AALIM MUHAMMED SALEGH COLLEGE OF ENGINEERING

IAF-AVADI, CHENNAI - 55

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

CIRCULAR

AMSCE/EEE/CIR/VAC/002/2018-19   **Date: 09.07.2018**

The Department of Electrical and Electronics Engineering plans to conduct a Value Added Course on **PROBLEM SOLVING** by **Mr.A.Babu, System Engineer, M/S Devi Electrical Company,** for the benefit of IV Year students. This course is scheduled from 10.07.2018 to 13.07.2018 **(09:00 AM to 5:30 PM)** for 4 Days (30 Hrs).

All the students must attend all the classes with a minimum of 75% attendance and score 50% on the quiz. Students who complete the course successfully will receive certificates.

HOD/EEE

Copy To:

Principal

IQAC

Circulate to all faculty members and Students

Department File

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

REPORT FOR THE VALUE ADDED COURSE

Course Name: PROBLEM SOLVING
Resource Person : **Mr.A.Babu, System Engineer, M/S Devi Electrical Company**
Date: 10.07.2018 to 13.07.2018
Time: 09.00 AM to 05.30 P.M
Course Hours: 30 Hours
Attended Student: 57 Students
Student Certified: 57 Students

Course Overview

This intensive course provided participants with a comprehensive understanding of electrical circuits and advanced problem-solving techniques in electrical engineering. Designed for engineering students and professionals, the course combined theoretical knowledge with practical applications

Key Learning Objectives

Develop skills in problem-solving through hands-on activities and case studies.

Gain proficiency in using simulation software for circuit design and analysis.

Explore advanced topics such as AC circuits, power systems, and signal processing,

Module 1: Introduction to Problem Solving in Electrical Engineering

Overview of problem-solving approaches

Importance of clear problem definition and assumptions

Types of problems in electrical engineering conceptual, analytical, and design problems Problem-solving frameworks: decomposition, simplification, and abstraction

Module 2: Signal Processing and Systems Analysis

Introduction to signals: continuous and discrete-time signals

Fourier series and Fourier transforms for signal analysis

Sampling theorem and aliasing effects Filters: analog and digital filter design

Problem-solving in system stability (Bode plots, Nyquist criteria)

MATLAB/Python for signal processing simulations

Module 3: Numerical Methods and Computational Problem Solving

Introduction to numerical methods: solving linear and nonlinear systems, interpolation, and numerical differentiation/integration

hands-on a Gain proficiency in using simulation software for circui. xplore advanced topics such as AC circuits, power system of problem-solving

Introduction to Problem Solving in Electrical Engine approaches of clear problem definition and assumptions blems in electrical engineering conceptual, analytical, frameworks: decomposition, simplification

Introduction to optimization techniques (eg, gradient descent, Newton's method)

Introduction to MATLAB/Python for numerical analysis

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Module 4: Advanced Topics in Problem Solving

Machine learning techniques for electrical engineering problems (e.g., predictive modeling, signal classification)

Advanced simulation tools and techniques: finite element modeling, Monte Carlo simulations Multi-criteria decision analysis (MCDA) in engineering design

Case studies of real-world electrical engineering problems

Interdisciplinary problem-solving and teamwork

Conclusion=

The course successfully met its objectives, equipping participants with valuable knowledge and skills in Celectrical circuits and engineering problem-solving. Continuous improvement and adaptation to participant feedback will enhance future iterations of the course.

COURSE-COORDINATOR

HOD/EEE

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From

        Mr. J.Mohammed Iliyas

        Assistant Professor,

        Department of Electrical and Electronics Engineering,

        Aalim Muhammed Salegh College of Engineering,

        Muthapudupet, Avadi IAF,

        Chennai – 600055.

To

        The Principal,

        Aalim Muhammed Salegh College of Engineering,

        Muthapudupet, Avadi IAF,

        Chennai – 600055.

Dear Sir,

Sub: Request for Approval of Value-Added Course: Problem Solving – reg.

        I am writing to request your approval for the value-added course titled "Problem Solving" for IV year EEE students from 10.07.2018 – 13.07.2018. I believe that the course will enhance the skills and competencies of our students. Given the growing interest and relevance of this subject, I believe that offering this course would greatly benefit our students' educational experience and equip them with valuable skills. Kindly consider the request and do the needful.

J. Mohammed Iliyas
29/6/18

Yours faithfully,

Submitted to principal sir,

Please, permit us to conduct this value added course on the stipulated dates to enhance the students in the field of problem solving! It is recommended for the students.

29/06/18

A. MOHANA SUNDARAM HEAD/EEE.

Permitted
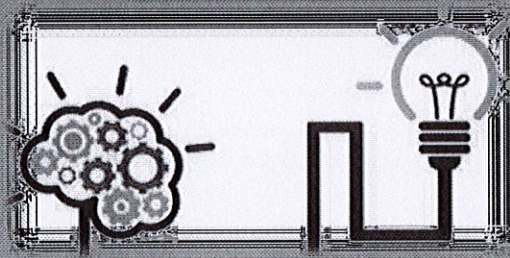*29/6/2018*

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DEPARTMENT OF

ELECTRICAL AND ELECTRONICS ENGINEERING

Organize
Value Added Course on
"PROBLEM SOLVING"

RESOURCE PERSON
Mr.A.Babu
System Engineer
Devi Electrical Company

Course Details:

Duration: 30 Hrs
Course start from 10.07.2018 to 13.07.2018

Venue: Power Electronics Laboratory, EEE Block

A.MOHANASUNDARAM

HEAD/EEE

Dr.AFZAL ALI BAIG M

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SYLLABUS FOR THE VALUE ADDED COURSE PROBLEM SOLVING

Module 1: Introduction to Problem Solving in Electrical Engineering

- Overview of problem-solving approaches
- Importance of clear problem definition and assumptions
- Types of problems in electrical engineering: conceptual, analytical, and design problems
- Problem-solving frameworks: decomposition, simplification, and abstraction

Module 2: Signal Processing and Systems Analysis

- Introduction to signals: continuous and discrete-time signals
- Fourier series and Fourier transforms for signal analysis
- Sampling theorem and aliasing effects
- Filters: analog and digital filter design
- Problem-solving in system stability (Bode plots, Nyquist criteria)
- MATLAB/Python for signal processing simulations

Module 3: Numerical Methods and Computational Problem Solving
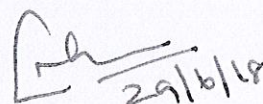
- Introduction to numerical methods: solving linear and nonlinear systems, interpolation, and numerical differentiation/integration
- Application of numerical methods to electrical engineering problems
- Solving differential equations in circuit and system analysis
- Introduction to optimization techniques (e.g., gradient descent, Newton's method)
- Introduction to MATLAB/Python for numerical analysis

Module 4: Advanced Topics in Problem Solving

- Machine learning techniques for electrical engineering problems (e.g., predictive modeling, signal classification)
- Advanced simulation tools and techniques: finite element modeling, Monte Carlo simulations
- Multi-criteria decision analysis (MCDA) in engineering design
- Case studies of real-world electrical engineering problems
- Interdisciplinary problem-solving and teamwork

J. Mohammed Alies
29/6/18.
COURSE-COORDINATOR

29/6/18
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SCHEDULE FOR THE VALUE ADDED COURSE PROBLEM SOLVING

Day 1: (10.07.2018) : Introduction to Problem Solving in Electrical Engineering (7.5 Hours)
Forenoon Session (9 a.m to 12.30 p.m) (9 a.m to 12.30 p.m)

- Overview of problem-solving approaches
- Importance of clear problem definition and assumptions

Afternoon Session (1.30 p.m to 5.30p.m) (1.30 p.m to 5.30p.m)

- Types of problems in electrical engineering: conceptual, analytical, and design problems
- Problem-solving frameworks: decomposition, simplification, and abstraction

Day 2: (11.07.2018): Signal Processing and Systems Analysis(7.5 Hours)
Forenoon Session (9 a.m to 12.30 p.m)

- Introduction to signals: continuous and discrete-time signals
- Fourier series and Fourier transforms for signal analysis
- Sampling theorem and aliasing effects

Afternoon Session (1.30 p.m to 5.30p.m)

- Filters: analog and digital filter design
- Problem-solving in system stability (Bode plots, Nyquist criteria)
- MATLAB/Python for signal processing simulations

Day 3: (12.07.2018): Numerical Methods and Computational Problem Solving(7.5 Hours)
Forenoon Session (9 a.m to 12.30 p.m)

- Introduction to numerical methods: solving linear and nonlinear systems, interpolation, and numerical differentiation/integration
- Application of numerical methods to electrical engineering problems

Afternoon Session (1.30 p.m to 5.30p.m)

- Solving differential equations in circuit and system analysis
- Introduction to optimization techniques (e.g., gradient descent, Newton's method)
  Introduction to MATLAB/Python for numerical analysis

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Day 4: (13.07.2018) Module 4: Advanced Topics in Problem Solving(7.5 Hours)

Forenoon Session (9 a.m to 12.30 p.m)

- Machine learning techniques for electrical engineering problems (e.g., predictive modeling, signal classification)
- Advanced simulation tools and techniques: finite element modeling, Monte Carlo simulations
- Multi-criteria decision analysis (MCDA) in engineering design

Afternoon Session (1.30 p.m to 5.30p.m)

- Case studies of real-world electrical engineering problems
- Interdisciplinary problem-solving and teamwork

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DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING
Certifate course on _PROBLEM SOLVING_

Academic year- _2018-2019_

BATCH: 2015-2019   YEAR: IV / VII

S.No	Reg. no	NAME	10.7.18	11.7.18	12.7.18	13.7.18
1	110115105001	ABDULLAH.H				
2	110115105002	ABDULLAH.M.I				
3	110115105003	ABDUL RAHEEM.A.K				
4	110115105004	ABU THAKIR.M.U				
5	110115105005	AHAMED THARICK.S				
6	110115105006	AMEER SUHAIL.P				
7	110115105007	AMEERUDEEN.K				
8	110115105008	ARAVIND KUMAR.R				
9	110115105009	ASWATH AHAMED.S				
10	110115105010	AZARUDEEN.A				
11	110115105011	BARANITHARAN.R				
12	110115105012	BASID RABBANI.B				
13	110115105013	DHANUSH KUMARAN.P				
14	110115105014	DINESH.B				
15	110115105015	HAJI MOHAMED.K				
16	110115105019	IRFANULLAH.J				
17	110115105020	KARTHIK.B				
18	110115105021	KARTHIKEYAN.T				
19	110115105022	KHAJA OMAR FAROOQ.F				
20	110115105023	MD SHAHBAAZ ALAM				
21	110115105024	MOHAMED ANSARI.A				
22	110115105025	MOHAMED ASICK.M				
23	110115105026	MOHAMED DHANISH.S.M				
24	110115105027	MOHAMED IJAZ.M				
25	110115105028	MOHAMED JAKKARIYA.P.S				
26	110115105029	MOHAMED LUKMAN.S				
27	110115105030	MOHAMED NOORUDDEEN.M.Z				
28	110115105031	MOHAMMED SAAQIB ZUBAIR.A				
29	110115105033	MOHAMED SHAGITH.M				
30	110115105034	MOHAMED SUAIB.A				
31	110115105036	MOHAMMED EBRAHIM.A				
32	110115105037	MOHAMMED MUBISH.A				
33	110115105038	MOHIDEEN MOATAZ.Y				
34	110115105040	MUHAMMED SALMAN.A.H				
35	110115105041	NARENDAR.T				
36	110115105043	NAWAS AKRAM.M				
37	110115105044	NOORUL ASFAR.M				
38	110115105045	NOORUL ASHIQ.M.A.M				
39	110115105046	PRAVEEN RAJ.A				
40	110115105047	RIFATH AL THAMEEM.H				
41	110115105048	SIBU.V				
42	110115105050	SRINIVASAN.T				
43	110115105051	SURESH.S				
44	110115105052	SYED THOWSIF AHAMED.M				
45	110115105053	VIGNESH.M				

46	110115105054	YASAR ARAFATH.K				
47	110115105301	ABDUL RAHIM KHAN. H				
48	110115105302	DHOWSEEP AHAMED				
49	110115105303	KARTHIKEYAN. S				
50	110115105305	MOHAMED MUSTHAFA SHERIFF S				
51	110115105306	G. MOHAMMED SALAUDIN				
52	110115105307	S.K MUHAMMAD MUKARRAM				
53	110115105308	PRABHAKARAN. V				
54	110115105309	SALEEM BASHA. S				
55	110115105310	SYED MOHIUDDIN. M				
56	110115105311	SYED NAJMULLA . S				
57	110115105312	SYED NATHEEM.M				

13/07/18

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"Nizara Educational Campus", Muthapudupet, AVADI-IAF, Chennai-55

Certificate of Completion

This is to certify that

ABDULLAH.H

Of IV year Department of Electrical and Electronics Engineering has successfully completed the course for "**PROBLEM SOLVING**"

in the academic year 2018-2019..

13.07.2018

DATE

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Certificate of Completion

This is to certify that

AZARUDEEN.A

Of IV year Department of Electrical and Electronics Engineering has successfully completed the course for "**PROBLEM SOLVING**"

in the academic year 2018-2019..

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Certificate of Completion

This is to certify that

MD SHAHBAAZ ALAM

Of IV year Department of Electrical and Electronics Engineering has successfully completed the course for "**PROBLEM SOLVING**"

in the academic year 2018-2019..

13.07.2018

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"Nizara Educational Campus", Muthapudupet, AVADI-IAF, Chennai-55

Certificate of Completion

This is to certify that

MOHAMED SUAIB.A

Of IV year Department of Electrical and Electronics Engineering has successfully completed the course for "**PROBLEM SOLVING**"

in the academic year 2018-2019..

13.07.2018

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"Nizara Educational Campus", Muthapudupet, AVADI-IAF, Chennai-55

Certificate of Completion

This is to certify that

RIFATH AL THAMEEM.H

Of IV year Department of Electrical and Electronics Engineering has successfully completed the course for "**PROBLEM SOLVING**"

in the academic year 2018-2019..

13.07.2018

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Certificate of Completion

This is to certify that

MOHAMED MUSTHAFA

Of IV year Department of Electrical and Electronics Engineering has successfully completed the course for "**PROBLEM SOLVING**"

in the academic year 2018-2019..

13.07.2018

_____   _____
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