5 – Day Online
Faculty Development Program (FDP)
on
**Soft Computing Techniques and
their Applications in Electrical Engineering**

(28th June – 2nd July 2021)
Registration Form

1. **Name** _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

2. **Designation** _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

3. **Department** _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

4. **Institution/Organization** _ _ _ _ _ _ _ _ _

5. **Address** _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

6. **E-mail Address** _ _ _ _ _ _ _ _ _ _ _ _ _

7. **Mobile No.** _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

8. **Telephone No.** _ _ _ _ _ _ _ _ _ _ _ _ _ _

Paste Recent
Color
Photograph
here

Signature of Applicant

Signature & Seal of Head of the Department / Institute

Note: The participants are advised to apply online at AICTE ATAL registration portal https://atalacademy.aicte-india.org/signup on or before 25th June 2021 for the final registration.

CHIEF PATRON
Prof. P. K. Jain   **Director, NIT Patna**

PATRON
Prof. S. K. Verma   **Dy. Director, NIT Patna**

CONVENER
Dr. R. K. Mandal   **Asst. Prof., EE Department**

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How to Reach
The institute campus is 8 km from the Patna Junction railway station, 15 km from the Jai Prakash Narayan International airport and some 200 m inside the NIT more off Ashok Rajpath. One can reach there using the shared autos from South East Gandhi Maidan (Kargil Chowk) is easily accessible from any part of the city.

Organized by

Department of Electrical Engineering
NATIONAL INSTITUTE OF TECHNOLOGY PATNA
Ashok Rajpath, Patna, Bihar – 800 005, INDIA

Sponsored by

AICTE Training And Learning (ATAL) Academy

**All India Council for Technical Education
New Delhi**

ABOUT NIT PATNA

National Institute of Technology Patna (NITP) is the 18th National Institute of Technology created by the Ministry of Education Government of India after rechristening the erstwhile Bihar College of Engineering Patna on 28.01.2004. NIT Patna marked its humble beginning in 1886 with the establishment of pleaders' survey training school which was subsequently upgraded to Bihar College of Engineering in 1924. This made this Institute the 6th oldest Engineering Institute in India. The Institute is situated on the south bank of the holy river Ganges behind Gandhi Ghat (where the ashes of Mahatma Gandhi were immersed in river Ganges). The campus has a picturesque view with its historic building presenting a spectacle of architectural delight and natural beauty. The Institute imparts high level education, training, research and development in science, engineering, technology and humanities along with high quality education and values at UG, PG and Ph.D levels. At present, the Institute has six disciplines offering degree courses viz. Architecture, Civil Engg., Computer Science & Engg., Electrical Engg., Electronics & Communication Engg., and Mechanical Engg., and well-established departments of Physics, Chemistry, Mathematics, Humanities and Social Science.

OVERVIEW OF THE ONLINE FDP

Soft computing is an emerging approach to computing which parallel the remarkable ability of the human mind to reason and learn in an environment of uncertainty and imprecision. Soft computing is based on some biological inspired methodologies such as genetics, evolution, ant's behaviors, particles swarming, human nervous systems, etc.. Soft computing encompasses techniques like Neural networks, fuzzy logic and optimization algorithms, and it has emerged as an effective tool for the purpose of modeling, control and decision-making problems in complex systems. This FDP will provide a platform for learning Soft Computing and Optimization algorithms with their application in electrical engineering domain.

OBJECTIVES OF THE FDP

1. To update the participants with the state-of-the-art technologies in Soft computing.
2. To enable participants to learn the industrial, real life and academic applications of Soft computing.
3. Familiarization with Soft Computing Techniques for Control systems, power systems, power electronics and drives, Inverters & Converters.
4. To explore knowledge of Smart Instrumentation.
5. To impart knowledge of applying optimization algorithms in renewable energy sources, smart power grids and wind power generation, etc.
6. Apart from lectures, hands on sessions shall be conducted to enable the participants to gain knowledge in this field

CONTENT

1. Introduction to various Soft Computing Techniques
2. Soft computing application to power System operation and control
3. Maximum power peak detection of PV panel using evolutionary algorithms
4. Harmonic search algorithm based MPPT of solar PV system
5. Intelligent Maximum Power Extraction Control for Wind Energy
6. Process control using soft computing.
7. Soft Computing in Green and Renewable Energy Systems
8. Active & reactive power management in present scenarios
9. Application of artificial intelligence in robotics.
10. Optimization Methods to Plan the Charging of Electric Vehicle
11. Industries based controller application & automation
12. Soft Computing for Smart Homes and Cities
13. Application of Fuzzy Logic in Control of Electrical Machines

FACULTY

Speakers will be from various disciplines of different IITs/ Research Organizations and other institutions of higher learning, and related industries and R&D organizations from different parts of the country.

ELIGIBILITY

1. There is no registration fee from any participants.
2. All the faculties, Research Scholar and PG Scholars from AICTE approved institutions are eligible for the workshop.
3. No TA/DA will be paid to any participants.
4. Number of participants is limited to 200.
5. Participants will be selected on first-come first-served basis.
6. Selected candidates will be intimated by e-mail confirmations of participation is to be made by email only.
7. Faculty members selected for the program should get the authorization certificates signed from the principal.
8. The Coordinators decision will be final in the selection of participants.

IMPORTANT DATES

Receipt of applications (Online): 26th June, 2021
Information to the selected candidates: 27th June, 2021
FDP duration: 28th June –2nd July 2021.
Note: The participants are advised to apply online at AICTE ATAL registration portal https://atalacademy.aicte-india.org/signup on or before 25th June 2021 for the final registration.

TEST AND CERTIFICATE

1. A test shall be conducted at the end of the program.
2. The certificates shall be issued to those participants who have attended the program with minimum 80% attendance and scored minimum 60% marks in the test.