RAAK

COLLEGE OF ENGINEERING AND TECHNOLOGY

(Approved by AICTE, New Delhi & Affiliated to Pondicherry University)
An ISO 9001:2015 Certified Institution

From

02/08/2022

Mr. B.Murugan

Senior Assistant Professor/EEE

RAAK College of Engineering and Technology

Puducherry -110

To

The principal

RAAK College of Engineering and Technology

Puducherry -110

Respected sir,

Sub: Requisition for Approval to Conduct Skill Development program / Value added Course on **"22EE01- Industrial automation"** — reg.

This is to bring to your kind notice that the Skill Development Team is planning to conduct a Program on "22EE01-Industrial automation" for all the Final Year Electrical and Electronics Engineering students from 09-08-2022 to 14-08-2022.

The main focus of this program is to provide a better exposure to our students on the industrial automation.

The syllabus and course plan structured are not listed in the Pondicherry University Curriculum and the same have been verified and approved by the Principal/HoD/Professors and Skill development team.

Hence, I kindly request you to approve event planned. The details and the necessary proofs are attached with this letter.

Thanking you,

Yours faithfully

Mr.B.Murugan

SAP/EEE

Dr. S. SEENUVASAMURTHI, M.E., Ph.D.
PRINCIPAL
RAAK College of Engineering & Technology
No.1, Muthupillai Palayam Road,
Sulthanpet Post,
Puducherry - 605 110

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RAAKCET/PRINCIPAL/CIR/AUG2022 **03/08/2022**

CIRCULAR

This is to inform that the Skill Development Team is planning to conduct a value added course on **"22EE01- Industrial automation"** for all the Final Year Electrical and Electronics Engineering students from 09-08-2022 to 14-08-2022. Students are asked to utilize this opportunity and improve their skills.

PRINCIPAL

Dr. S. SEENUVASAMURTHI, M.E., Ph.D.
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No.1, Muthupillai Palayam Road,
Sulthanpet Post,
Puducherry - 605 110

Circulation to:

1. All Students
2. All Faculty & Staff Members
3. All HoDs

Copy to:

1. All HoDs
2. Office

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DEPARTMENT OF ELELCTRICAL AND ELECTRONICS ENGINEERING PRESENTS

VALUE ADDED COURSE ON

INDUSTRIAL AUTOMATION

2022-2023

DATE: 09/08/2022 to 14/08/2022

VENUE: RAAKCET

TIME: 09 am to 04 pm

Resource Person:

Dr. P. Boopathiy
Assistant professor,
Christ Institute of Engg & Tech.

For Registration Contact:

Mr. V. Pragashbabu , AP/ EEE.,
9813424548.

HOD

Mr. B. Murugan

PRINCIPAL

Dr. S. Seenuvasamurthi
Dr. S. SEENUVASAMURTHI, M.E., Ph.D.
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raakengg@mail.com
www.raakengg.com

CO - ATTAINMENT MAPPING

Sl. No	Register Number	Student Name	CO1	CO2	CO3	CO4
1	19TE0551	NIRMAL GEORGE.A	✓	✓	✓	✓
2	19TE0552	BRANAN.D	✓	✓	✓	✓
3	19TE0553	SANJAIDHARAN.G	✓	✓	✓	✓
4	19TE0554	KEERTHIKA.N	✓	✓	✓	✓
5	19TE0555	KAVIMANI.M	✓	✓	✓	✓
6	19TE0556	MUTHUKUMARAN.V	✓	✓	✓	✓
7	19TE0557	RAKESH.M	✓	✓	✓	✓
8	19TE0558	VEDA.S	✓	✓	✓	✓
9	19TE0559	YUVARAJ.P	✓	✓	✓	✓
10	19TEL032	DINESHKAR.M	✓	✓	✓	✓

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VALUE ADDED COURSES
2022-2023
Department of Electrical and Electronics Engineering
22EE01- Industrial automation
Syllabus

Duration: 36 hours

Course Objective:

- The contents aim to develop the knowledge of the student in the field of automation in industries.
- This will be compromising knowledge of PLC, DCS and SCADA systems.
- They will also get familiar with different industrial standard protocols.

Course Outcome:
Upon successful completion of the course students able to

- Implement low cost automation systems using pneumatic and electrical means.
- Learn about the modern techniques and devices used for the monitoring and control of manufacturing systems including programming of programmable logic controllers.
- Learn their interfacing with various sensors and actuators.
- Design automated assembly system for industrial applications.

Module 1: Process Control **(9 Hours)**

Introduction, Process Control block diagram, Control System Evaluation, and Digital Control: Supervisory Control, Direct Digital Control, Networked Control Systems, and Distributed Digital Control. Smart Sensor. Definitions of the terms used to describe process control. Data Acquisition Systems: DAS Hardware, DAS Software. Data Logger.

Module 2: Controller Principles **(9 Hours)**

Process Characteristics: Process Equation, Process Load, Process Lag, Self- Regulation. Control System parameters: Error, Variable Range, Control parameter Range, Control Lag, Dead Time, Cycling, Controller Modes. Discontinuous Controller Mode: Two Position Mode, Multiposition Mode, Floating Control Mode. Continuous Control Mode: Proportional Control Mode, Integral Control Mode, Derivative Control Mode. Composite Control Modes: PI Control, PD Control, PID Control.

Module 3: Analog Controllers: **(9 Hours)**

Analog Controllers: Introduction, Electronic Controllers: Error Detector, Single Controller Modes, Composite Controller Modes. Pneumatic Controllers: General features, Mode Implementation.

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Puducherry - 605 110

Module 4: Programmable Logic Controller: **(9 Hours)**

Programmable Logic Controller: Evaluation of PLC, PLC Architecture, Basic Structure. PLC Programming: Ladder Diagram – Ladder diagram symbols, Ladder diagram circuits. PLC Communications and Networking, PLC Selection: I/O quantity and Type, Memory size and type, Programmer Units. PLC Installation, Advantages of using PLCs.

Module 5: Distributed Control System **(9 Hours)**

Distributed Control System: Introduction, Overview of Distributed Control System, DCS Software configuration, DCS Communication, DCS Supervisory Computer Tasks, DCS Integration with PLCs and Computers, Features of DCS, Advantages of DCS.

Course designed by **Approved by** **Principal**

RAAK College of Engineering & Technology

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VALUE ADDED COURSES

2022-2023

Department of Electrical and Electronics Engineering

22EE01-Industrial Automation

COURSE PLAN

S.no	Date	Hours	Time	Topic	Resource person
DAY -1					
1	09.08.22	1.2	9AM -11AM	Introduction on Process control, Control system evaluation.	Mr.P.Boopathy & Mr.kandhan
2		3,4	11.15AM – 1.15 PM	Networked Control system,	Mr.P.Boopathy
3		5.6	2 PM -4PM	Data Acquisition System, Hardware, Software, Logger.	Mr.kandhan
DAY 2					
4	10.08.22	7,8	9AM -11AM	Controller Principles, Process Equation, load, lag & Control mode and its types.	Mr.P.Boopathy
5		9,10,	11.15AM – 1.15 PM	Introduction to the Composite control modes.	Mr.kandhan
6		11,12	2 PM -4PM	PI Control, PD Control, PID Control	Mr.P.Boopathy
DAY -3					
7	11.08.22	13,14	9AM -11AM	Introduction to ElectricControllers	Mr.kandhan
8		15,16	11.15AM – 1.15 PM	Error detectors, Single Controller mode & Composite control mode.	Mr.P.Boopathy
9		17,18	2 PM -4PM	Introduction to Pneumatic Controllers, General features & mode of implementation.	Mr.kandhan
DAY -4					
10	12.08.22	19,20	9AM -11AM	Programmable logic controller	Mr.P.Boopathy
11		21,22	11.15AM – 1.15 PM	Evaluation of PLC	Mr.kandhan
12		23,24	2 PM -4PM	PLC Architecture	Mr.P.Boopathy
DAY -5					
13	13.08.22	25,26	9AM -11AM	PLC Programming	Mr.kandhan

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14		27,28	11.15AM – 1.15 PM	Ladder Diagram, ladder diagram symbols, Ladder diagram circuits.	Mr.P.Boopathy
15		29,30	2 PM -4PM	PLC Communication and Networking,PLC Selection, Memory size and type, PLC Installation	Mr.kandhan
DAY -6					
16	14.08.22	31,32	9AM -11AM	Introduction on Distributed Control System	Mr.P.Boopathy
17		33,34	11.15AM – 1.15 PM	Distributed Control System, Software, Configuration, Supervisory Computer Tasks	Mr.kandhan
18		35,36	2 PM -4PM	Distributed Control System Integration with PLCs. Features and Advantages of DCS.	Mr.P.Boopathy
ASESSMENT EXAM WILL BE CONDUCTED AFTER ONE WEEK OF COURSE COMPLETION *					

BREAK TIME: 11.00 TO 11.15 AM **LUNCH BREAK: 1.15 PM TO 2.00 PM**

COURSE DESIGNED BY
Mr.B.MURUGAN

APPROVED BY
SKILL DEVELOPMENT TEAM

PRINCIPAL
Dr.S.SEENUVASAMURTHI

RAAK College of Engineering & Technology

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VALUE ADDED COURSES

2022-2023

Department of Electrical and Electronics Engineering

EVENT REPORT

Name of the Course: 22EE01-Industrial automation

Name of the Instructors: Mr.P.Boopathy & Mr.kandhan

Year/ Branch: 1V/ Electrical and Electronics Engineering

Duration of Course: 36 Hours (09-08-2022 to 14-08-2022)

Assessment Date: 20.08.2022

Post Event Summary:

The course was inaugurated on 09-08-2022 at 9.30 A.M. by our respectable principal and sessions were continued as per the schedule. Students were enriched their knowledge by attending the course. Finally, the course concluded by vote of thanks.

On 20.08.2022 assessment was conducted and feedbacks were collected from all the participants.

CO - Attainment:

CO1: Implement low cost automation systems using pneumatic and electrical means.

CO2: Learn about the modern techniques and devices used for the monitoring and control of manufacturing systems including programming of programmable logic controllers.

CO3: Learn their interfacing with various sensors and actuators.

CO4: Design automated assembly system for industrial applications.

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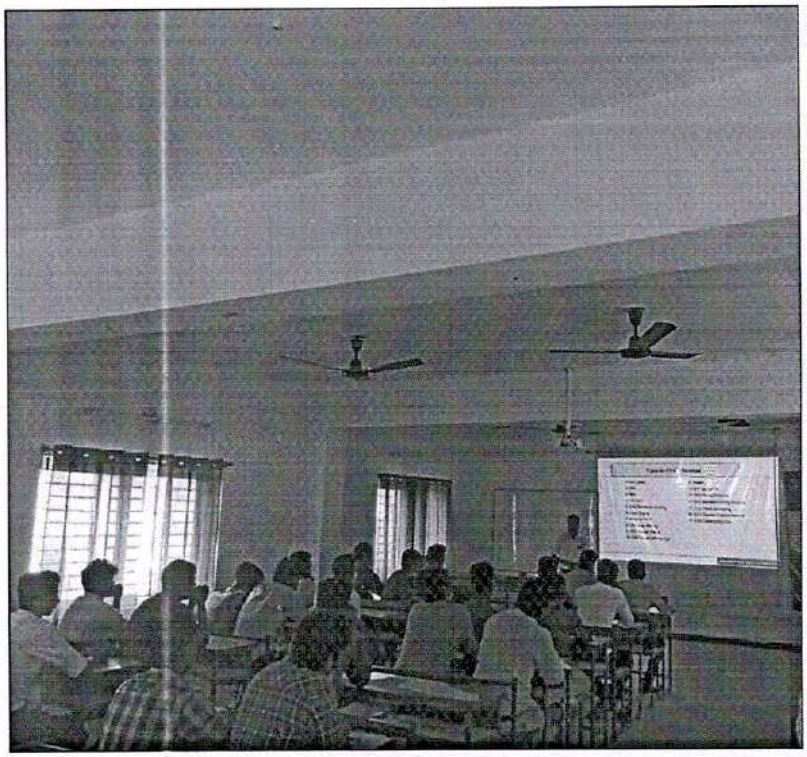
Value Added Course on Industrial Automation 2022-23



Introduction to Pneumatic Controllers, General features & mode of implementation.

On 11.08.22

Dr. S. SEENUVASAMURTHI, M.E., Ph.D.
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02/08/2022

From

Mr.B.Murugan
Senier Assistant professor/EEE
RAAK College of Engineering and Technology
Puducherry -110

To

The principal
RAAK College of Engineering and Technology
Puducherry -110

Respected Sir,

Sub: Requisition for Approval to Conduct Skill Development program / Value added Course on **"22EE02- Artificial Neural Networks** — reg.

This is to bring to your kind notice that the Skill Development Team is planning to conduct a Program on "22EE02- Artificial Neural Networks" for all the Third Year, Electrical and Electronics Engineering students from 09-08-2022 to 14-08-2022.

The main focus of this program is to provide a better exposure to our students on the Artificial Neural Networks for practical applications.

The syllabus and course plan structured are not listed in the Pondicherry University Curriculum. and the same have been verified and approved by the Principal/HoD/Professors and Skill development team.

Hence, I kindly request you to approve event planned. The details and the necessary proofs are attached with this letter.

Thanking you,

Yours faithfully

B.Murugan

SAP/EEE

RAAK College of Engineering & Technology

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RAAKCET/PRINCIPAL/CIR/AUG2022 03/08/2022

CIRCULAR

This is to inform that the Skill Development Team is planning to conduct a value added course on **"22EE02- Artificial Neural Networks"** for all the Third Year Electrical and Electronics Engineering students from 09-08-2022 to 14-08-2022. Students are asked to utilize this opportunity and improve their skills.

PRINCIPAL

Circulation to:

1. All Students
2. All Faculty & Staff Members
3. All HoDs

Copy to:

1. All HoDs
2. Office

Dr. S. SEENUVASAMURTHI, M.E., Ph.D.
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DEPARTMENT OF ELELCTRICAL AND ELECTRONICS ENGINEERING PRESENTS

VALUE ADDED COURSE ON

ARTIFICAL NEURAL NETWORKS

2022-2023

DATE: 09/08/2022 to 14/08/2022

VENUE: RAAKCET

TIME: 09 am to 04 pm

Resource Person:

Mr. Kandhan
Assistant professor,
Christ Institute of Engg & Tech.

For Registration Contact:

Mrs. Remya , AP/ EEE.,
9243484358.

HOD

Mr. B. Murugan

RAAK College of Engineering & Technology

PRINCIPAL

Dr. S. Seenuvasamurthi

Dr. S. SEENUVASAMURTHI, M.E., Ph.D.
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VALUE ADDED COURSES
2022-2023
Department of Electrical and Electronics Engineering
22EE02- Artificial Neural Networks
Syllabus

Duration: 36 hours

Course Objective:

- To learn the fundamentals of Artificial Neural Networks.
- Application of Artificial Neural Networks to electrical systems.
- Study and analysis the Adaline Network.
- To learn about Hopfield Neural Network and Deep Neural Networks.

Course Outcome:
Upon successful completion of the course students able to

- Describe the development of artificial neural networks (ANN)
- Classification of various ANN models.
- Solve and design various ANN models
- Apply and construct ANN models to various applications of electrical systems.

Module 1: Neural Networks **(9 Hours)**

Introduction to Neural Networks - Biological Inspiration- Biological Neural Networks to Artificial Neural Networks – Classification of ANN Networks – Development of neural network models – Perceptron Network – Linear Separability.

Module 2: Adaline Network **(9 Hours)**

Adaline Network – Madaline Network – Back propagation Neural Networks – Kohenen Neural Network – Learning Vector Quantization – Hamming Neural Network-applications

Module 3: Adaptive Resonance Theory **(9 Hours)**

Adaptive Resonance Theory Neural Networks – Boltzmann Machine Neural Networks – Radial Basis Function Neural Networks – Bi-directional Associative Memory-applications

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Module 4: Hopfield Neural Networks **(9 Hours)**

Hopfield Neural Networks – Support Vector Machines – Introduction to Spiking Neural Networks – Spike Neuron Models – Hybrid Neural Networks-applications

Module 5: Deep Neural Networks **(9 Hours)**

Deep Neural Networks- Recurrent Neural Networks- Backpropagation through time (BPTT)- Vanishing and Exploding Gradients- Truncated BPTT-LSTM (Long Short Term Memory) -Bilinear LSTM- Gated Recurrent Units-applications

Course Designed by **Approved by** **Principal**

RAAK College of Engineering & Technology

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CO - ATTAINMENT MAPPING

Sl. No	Register Number	Student Name	CO1	CO2	CO3	CO4
1	20TE0251	ARUN.S	✓	✓	✓	✓
2	20TE0252	KANMANI.K	✓	✓	✓	✓
3	20TE0253	NALLARASAN.E	✓	✓	✓	✓
4	20TE0254	PRITHEESH KUMAR.R	✓	✓	✓	✓
5	20TE0255	VENKATESAN.S	✓	✓	✓	✓
6	20TEL095	ARUN.P	✓	✓	✓	✓
7	20TEL097	GOKUL.C	✓	✓	✓	✓
8	20TEL098	MARIYAPPAN.S	✓	✓	✓	✓
9	20TEL099	MOHAMED AASHIK.M	✓	✓	✓	✓
10	20TEL100	PUVIARASU.M	✓	✓	✓	✓

College of Engineering & Technology

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VALUE ADDED COURSES

2022-2023

Department of Electrical and Electronics Engineering

22EE02-Artificial Neural Networks

COURSE PLAN

S.no	Date	Hours	Time	Topic	Resource person
DAY -1					
1	09.08.22	1.2	9AM -11AM	Introduction to Neural Networks, Classification of Artificial Neural Networks.	Mr.P.Boopathy
2		3,4	11.15AM – 1.15 PM	Development of Neural Networks,	Mr.kandhan
3		5.6	2 PM -4PM	Perseptron Network	Mr.P.Boopathy
DAY 2					
4	10.08.22	7,8	9AM -11AM	Adaline Networks	Mr.kandhan
5		9,10,	11.15AM – 1.15 PM	Introduction to Madaline Network	Mr.kandhan
6		11,12	2 PM -4PM	Back Propagation Neural Networks.	Mr.P.Boopathy
DAY -3					
7	11.08.22	13,14	9AM -11AM	Adaptive Resonance, Theory Neural Networks	Mr.kandhan
8		15,16	11.15AM – 1.15 PM	Boltzmann Machine Neural Networks.	Mr.P.Boopathy
9		17,18	2 PM -4PM	Introduction to the Bi-directional Associative Memory	Mr.kandhan
DAY -4					
10	12.08.22	19,20	9AM -11AM	Hopfield Neural Networks	Mr.P.Boopathy
11		21,22	11.15AM – 1.15 PM	Support Vector Machines	Mr.kandhan
12		23,24	2 PM -4PM	Introduction to Spiking Neural Networks	Mr.P.Boopathy
DAY -5					
13	13.08.22	25,26	9AM -11AM	Hybrid Neural Networks-applications	Mr.kandhan
14		27,28	11.15AM – 1.15 PM	Deep Neural Networks	Mr.P.Boopathy

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15		29,30	2 PM -4PM	Recurrent Neural Networks	
DAY -6					
16	14.08.22	31,32	9AM -11AM	Backpropagation through time (BPTT)	Mr.P.Boopathy
17		33,34	11.15AM – 1.15 PM	Vanishing and Exploding Gradients	
18		35,36	2 PM -4PM	Truncated BPTT-LSTM (Long Short Term Memory	Mr.P.Boopathy
ASESSMENT EXAM WILL BE CONDUCTED AFTER ONE WEEK OF COURSE COMPLETION *					

BREAK TIME: 11.00 TO 11.15 AM **LUNCH BREAK: 1.15 PM TO 2.00 PM**

COURSE DESIGNED BY
Mr.B.MURUGAN

APPROVED BY
SKILL DEVELOPMENT TEAM

PRINCIPAL
Dr.S.SEENUVASAMURTHI

RAAK College of Engineering & Technology

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VALUE ADDED COURSES
2022-2023
Department of Electrical and Electronics Engineering
EVENT REPORT

Name of the Course: 22EE02-Artificial Neural Networks.

Name of the Instructors: Mr.kandhan & Mr.P.Boopathy

Year/ Branch: III / Electrical and Electronics Engineering

Duration of Course: 36 Hours (09-08-2022 to 14-08-2022)

Assessment Date: 20.08.2022

Post Event Summary:

The course was inaugurated on 09-08-2022 at 9.30 A.M. by our respectable principal and sessions were continued as per the schedule. Students were enriched their knowledge by attending the course. Finally, the course concluded by vote of thanks.

On 20.08.2022 assessment was conducted and feedbacks were collected from all the participants.

CO - Attainment:

CO1: To learn the fundamentals of Artificial Neural Networks

CO2: Application of Artificial Neural Networks to electrical systems.

CO3: Study and analysis the Adaline Network.

CO4: To learn about Hopfield Neural Network and Deep Neural Networks.

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Value Added Course on Artificial Neural Networks. 2022-23

Introduction to the Bi-directional Associative Memory on 11.08.22

RAAK College of Engineering & Technology

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Puducherry - 6[illegible]

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From

02/08/2022

Mr.B.Murugan

Senior Assistant Professor/EEE

RAAK College of Engineering and Technology

Puducherry -110

To

The Principal

RAAK College of Engineering and Technology

Puducherry -110

Respected Sir,

Sub: Requisition for Approval to Conduct Skill Development program / Value added Course on **"22EE03-Wind And Solar Electrical Systems"** -reg.

This is to bring to your kind notice that the Skill Development Team is planning to conduct a Program on "22EE03-Wind And Solar Electrical Systems" for all the Final Year Electrical and Electronics Engineering students from 09-08-2022 to 14-08-2022.

The main focus of this program is to provide a better exposure to our students on the Wind and Solar Electrical Systems for practical applications.

The syllabus and course plan structured are not listed in the Pondicherry University Curriculum. and the same have been verified and approved by the Principal/HoD/Professors and Skill development team.

Hence, I kindly request you to approve event planned. The details and the necessary proofs are attached with this letter.

Thanking you,

Yours faithfully

Mr.B.Murugan

SAP/EEE

RAAK College of Engineering & Technology

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RAAKCET/PRINCIPAL/CIR/AUG2022 03/08/2022

CIRCULAR

This is to inform that the Skill Development Team is planning to conduct a value added course on **"22EE03-Wind And Solar Electrical Systems"** for Final Year Electrical and Electronics Engineering students from 09-08-2022 to 14-08-2022. Students are asked to utilize this opportunity and improve their skills.

PRINCIPAL

Circulation to:

1. All Students
2. All Faculty & Staff Members
3. All HoDs

Copy to:

1. All HoDs
2. Office

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DEPARTMENT OF ELELCTRICAL AND ELECTRONICS ENGINEERING PRESENTS

VALUE ADDED COURSE ON

WIND AND SOLAR ELECTRICAL SYSTEMS

2022-2023

DATE: 09/08/2022 to 14/08/2022

VENUE: RAAKCET

TIME: 09 am to 04 pm

Resource Person:

Mr. R. Shivasankar
Assistant professor,
SMVEC.

For Registration Contact:

Ms. R. Aarthi , AP/ EEE.,
7708837546.

HOD

Mr. B. Murugan

PRINCIPAL

Dr. S. Seenuvasamurthi

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VALUE ADDED COURSES
2022-2023
Department of Electrical and Electronics Engineering
22EE03- Wind And Solar Electrical Systems
Syllabus

Duration: 36 hours

Course Objective:

- To familiarize the students with basics of solar and wind energy systems
- To study thevarious techniques for the conversion of solar and wind energy into electrical energy.
- Understand various power electronic converters used for hybrid system.

Course Outcome:
Upon successful completion of the course students able to

- Describe the solar radiation, measurements and characteristics of solar PV cell.
- Develop the model of a PV system and its applications.
- Describe the basic types and mechanical characteristics and model of wind turbine.
- Analyze the electrical characteristics and operation of various wind-driven electrical generators.

Module 1: Basic characteristics of sunlight **(9 Hours)**

Basic characteristics of sunlight -solar spectrum – insolation specifics– irradiance and irradiation-pyranometer – solar energy statics- Solar PV cell – I-V characteristics –P-V characteristics– fill factor-Modeling of solar cell– maximum power point tracking.

Module 2: PV module **(9 Hours)**

PV module – blocking diode and bypass diodes– composite characteristics of PV module – PV array– PV system –PV-powered fan–PV fan with battery backup–PV-powered pumping system –PV powered lighting systems–grid- connected PV systems.

Module 3: Wind source **(9 Hours)**

Wind source–wind statistics-energy in the wind –turbine power characteristics - aerodynamics – rotor types – parts of wind turbines– braking systems–tower- control and monitoring system.

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Module 4: General characteristics of induction generators **(9 Hours)**

General characteristics of induction generators – grid-connected and self-excited–steady- state equivalent circuit-performance predetermination–PMSG–steady-state performance.

Module 5: Power electronic converters for interfacing wind electric generators **(9Hours)**

Power electronic converters for interfacing wind electric generators – power quality issues-hybrid systems- wind-diesel systems – wind-solar systems.

Course Designed by **Approved by** **Principal**

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CO - ATTAINMENT MAPPING

Sl. No	Register Number	Student Name	CO1	CO2	CO3	CO4
1	21TE0091	AGILAN .M	✓	✓	✓	✓
2	21TE0093	BALAMURUGAN.R	✓	✓	✓	✓
3	21TE0094	DHINESH.V	✓	✓	✓	✓
4	21TE0095	JAGADEESH .S	✓	✓	✓	✓
5	21TE0097	PRASANTH.R	✓	✓	✓	✓
6	21TE0098	RAGUL .S	✓	✓	✓	✓
7	21TE0099	SAKTHIVEL.S	✓	✓	✓	✓
8	21TE0100	SANTHOSH.R	✓	✓	✓	✓
9	21TE0101	SELVAM.R	✓	✓	✓	✓
10	21TE0102	SURESH KUMAR.R	✓	✓	✓	✓
11	21TEL052	KALAIMANI.M	✓	✓	✓	✓
12	21TEL053	NANDHAN.P	✓	✓	✓	✓
13	21TEL054	SABAPATHY.N	✓	✓	✓	✓
14	21TEL055	VENUGOPAL.A	✓	✓	✓	✓
15	21TEL056	YUVARAJ.R	✓	✓	✓	✓

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VALUE ADDED COURSES

2022-2023

Department of Electrical and Electronics Engineering

22EE03- Wind and Solar Electrical Systems

COURSE PLAN

S.no	Date	Hours	Time	Topic	Remarks
DAY -1					
1	09.08.22	1.2	9AM -11AM	Basic characteristics of sunlight ,solar spectrum,insolation specifics	Mr. R.Shivasankar & Dr.Sathishkumar
2		3,4	11.15AM – 1.15 PM	irradiance and irradiation,pyranometer	Mr. R.Shivasankar
3		5.6	2 PM -4PM	solar energy statics,Solar PV cell – I-V characteristics –P-V characteristics, fill factor, Modeling of solar cell,	Mr. R.Shivasankar
DAY 2					
4	10.08.22	7,8	9AM -11AM	maximum power point tracking,PV module,blocking diode and bypass diode	Mr. R.Shivasankar
5		9,10,	11.15AM – 1.15 PM	composite characteristics of PV module ,PV array,PV system,PV-powered fan,PV fan with battery backup	Dr.Sathishkumar
6		11,12	2 PM -4PM	PV-powered pumping system ,PV powered lighting systems,grid-connected PV systems.	Mr. R.Shivasankar
DAY -3					
7	11.08.22	13,14	9AM -11AM	Wind source,wind statistics,energy in the wind ,turbine power characteristics	Dr.Sathishkumar
8		15,16	11.15AM – 1.15 PM	aerodynamics ,rotor types ,parts of wind turbines	Mr. R.Shivasankar
9		17,18	2 PM -4PM	braking systems, tower-control and monitoring system.	Dr.Sathishkumar
DAY -4					
10	12.08.22	19,20	9AM -11AM	General characteristics of induction generators	Mr. R.Shivasankar
11		21,22	11.15AM – 1.15 PM	grid-connected and self-excited	Dr.Sathishkumar

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12		23,24	2 PM -4PM	steady- state equivalent circuit-performance predetermination PMSG,	Mr. R.Shivasankar
DAY -5					
13	13.08.22	25,26	9AM -11AM	Power electronic converters for interfacing wind electric generators	Dr.Sathishkumar
14		27,28	11.15AM – 1.15 PM	steady-state performance.	Mr. R.Shivasankar
15		29,30	2 PM -4PM	power quality issues hybrid systems	Dr.Sathishkumar
DAY -6					
16	14.08.22	31,32	9AM -11AM	wind diesel systems	Mr. R.Shivasankar
17		33,34	11.15AM – 1.15 PM	wind-solar systems	Dr.Sathishkumar
18		35,36	2 PM -4PM	Wind Electrical system	Mr. R.Shivasankar
ASESSMENT EXAM WILL BE CONDUCTED AFTER ONE WEEK OF COURSE COMPLETION *					

BREAK TIME: 11.00 TO 11.15 AM **LUNCH BREAK: 1.15 PM TO 2.00 PM**

COURSE DESIGNED BY
Mr.B.MURUGAN

APPROVED BY
SKILL DEVELOPMENT TEAM

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VALUE ADDED COURSES

2022-2023

Department of Electrical and Electronics Engineering

EVENT REPORT

Name of the Course: 22EE03- Wind And Solar Electrical Systems

Name of the Instructors: Mr.R.Shivasankar & Dr.Sathishkumar

Year/ Branch: IV/Electrical and Electronics Engineering

Duration of Course: 36 Hours (09-08-2022 to 14-08-2022)

Assessment Date: 20.08.2022

Post Event Summary:

The course was inaugurated on 09-08-2022 at 9.30 A.M. by our respectable principal and sessions were continued as per the schedule. Students were enriched their knowledge by attending the course. Finally, the course concluded by vote of thanks.

On 20.08.2022 assessment was conducted and feedbacks were collected from all the participants.

CO - Attainment:

CO1: Describe the solar radiation, measurements and characteristics of solar PV cell.

CO2: Develop the model of a PV system and its applications.

CO3: Describe the basic types and mechanical characteristics and model of wind turbine.

CO4: Analyze the electrical characteristics and operation of various wind-driven electrical generators.

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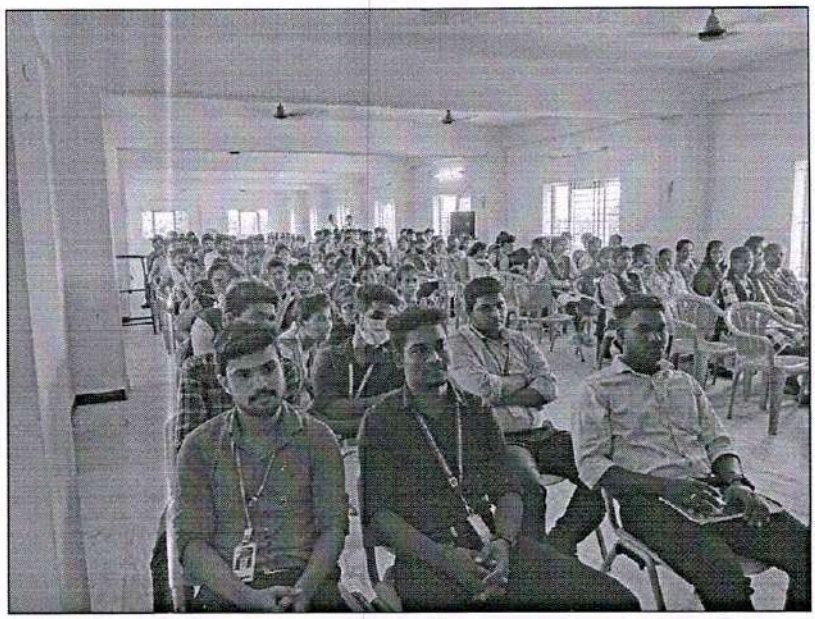
Value Added Course on Wind And Solar Electrical Systems 2022-23



Power electronic converters for interfacing wind electric generators on 13.08.22

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