR	CODE &TITLE	VENUE
1	09-10-22 to 12-10-22	III	17EEI01-PCB DESIGNING	BLOCK 4 – COMPUTER LAB

30/9/22

Course Incharge

30/9/22

HoD/EEE

HEAD OF THE DEPT,
DEPT OF ELECTRICAL & ELECTRONICS ENGG.
NANDHA ENGG COLLEGE,
ERODE - 638 052.

NANDHA ENGINEERING COLLEGE

(Autonomous)
Erode - 638 052, Tamil Nadu

Department of Electrical and Electronics Engineering

30-09-22

Submitted to Principal:

Sub: Value added course -Reg

On behalf of Department of Electrical and Electronics Engineering, we would like to request your kind permission towards the conduct of online class for value added course titled "PCB Designing" subject code "17EEI01" for the current III year students during 09-10-22 to 12-10-22. The exam is scheduled on 13-10-22 from 02.30 p.m. to 04.00 p.m. A total of 28 students have registered and will be attending the class as per the above schedule. The name list of the 28 students attending is enclosed with this letter.

Hence we would kindly request you to grant us permission to conduct the above course on the scheduled date.

30/9/22
Course Incharge

30/9/22
HoD/EEE

HEAD OF THE DEPT,
DEPT OF ELECTRICAL & ELECTRONICS ENGG.
NANDHA ENGG COLLEGE,
ERODE - 638 052.

Copy to:

1. COE office.
2. Department office.
3. Overall academic coordinator & academic coordinators III.
4. Department exam cell coordinator.

TO
COE
30/9/2022

17EE101 – PCB DESIGNING

Aim:

To equip the students with the knowledge of PCB design and fabrication processes.

Objective:

1. To make familiar with PCB design and various processes involved.
2. To provide in-depth core knowledge in design, performance analysis and fabrication of Printed Circuit Boards.
3. To provide the knowledge in PCB fabrication process and factors affecting PCB performance.

Syllabus:

Module 1: PCB DESIGN PROCESS AN OVERVIEW **(12Hrs)**

Conception Level Introduction: Specifying Parts, Packages and Pin Names, The Partlist, The Netlist, Making Netlist Files, Placing Parts, Routing Traces, Adding Text, Plot and Drill Files, PCB Layout, Layer List and Selection Mask, Panning and Zooming, Projects, PCB Elements

Module 2: PCB DESIGN PROCESS **(12Hrs)**

Board Outline; Parts-Anatomy of a Part, Partlist, Editing Parts, Reference Designator; Mounting Holes; Nets, Ratlines and Routing; Nets- Netlist; Ratlines; Vias; Modifying Traces, Swapping Pins; Importing Netlist; Copper Areas; Text; Solder Mask Cutouts; Groups; Design Rule Checking; Exporting Drill and Gerber Files; Drills; Footprints and Libraries Adding and Editing Pins, Polylines

Module 3: Application Oriented Design and Fabrication **(12Hrs)**

Schematic Diagram, Creating the Project, Importing the Netlist File, Drawing the Board Outline, Adding Mounting Holes, Placing Parts, Adding Parts and Editing Nets, Adding Copper Areas, Routing, Nets, Ratlines and Routings, Adding Text, Checking Design Rules, Making Gerber and Drill Files, Fabrication Process and Methodology

NANDHA ENGINEERING COLLEGE, PERUNDURAI, ERODE-638052

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

III YEAR ODD SEM, BATCH 2020-2024 (ACADEMIC YEAR 2022-23)

VALUE ADDED COURSE NAME LIST

17EE101 - PCB DESIGNING

S.No.	Reg No.	Name
1	20EE001	ABINAYA G
2	20EE005	DHARANEESH K
3	20EE009	GOKUL S
4	20EE010	GOKULAN S
5	20EE011	GOKULAPRIYA S
6	20EE012	GOWTHAM M
7	20EE016	JEFFRIN SAMUEL S
8	20EE017	KARTHI P
9	20EE018	KARTHIKEYAN G
10	20EE022	MANOJ A
11	20EE023	MOHAN CHANDRU R
12	20EE025	PRASANTH R J
13	20EE027	RAGUL RITHEESH S
14	20EE029	SABARINATH V
15	20EE032	SANJAYSABARI S
16	20EE034	SEKAR P
17	20EE036	SINDHUVARSHINI K
18	20EE040	SUNDARA VIGNESH K S
19	20EE041	SURIYAPRAKASH N
20	20EE042	TAMIL SELVAN V
21	20EEL03	DHANANJAYDEEPAK S
22	20EEL07	DINESH V
23	20EEL11	LOGESH R
24	20EEL13	PRAVEEN K
25	20EEL14	RAMESH S
26	20EEL15	SANJEEV K
27	20EEL16	SANTHOSHKUMAR C
28	20EEL17	VIKRAM P

Course Incharge

HoD/EEE

NANDHA ENGINEERING COLLEGE

(Autonomous)

Approved by AICTE, NewDelhi, Accredited by NAAC & NBA Affiliated to Anna University, Chennai.

Department of Electrical and Electronics engineering

Certificate of Participation

This is to certify that Mr./Ms. ABINAYA G from III YEAR has actively participate in the four days value-added course on "17EEI01-PCB DESIGNING" Organized b Nandha Engineering College in association with Caliber Embedded Technologie from October 09, 2022 to October 12, 2022

Dr.G.Ramani
HoD/EEE
NEC

Mr.K.Rameshbabu
Project Head
Caliber Embedded
Technologies

Dr.N.Rengarajan
Principal
NEC