

A REPORT ON
5 Day
FACULTY DEVELOPMENT PROGRAMME
ON
“ENERGY MANAGEMENT AND
AUDITING”

Sponsored by APJ Abdul Kalam Technological University
(7-11 January 2020)



Department of Electrical and Electronics Engineering

MAR BASELIOS CHRISTIAN COLLEGE OF
ENGINEERING AND TECHNOLOGY

PEERMADE

KERALA

A REPORT ON FACULTY DEVELOPMENT PROGRAMME ON

“ENERGY MANAGEMENT AND AUDITING”

A five-day faculty development programme on “ELECTRICAL SYSTEM DESIGN” was held at Mar Baselios Christian College of Engineering and Technology, organised by department of electrical and electronics engineering, sponsored by APJ Abdul Kalam Technological University from 07/1/2020 to 11/01/2020. The aim of the FDP was to provide opportunities to faculty members to enrich their teaching skill and provides necessary background for the faculty about energy management and auditing. The FDP was attended by participants from various engineering colleges.

INAUGURAL FUNCTION AT 9:00am

Inaugural function started with prayer



Welcome address by Prof. Resmara S, Assistant Professor, Department of EEE,MBC CET, Peermade



Prof Resmara S explained advantages of arranging FDP. He emphasised the relevance of faculty interaction with industrial experts. " it is important to update the current advances in electrical auditing and management. Most of the teaching faculty are unaware of industrial design requirements and practices. This FDP paves a path to reduce gap between industrial requirement and academics"-he added.

Presidential address by Dr Pradeep C, Principal ,Mar baselios Christian college of Engineering and Technology

Principal Dr Pradeep C summarized the importance of FDP's and significance of the topic selected. He thanked the university for selecting our college and providing financial support for organizing the program.

This course is based on revised APJ Abdul Kalam Technological University (KTU) syllabus of the subject ENERGY MANAGEMENT AND AUDITING in eighth semester of Electrical and Electronics Engineering. Hence all those faculty handling the subject will be the primary beneficiary-He Said





Inaugural address by chief guest and resource person Dr. A M Narayanan, Senior Energy Consultant, Energy Management Centre (EMC)



Lighting the Lamp ceremony





Felicitation address by Rev. Fr. KURUVILLA PERUMAL CHACKO, Student Advisor and Chaplin, MBCCET Peermade

Rev. Fr. KURUVILLA PERUMAL CHACKO congratulated the department of electrical and electronics engineering for organizing the event. He added a few points about the importance of knowledge sharing that in turn benefits the students. He wished and blessed the entire program to become a great success.



Felicitation address by Mr. K A Abraham, Bursar, MBCCET Peermade

He wished all the success for the program. He advised all the faculty who are interested in design to attend all sessions to equip them with sufficient knowledge in electrical system design



Data Hand book by Energy Management Centre (EMC) published by Dr. Pradeep C



Token of Love to Dr. A M Narayanan Senior Energy Consultant, Energy Management Centre (EMC) ,Chief guest and resource person of the day by Dr. Pradeep C,Principal,MBC CET,Peermade



Vote of thanks by Prof. Sneha Priya Sebastain Department of EEE, MBCCET, Peermade

Prof. SnehaPriya Sebastain expressed her whole-hearted gratitude to the Almighty, management and the resource persons. He also extent his gratitude to the APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY who sponsored the program. She thanked all the dignitaries, participants and co Ordinator of FDP.



TECHNICAL SESSIONS

Session 1 FN (07.01.2020)

Dr. A M Narayanan Senior Energy Consultant, Energy Management Centre (EMC)

Mr Narayanan is Senior Energy Consultant with Energy Management Centre (EMC), Dept of Power, Govt of Kerala. He was Head- Energy Efficiency with EMC for the past ten years. Mr Narayanan's professional experience spans over thirty five years in the field of large energy projects, energy management and energy and environment policies. Mr Narayanan is Electrical Engineer with Masters in Energy Management and a PhD scholar in Power System, BEE, Govt of India, certified energy auditor, Distinguished Lecture of IEEE – IAS, Scholar in advanced energy management at Germany and Japan and Project Management in USA. Indian Engineering Service (IES) Alumnus, Licensed A grade supervisor for HT Electrical design and installation .



He gave a complete details of General Principles of energy management and energy Planning, Electricity Supply Chain and Energy Efficiency, Orientation to Energy Audit, Peak demand control, methods ,Optimal load shedding, Building Energy Efficiency- Energy Conservation Building Code He also explained current job opportunities in Energy Related Field and certifications in energy field

Session 2 AN (07.01.2020)

Mr Johnson Daniel, Head Energy Efficiency, EMC

Er. Johnson Daniel is with EMC since 2008 and he is presently heading the Energy Efficiency Division of EMC. He oversees the Industrial and Commercial Building Energy Efficiency aspects of the State. He is the State Nodal and Technical Officer for various Energy Conservation Act related mandates. He represents EMC in many empowered State Committees in the portfolio of efficient use of energy and its conservation. He is an Electrical Engineer and BEE, Govt of India Certified Energy Auditor and qualified as a licensed electrical supervisor for design and installation of HT Electrical systems in the State. Prior to EMC, Mr Johnson Daniel has more than two decades of commendable experience in Manufacturing Industries and Process Plants in engineering and management functions.



He started with his topic with energy scenario in world ,India and Kerala also energy. And he detailed about commercial, non commercial, renewable and non-renewable energy sources and energy consumption acts. He also explained Certified Energy Auditors (CEA) Exam and energy audit pattern with examples



Token of Love given to Mr Johnson Daniel, Head Energy Efficiency, EMC by Prof.Resmara S Assistant Professor,Department of EEE, MBCCET,Peermade



Session 3 FN (08.01.2020)

Mr suresh Babu, BEE Accredited energy Auditor

B V Suresh Babu is an Accredited Energy Auditor (AEA-33) of Bureau of Energy Efficiency, Government of India having 18 year experience in energy engineering. He had his advanced studies in Bio-Energy Systems from Indian Institute of Science (IISc), Bangalore. He has already completed more than 600 Energy Audits in various sectors. He is an Energy Auditor by profession and has been appreciated by Government of Kerala by presenting its prestigious “Kerala State Energy Conservation Award” for his commendable achievements and contributions towards energy conservation and management activities in the state of Kerala. He is the co-founder of OTTOTRACTIONS working exclusively on energy, engineering and environment solutions. Otto tractions is one of the leading energy audit firms in India and is the first energy audit firm from Kerala to get national accreditation. He holds various positions in different technical institutions like Director -Energy & Clean Technologies Division in CISSA (Centre for Innovation in Science and Social Action), Fellow- SEEM (Society of Energy Engineers and Managers) etc. He also published papers on Energy Management, Sustainable Development and Science and Technology.



He explained about Types of boilers, Combustion in boilers, Performances evaluation, Feed water treatment, Blow down, Energy conservation opportunities in boiler. also detailed the Classification, General fuel economy measures in furnaces, Excess air, Heat Distribution, Temperature control, Draft control, Waste heat recovery.



Token of Love given to Mr suresh Babu,BEE Accredited energy Auditor, by Dr. Anoop K J,Dean (Academics), MBCET,Peermade



Session 4 AN (08.01.2020)

Mr Shanavaz, Jt. Director of Kerala State Productivity Council

Mr Shanavaz is an Accredited Energy Auditor by Bureau of Energy Efficiency (BEE), Ministry of Power, Govt. of India (AEA-0099).and Bureau of Energy Efficiency (BEE) Certified ECBC Master Trainer. He is resource Person of Technical, Agency for Non-conventional Energy and Rural Technology (ANERT), Govt. of Kerala .His Work experience of over 15 years in Energy Audit, Energy Conservation Building Code (ECBC) compliance analysis, Renewable Energy, carbon footprint study, Electrical power distribution T & D loss analysis, Software based Building Simulation, Sustainability reports, PAT M&V Audit etc.. He is Currently working as Jt. Director of Kerala State Productivity Council. The Kerala State Productivity Council established in 1959 is an autonomous consulting organization providing consulting and training in industrial engineering, energy & environment management and quality system procedures to help industries make distinctive improvements in performance to become more competitive .



He introduced Kerala Productivity council and gave a brief idea about Purpose of Energy Management. He detailed about Energy management opportunities in electrical systems- Lighting and Motors, Electrolytic Process and Electric heating. At last he conducted a case study about energy saving technics in electrical systems

Token of Love given to Mr Shanavaz, Jt. Director of Kerala State Productivity Council , by Dr. Anoop K J,Dean (Academics), MBCCET,Peermade



Session 5 & 6 (9.01.2020)

INDUSTRIAL VISIT at MASCO TEA FACTORY, VAGAMON guided by Mr. Benet George V , BEE Accredited auditor , CEM international Trainer by AEE USA

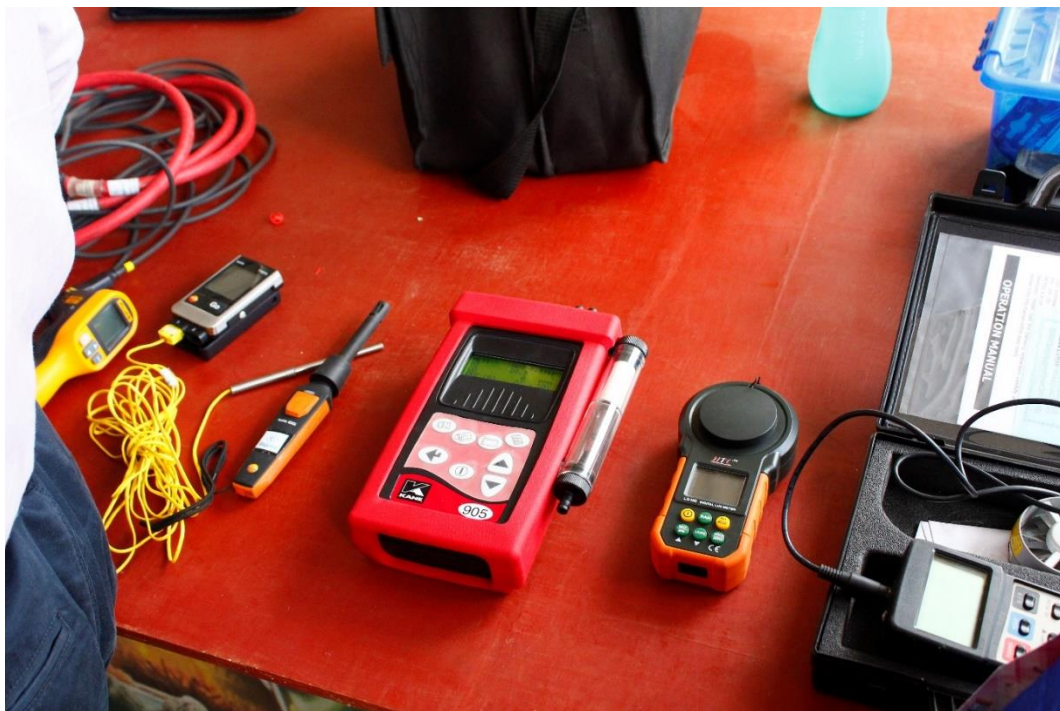
Mr. Benet George V experienced Energy Efficiency Consultant with 15 years' strong experience in energy audit, implementation, PAT audit, power quality, Electrical Safety, Measurement & verification (M&V), ISO 50001, Training, green building and project management. Executed more than 200 Energy audits and Energy Efficiency projects in 11 countries (India, Bangladesh, Canada, Indonesia, Maldives, Morocco, Philippines, Germany, Nigeria, Poland and Turkey) in various sectors including industries (Mines, Steel, cement, paper, Aluminum, Automobile, Tyre, Pharma, Etc) and buildings (IT buildings, commercial buildings, offices, hotels, resorts, Golf clubs) and townships. He is one among the 4 CEMI trainers in India. He Founded an Energy Management Consulting organization (Bigeta Energy Solutions) and providing various services like Energy Audits, Electrical Power Assessment, Electrical Safety Assessments, Measurement & Verification, Energy Data Analytics, Green building consultancy, ISO 50001 Implementation and Training. We have team of professionals including IGBC APs, consultants to support any of green building and energy management requirements. Has provided trainings for CEM – AEE USA in Kolkata, New Delhi and Bengaluru and Provided training for Boeing, NPTI, MWSC Maldives etc.

Familiarization of Audit Procedure

He primarily gave an brief idea about how to identify Energy Management Opportunities (EMO's) and develop an understanding of the specific energy use patterns of a facility. He explained about systematic assessment from point of purchase to end-use.



Familiarization of audit instruments



Industry Visit for Energy Audit





Session 7 & 8 (10.01.2020)

Mr. Azeem K, Certified Energy Auditor, founder of Alenso Energy

Mr. Azeem K is a Co-founder of Alenso Energy, a firm striving to contribute towards energy security and keeping the sunshine for posterity. He is a Certified Energy Auditor, collaborated in multiple energy audits in various sectors like chemicals, rubber, spices, textile, iron & steel, buildings and mining. He has 21 years' industrial experience with hands on working in Projects, Process, Maintenance & Supply Chain. He Conducted many training programs as Resource Person in industries and technical institutions.

He explained about HVAC system with Coefficient of performance, Capacity, Factors affecting Refrigeration and Air conditioning system performance and energy savings opportunities. He detailed about Classification and Advantages of Waste Heat Recovery system, analysis of waste heat recovery for Energy saving opportunities. Also discussed about Cogeneration-Types and Schemes, Optimal operation of cogeneration plants. He conducted a case study on that day.



Token of Love given to Mr. Azeem K by Prof.R Griesh, Assistant Professor,Department of EEE, MBCCET,Peermade



Session 9 & 10 (11.01.2020)

Mr. Azeem K, Certified Energy Auditor, founder of Alenso Energy

He explained about economic analysis methods-cash flow model, time value of money, evaluation of proposals, pay-back method, average rate of return method, internal rate of return method, present value method and life cycle costing approach. He helped participants to analyse the audited data when they collected during industrial visit. He detailed about how to prepare audit report and participants prepared a rough audit report.





Feedback Session



Certificate Distribution



Outcome

All the sessions were very much informative. The discussed areas were of great benefits for the participants as the topics match with current domain. The program in turn benefit the faculty in delivering lecture to the students. Participants prepared an audit data.

PHOTOGRAPHY





തിരുവനന്തപുരം എൻജിമാനേജ്മെന്റ് സെന്റർ ദേവാവി ഡോ. എം നാരായണൻ സെമിനാർ ഉദ്ഘാടനം ചെയ്യുന്നു

സെമിനാർ

പിറുഭക്

കുട്ടിക്കാനം മാർ ബസേലിയോസ് ക്രിസ്ത്യൻ കോളേജ് ഓഫ് എൻജിനീയറിങ്ങിൽ എൻജി ഓഡിറ്റിങ് ആൻഡ് മാനേജ്മെന്റ് എന്ന വിഷയത്തെ ആസ്പദമാക്കി സെമിനാർ നടന്നു. ഇലക്ട്രിക്കൽ ആൻഡ് ഇലക്ട്രോണിക്സ് എൻജിനീയറിങ് വിഭാഗത്തിലെ ഫാക്കൽറ്റി ഡെവലപ്മെന്റ് പ്രോഗ്രാമിന്റെ ഭാഗമായായിരുന്നു സെമിനാർ. തിരുവനന്തപുരം എൻജിമാനേജ്മെന്റ് സെന്റർ മേധാവി ഡോ. എം നാരായണൻ ഉദ്ഘാടനം ചെയ്തു. കോളേജ് പ്രിൻസിപ്പൽ ഡോ. സി പ്രദീപ് അധ്യക്ഷനായി. ഡോ. ജോൺസൺ, ബർസാർ കെ എ എബ്രഹാം, സ്റ്റുഡന്റ് അഡ്വൈസർ ഫാ. കുരുവിള പെരുമാൾചാക്കോ, പ്രൊഫ. എസ് റെസ്മാർ, പ്രൊഫ. സ്റ്റേഹപ്രിയ സെബാസ്റ്റ്യൻ എന്നിവർ സംസാരിച്ചു.

ദി കരിമ്പൻ സർവ്വീസ് സഹകരണ ബാങ്ക് ക്ലിപ്തം നം.കെ.414,
മണിപ്പാറ പി.ഒ, കരിമ്പൻ. Ph: 0486 223 0309, ഇടുകി 685602
സ്വർണ്ണപ്പൂർണ്ണ ലേലപരസ്യം

കരിമ്പൻ സർവ്വീസ് സഹകരണ ബാങ്കിന്റെ താഴെപ്പറയുന്ന ബ്രാഞ്ചുകളിൽനിന്നും സ്വർണ്ണ ഉരുപ്പടികൾ പണയപ്പെട്ട് വായ്പ വാങ്ങി കാലാവധിക്ക് തിരിച്ചടക്കാതെ കൂടിശ്ശിക വരുത്തി നിയമാനുസരണം നോട്ടീസ് അയക്കുകയും, നേരിൽ കണ്ട് പറയുകയും ചെയ്തിട്ടും വായ്പാ ഇടപാട് തീർക്കാത്ത താഴെപ്പറയുന്ന വായ്പ നമ്പരുകളിലുള്ള സ്വർണ്ണപ്പൂർണ്ണങ്ങൾ 2020 ജനുവരി 24 ഹെഡ് ഓഫീസിൽ വെച്ച് ഓരോന്നായി വായ്പക്കാരന്റെ നഷ്ടോത്തരവാദിത്വത്തിൽ പരസ്യമായി ലേലം ചെയ്ത് വിൽക്കുന്നതായിരിക്കും. ലേലം ചെയ്തിട്ട് ബാങ്കിന് എന്തെങ്കിലും നഷ്ടം വന്നാൽ ടിയാളുടെ ജംഗമസ്വത്തുക്കളിൽനിന്നും ആർബിട്രേഷൻ നടപടി സ്വീകരിച്ച് തുക ഈടാക്കുന്നതാണ് എന്നുള്ള വിവരം ഇതിനാൽ അറിയിച്ചുകൊള്ളുന്നു. ലേലം സംബന്ധിച്ചുള്ള നിയമങ്ങളും ഉരുപ്പടികളുടെ വിവരങ്ങളും ബന്ധപ്പെട്ട ബ്രാഞ്ചിൽ നിന്നും ലഭിക്കുന്നതാണ്. ആവശ്യമുണ്ടെന്ന് തോന്നുന്ന പക്ഷം ലേലം നിർത്തിവെയ്ക്കുന്നതിനോ, മറ്റൊരു ദിവസത്തേക്ക് മാറ്റിവെയ്ക്കുന്നതിനോ ബാങ്കിന് അധികാരമുണ്ടായിരിക്കുന്നതും അതുപോലെ ഏതെങ്കിലും കാരണത്താൽ ടി ലേല ദിവസം അവധി ആയിരുന്നാൽ തൊട്ടടുത്ത പ്രവൃത്തി ദിവസം ഇതേ സ്ഥലത്തും സമയത്തും വെച്ച് ലേലം നടത്തുന്നതുമായിരിക്കും.

AGL No. 345/13, 346/13, 978/15, 1028/15, 1050/15, 1062/14, 1530/17, 1542/17, 1674/17, 70/17, 446/12, 676/12, 911/13, 17/14, 254/14, 794/14, 790/14, 659/15-16, 660/15-16, 540/16-17, 49/17-18, 134/17-18, 163/17-18, 269/17-18, 408/17-18, 468/17-18, 658-1037, 658-1086, 658-1100, 269/17-18

കരിമ്പൻ
08.01.2020

ഒപ്പ്, സെക്രട്ടറി
കരിമ്പൻ സർവ്വീസ് സഹകരണബാങ്ക്

CMYK

ഫാക്കൽറ്റി ഡവലപ്മെന്റ്

പീരുമേട് • മാർ ബസേലിയോസ് ക്രിസ്ത്യൻ എൻജിനീയറിങ് കോളജിൽ ഇലക്ട്രിക്കൽ ആൻഡ് ഇലക്ട്രോണിക്സ് വിഭാഗം ഫാക്കൽറ്റി ഡവലപ്മെന്റ് പരിപാടി തിരുവനന്തപുരം എൻജി മാനേജ്മെന്റ് സെന്റർ മേധാവി ഡോ. എ.എം.നാരായണൻ ഉദ്ഘാടനം ചെയ്തു. കോളജ് പ്രിൻസിപ്പൽ ഡോ.സി. പ്രദീപ് അധ്യക്ഷനായി. ഡോ.ജോൺസൺ, ബർസാർ കെ.എ. എബ്രഹാം, ഫാ. കുരുവിള പെരുമാൾ ചാക്കോ, പ്രഫ.എസ്.റസ്മാര, പ്രഫ.സ്നേഹപ്രിയ സെബാസ്റ്റ്യൻ എന്നിവർ പ്രസംഗിച്ചു .

KTU SPONSORED-FACULTY DEVELOPMENT PROGRAMME

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7th January 2020 – 11th January 2020

PARTICIPANT

Name :

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of

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MAR BASELIOS CHRISTIAN
COLLEGE OF ENGINEERING & TECHNOLOGY
KUTTIKKANAM, PEERMADE





MAR BASELIOS CHRISTIAN
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Approved by AICTE and Affiliated to
APJ Abdul Kalam Technological University



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ELECTRICAL & ELECTRONICS
ENGINEERING**

Date : **7TH – 11TH JANUARY 2020**

Venue : **PTA SEMINAR HALL**







