



LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING

(AUTONOMOUS)

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Approved by AICTE, New Delhi and Affiliated to JNTUK, Kakinada

L.B.Reddy Nagar, Mylavaram-521230, Krishna Dist, Andhra Pradesh, India

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

REPORT ON FIVE-DAY FACULTY DEVELOPMENT PROGRAM ON “META-HEURISTIC TECHNIQUES APPLIED TO POWER SYSTEM ENGINEERING”

Event Type : Faculty Development Programme

Date / Duration : 7th – 11th May 2018

Resource Person : Dr.S.Sivanagaraju, Professor, JNTUK, Kakinada, Mr.R.S.Srinivas of EEE Department, from Acharaya Nagarjuna University, Guntu, and Dr.B.Srinivasa Rao Professor, Dept. Of EEE,LBRCE, VRSEC, Vijayawada

Name of Coordinator : Dr.M.S.Giridhar and Mr.A.V.G.A.Marthanda

Target Audience : Faculty members from different engineering and industrial fields to establish new collaborations and research to explore both sides of challenges and opportunities in the respective fields

Total no of Participants: 50 Faculty members from LBRCE and other Engineering colleges.

Objective of the event: The main objective of this five day faculty development programme (FDP) is to discuss the details and applications of meta-heuristics to power system problems.

Outcome of event : Faculty updated with the latest knowledge in Applications of Metaheuristics applications to Power System problems.

➤ DESCRIPTION :

- EEE Department of the Institute conducted a Five-Day Training Programme on “Metaheuristic Techniques – Applications to Power Engineering” Co-organized by Association of Electrical Engineers of LBRCE (AEEL) during 07th – 11th May, 2018 in EEED Seminar Hall for Faculty of EEE Department of LBRCE & various engineering college faculty in and around LBRCE.
- HOD of EEE, Dr.M.Umavani welcomed the faculty and Chief guest. The chief guest was Dr.S.Sivanagaraju, Director, Industry, Institute Interaction & Placement Training from JNTUK, Kakinada, Inaugurated the Five-Day faculty development program, with his inspiring speech importance of Electrical Engineering Field in the modern days.
- The First day i.e 7th May morning session was handled by Dr.S.Sivanagaraju, he motivated the faculty to take research work and quoted many example in the Electrical & Electronics Engineering for selecting/Identifying the research problems. He focused on the role and importance of shunt/series capacitor placement in distribution systems. Also discussed about the characteristics of transmission and distribution system and their design i.e size and type of the conductors to be selected for less losses in the system. He discussed the how research work can be extended by giving an example of distribution network reconfiguration problem, how feeder reconfiguration is done using metaheuristic techniques.

- The Afternoon of the same day was a Lab session, where general mathematical optimization problems have been simulated using Genetic Algorithm, Particle Swarm optimization, Simulated Annealing, Tabu search.
- The Second day i.e 8th May morning session was handled by Dr.P.Sobha Rani on Distributed Generation placement in distribution system using metaheuristics techniques such as genetic algorithm and Fire Fly and Dr.M.S.Giridhar discussed the problem of Economic Load Dispatch using Genetic Algorithm, Tabu search and Simulated Annealing. Also both handled the Lab sessions in the After noon with simulation of DG placement in RDS and EDP using metaheuristic techniques.
- The Third day i.e 9th May morning session was handled by Mr.R.S.Srinivas of EEE Department, from Acharaya Nagarjuna University, Guntur. He gave the application of Particle Swarm Optimization (PSO) and Teaching & Learning Based Optimization (TLBO) to power system transient stability problem. Also in the Afternoon Lab Session he demonstrated the implementation of PSO & TLBO to Transient stability Analysis of power system.
- The Fourth day i.e 10th May morning session Dr.B.Srinivasa Rao has introduced as new heuristics technique called “Artificial Immune System based Algorithm” called Colonel Search Algorithm (CSA) and an Adaptive colonel search Algorithm (ACSA) for power system economic & emission dispatch problem as well as the optimal power flow problem. Also in the Afternoon Lab session he demonstrated the implementation of these algorithms for power system problems using MATLAB programming.
- The Fifth day 11th Forenoon session Dr.M.Umavani Garu has presented on the latest developments in the Smart Grid Technologies and the applications of Optimization Techniques in Power Systems. Followed Session Dr.G.Nageshwara Rao delivered the Power Quality problem in power systems under Indian Scenario. In Lab session Real-Time On-line Power Quality measurements and related website resources have been demonstrated.

Feedback / Suggestions : Very useful for Engineering Faculty in finding the new techniques in doing their Research Works in the area of power system optimization.

Photographs :



Addressing by “Dr. S.Sivanagaraju, Professor, Department of EEE, JNTUK, Kakinada”



Participants in FDP by Faculty and Research Scholars



Participation Certificate distribution to the Faculty by "Dr. K.Appa Rao" Gaur, Principal, LBRCE.

Press Clippings

