



# POORNIMA

## COLLEGE OF ENGINEERING

Promoted by Shanti Education Society, Affiliated to Rajasthan Technical University & Approved by AICTE

### A REPORT ON THREE DAY NATIONAL WORKSHOP

- ♦ **TITLE AND DURATION:** “Recent Advancements in Soft Computing and Optimization Techniques for Smart Engineering Systems” on February 24th -26th, 2020.
- ♦ **SPONSORS & SUPPORTERS:** Department of Science and Technology, Rajasthan.
- ♦ **ORGANIZERS:** Department of Electrical Engineering, Poornima College of Engineering, Jaipur.
- ♦ **FLYER / POSTER:**

**DST SPONSORED NATIONAL WORKSHOP ON**  
**Recent Advancements in Soft Computing and Optimization Techniques for Smart Engineering Systems**  
**February 24-26, 2020**

**REGISTRATION FORM**

Name: \_\_\_\_\_  
Designation: \_\_\_\_\_  
Department: \_\_\_\_\_  
Institute: \_\_\_\_\_  
Institute Address: \_\_\_\_\_  
Mailing Address: \_\_\_\_\_  
Mobile No.: \_\_\_\_\_  
E-mail: \_\_\_\_\_  
Accommodation Required: \_\_\_\_\_  
Details of the S.D.: No. \_\_\_\_\_ Dated: \_\_\_\_\_  
Issued by (Bank & Branch): \_\_\_\_\_  
\*Demand Draft drawn in favor of "Poornima College of Engineering", payable at Jaipur.

**Declaration of the Candidate**  
I declare that the details furnished are true to the best of my knowledge and I agree to abide by the rules and regulations governing the conduct of the Programme.  
Place: \_\_\_\_\_ Signature of Participant: \_\_\_\_\_

**Sponsorship Certificate**  
Mr./Ms./Dr. \_\_\_\_\_ is a faculty of our institution/ Organization and is permitted to attend the National Workshop on Recent Advancements in Soft Computing and Optimization Techniques for Smart Engineering Systems conducted by Poornima College of Engineering, Jaipur from February 24-26, 2020.  
Seal & Signature of Director / Principal: \_\_\_\_\_

**HOW TO REACH**  
Jaipur is one zenith of the popular tourism Golden Triangle circuit Agra-Delhi-Jaipur and is well connected to most parts of India by air, train and road. Poornima College of Engineering is located about 268 km by road & 308 km by train from Delhi. It is situated at the Jaipur, capital of Rajasthan and is encircled by several industries. Jaipur Railway Station and Jaipur Bus Stand are close by and are about 25 km. from the conference venue.

**Road Map to Poornima Group**

**For information contact**  
**Dr. Tarun Varshney**  
☎ : 9412143367  
E-mail : tarun.varshney@poornima.org  
**Dr. Virendra Sangtani**  
☎ : 9799884938  
E-mail : virendra.sangtani@poornima.org


**Poornima COLLEGE OF ENGINEERING**  
Affiliated to RTU, Kota - Approved by AICTE & UGC under 2(f) - Accredited by NBA  
ISI-6, FICO Institutional Area, Stapura, Jaipur, Rajasthan 302022  
www.pce.poornima.org

**Sponsored by**  
Department of Science & Technology, Rajasthan

**Organized by**  
Department of Electrical Engineering

**Poornima COLLEGE OF ENGINEERING**  
Affiliated to RTU, Kota - Approved by AICTE & UGC under 2(f) - Accredited by NBA

**Dr. Mahesh Bunde**  
B.E., M.E., Ph.D.  
Director  
Poornima College of Engineering  
ISI-6, FICO Institutional Area  
Stapura, JAIPUR



**POORNIMA COLLEGE OF ENGINEERING**

Poornima College of Engineering (PCE), established as a brand of technical education in the year 2000, has its own glorious legacy of leading the young engineers to the mammoth sky of success. Its accomplishments forecast its journey through the hardships and its triumph over them one after another. PCE left no stone unturned since its establishment in turning the glorious vision into achievable reality providing the platform for knowledge and research and their practical implementations in different engineering professional prospects. Glorious glimpses of PCE:

Highly recognized and renowned affiliated technical institutions all over Rajasthan with built up area more than 3.5 lakh square feet

Affiliated to RTU, Kota & approved by AICTE, New Delhi

The most preferred NBA Accredited Engineering College with ranking of six specializations of Engineering at UG Level (CSE, ECE, EE, ME, IT, CIV) and two at PG level (CS & VLSI)

The only institution permitted by RTU to admit PwD/Girl students & designated as centre of excellence by BSM

An excellent institution building its rapport in all sectors of education, research and development

**WORKSHOP AIM AND EXPECTED OUTCOMES**

The workshop aims at developing expertise of soft computing and optimization techniques like Fuzzy Logic, Artificial Neural Networks, Particle Swarms Optimization etc. that can be used to solve various complex and smart engineering systems.

**Expected outcome: participants will be able to:**

- Gain expertise of Soft Computing and Optimization Techniques like Fuzzy Logic, Artificial Neural Networks, Particle Swarms Optimization etc. that can be used to solve various Complex and Smart Engineering Systems
- Apply suitable Soft Computing/Optimization Techniques for linear, non-linear, complex and multi-dimensional engineering systems to reach to the solution of complex problems in various engineering domains
- Understand features of Smart Grid in the context of Indian Grid and address various issues related to the Generation, Transmission, Distribution Utilization, Optimization and Scheduling of electrical power in Smart Grids
- Apply Evolutionary Algorithms to the Smart Grids and Distributed Generation systems.

**COURSE CONTENTS**

**The topic will include**

- Optimization of power drives systems by using soft computing
- Concept of Grey wolf optimization algorithm
- Application of Grey wolf optimization algorithm with Fuzzy logic
- Concept of Neuro-fuzzy
- Application of Neuro-fuzzy systems
- Modeling and simulation of eddy current braking system using various soft computing techniques

**REGISTRATION**

Candidates should complete the enclosed registration form and send scanned copy by mail to the coordinator: [sahita.jain@poornima.org](mailto:sahita.jain@poornima.org). Confirmation of eligible candidates will be on PWS(COME-4951-5ER)E basis. The complete registration form should be received to the coordinator 10 February 21, 2020.

**HOW TO APPLY**

No registration fee for participant from AICTE approved institutions. The interested participants are requested to complete the online registration form <https://forms.gle/7Fht1P0S1PLwV8W9>. A registration fee for participants from industries is ₹ 1000/- which can be paid through Demand Draft.

**ACCOMMODATION**

Accommodation will be provided to the participants on prior request based on availability in hotel/employment.

**TARGET AUDIENCE**

Faculty, researchers and students from Academic, Industry and Research & Development sector.

**RESOURCE PERSON**

Experts from IITs, IITs and other reputed institutions and industries will handle the session.

**COURSE MATERIAL**

Each registered participant will be provided with a set of comprehensive lecture notes.

**IMPORTANT DATES**

Last date of receipt of applicant: February 21, 2020  
Intimation of selection by mail: February 22, 2020  
Workshop duration: February 24-26, 2020

**DATE AND VENUE**

National Workshop will be held during February 24-26, 2020 at Poornima College of Engineering, Jaipur

**PATRON**

Dr. S. M. Seth  
Chairman (Emeritus) Poornima Group

Dr. Shashikant Singh  
Chairman, Poornima Group

**ADVISORS**

Mr. M. K. H. Shah  
Director (Admin & Finance)  
Poornima Group

Mr. Hari Singh Shekhawat  
Director (Education)  
Poornima Group

Dr. Mahesh N. Bundeale  
Principal & Director  
Poornima College of Engineering

Dr. Pankaj Ghemta  
Vice-Principal  
Poornima College of Engineering

**COORDINATORS**

Dr. Sahita Jain  
Professor, EE, PCE

Dr. Vinod Sanghani  
Professor, EE, PCE

Dr. Tarun Varshey  
Professor, EE, PCE

**PCE ACADEMIC COMMITTEE**

Dr. Anil Shrivastava  
Professor, PCE

Dr. Deepika Chaudhary  
Professor, PCE

Dr. Himani Goyal Sharma  
Professor, PCE

Dr. Neeraj Thuri  
Professor, PCE

Dr. Pravin Machindra Samwana  
Professor, PCE

Dr. Sanil Gupta  
Professor, PCE

Dr. Rajeev Kumar  
Associate Professor, PCE

Dr. Vijay Kumar Gole  
Associate Professor, PCE

Mr. Brijraj Singh Solanki  
Associate Professor, PCE

Mohammad Asif Iqbal  
Associate Professor, PCE

Mr. Pankaj Gokhar  
Assistant Professor, PCE

Mr. Arpit Khundhwal  
Assistant Professor, PCE

Mr. Devendra Kumar Doda  
Assistant Professor, PCE

Mr. Gaurav Jain  
Assistant Professor, PCE

Mr. Gaurav Srivastava  
Assistant Professor, PCE

Mr. Mahesh Kumar Meena  
Assistant Professor, PCE

Mr. Manish Sharma  
Assistant Professor, PCE

Mr. Mayank Sharma  
Assistant Professor, PCE

## ◆ PROGRAM SCHEDULE:

Program Outline	
Monday, Day 1: 24 <sup>th</sup> February, 2020	
8.00 AM – 09.00 AM	Welcome Reception and Registration Opens
9.00 AM – 9.30 AM	Inaugural Function, Venue: CG-05
9.30 AM – 10.00 AM	High Tea / Coffee Break
10.00 AM - 11.30 AM	<p><b>Session-1</b></p> <p><b>Keynote Address:</b> <b>Resource Person:</b> Prof. (Dr.) Prof. Rahul Banerjee, Director, LMNIT, Jaipur. <b>Venue:</b> CG-05</p>
11.30 AM - 1.15 PM	<p><b>Session-2</b></p> <p><b>Title:</b> Self-tuning Fuzzy controller for sun-tracker system using Grey Wolf optimization technique <b>Resource Person:</b> Dr. Ashish Srivastava, Professor, EED, Manipal University, Jaipur <b>Venue:</b> CG-05</p>
1.15 PM - 1.45 PM	Lunch Break
1.45 PM – 3.45 PM	<p><b>Session-3</b></p> <p><b>Hands on</b> <b>Resource Person:</b> Dr. Ashish Srivastava, Professor, EED, Manipal University, Jaipur <b>Venue:</b> WL01</p>

Tuesday, Day2: 25 <sup>th</sup> February, 2020	
8.30 AM -10.30 AM	<b>Session-4</b> <b>Topic:</b> Optimization of power drives systems by using soft computing <b>Resource Person:</b> Dr. Nitin Gupta, Assistant Professor, EED, MNIT Jaipur <b>Venue:</b> CG-05
10.30 AM – 11.00 AM	<b>High Tea / Coffee Break</b>
11.00 AM - 1.15 PM	<b>Session-5</b> <b>Hands on</b> <b>Resource Person:</b> Dr. Nitin Gupta, Assistant Professor, EED, MNIT Jaipur <b>Venue:</b> WL 01
1.15PM - 1.45PM	<b>Lunch Break</b>
1.45PM –3.45 PM	<b>Session-6</b> <b>Topic:</b> Implementation of Fuzzy logic tool in MATLAB with a real time example <b>Resource Person:</b> Dr. Babita K Jain, Professor, EED, PCE Jaipur <b>Venue:</b> WL 01

Wednesday, Day3: 26 <sup>th</sup> February, 2020	
8.30 AM -10.30 AM	<b>Session-7</b> <b>Topic:</b> Modelling and simulation of eddy current braking system using soft computing techniques <b>Resource Person:</b> Dr. Arunesh K Singh, Assistant Professor, EED, JMI, New Delhi <b>Venue:</b> WL 01
10.30 AM – 11.00 AM	<b>High Tea / Coffee Break</b>
11.00 AM - 1.15PM	<b>Session-8</b> <b>Topic:</b> Fuzzy logic for MPTT in PV systems <b>Resource Person:</b> Dr. Bhavnesk Kumar, Assistant professor, EED, NSIT, New Delhi <b>Venue:</b> WL 01
1.15PM–2.00PM	<b>Lunch Break</b>
2.00PM –3.00 PM	Valedictory Function& Feedback Session Venue: CG-05



## ♦ WORKSHOP INTRODUCTION:

Department of Electrical Engineering, Poornima College of Engineering, Jaipur has organized **DST (Rajasthan) SPONSORED NATIONAL WORKSHOP ON “Recent Advancements in Soft Computing and Optimization Techniques for Smart Engineering Systems”** on **February 24-26, 2020**.

The workshop aimed at developing expertise of soft computing and optimization techniques like Fuzzy Logic, Artificial Neural Networks, Particle Swarm Optimization etc. that can be used to solve various complex and smart engineering systems.

**The main expected outcomes was to enable the** participants gain expertise of Soft Computing and Optimization Techniques like Fuzzy Logic, Artificial Neural Networks, Particle Swarm Optimization etc. that can be used to solve various Complex and Smart Engineering Systems. Also it is expected that the participants will be able to apply suitable Soft Computing/Optimization Technique for linear, non-linear, complex and multi-dimensional engineering systems to reach to the solution of complex problems in various engineering domains. Participants are also expected to understand features of Smart Grid in the context of Indian Grid and address various issues related to the Generation, Transmission, Distribution, Utilization, Optimization and Scheduling of electrical power in Smart Grids. They are also expected to apply Evolutionary Algorithms to the Smart Grids and Distributed Generation systems.

The Certificate of participation were awarded to all the participants on successful completion of the program.

**Registration link :** <https://forms.gle/7FHe1P6tSPLwVtBW9>



**Three Day Workshop  
on**

Govt. of Rajasthan

**"Recent Advancements in Soft Computing and Optimization Techniques for  
Smart Engineering Systems"**  
**February 24<sup>th</sup>-26<sup>th</sup>, 2020**

**Organized by:**

Department of Electrical Engineering, **Poornima College of Engineering, Jaipur**

**Sponsored by:**

Department of Science and Technology, Rajasthan  
Inaugural Session Q- Sheet  
Friday, 24<sup>th</sup> February, 2020

**Venue: CG 05, PCE, Jaipur**

S. No	Activity	Duration	Time
1.	Reporting and Registration of Delegates	30 Min	08:30 AM-09:00AM
2.	Welcome of Dignitaries by the anchors	5 Min	09:00 AM -09:05 AM
3.	Request the dignitaries for lightning of lamp A. <b>Chief Guest Prof. (Dr.) Rahul Banerjee, Director LNMIIT, Jaipur</b> B. <b>Dr. Mahesh M Bundeale, Principal &amp; Director, Poornima College of Engineering</b> C. <b>Mr. Pankaj Dhemla, Vice Principal, Poornima College of Engineering</b> D. <b>Dr Virendra Sangtani, HOD, EE</b> E. <b>Dr. Babita Jain, Organizing Secretary</b> F. <b>Dr Tarun Varshney, Coordinator</b>	5 Min	09:05 AM -09:10 AM
4.	Felicitatation of <b>Chief Guest Prof. (Dr.) Rahul Banerjee by Dr. Mahesh M Bundeale, Principal &amp; Director, Poornima College of Engineering</b>	5 Min	09:10 AM -09:15 AM
5.	Welcome Address by <b>Dr. Babita Jain, Professor EE, PCE</b>	5 Min	09:15 AM -09:20 AM
6.	Words of Wisdom by <b>Dr. Mahesh M Bundeale, Director, Poornima College of Engineering</b>	5 Min	09:20 AM -09:25 AM
7.	Address by <b>Prof. (Dr.) Rahul Banerjee</b>	5 Min	09:25 AM -09:30 AM
8.	Vote of Thanks by <b>Dr. Virendra Sangtani, HOD, EE</b>	2 Min	09:30 AM -09:32 AM
9.	Group Photograph	3 Min	09:32 AM -09:35 AM
10.	<b>High Tea</b>	25 Min	9.35 AM -10.00 AM

  
**Dr. Mahesh Bundeale**  
B.E., M.E., Ph.D.  
Director  
Poornima College of Engineering  
ISI-06, FIICO Institutional Area  
Sisupura, JAIPUR

◆ EVENT PHOTOGRAPHS:









### Summary of Session:

Prof. (Dr.) Ashish Shrivastava spoke on Self-tuning fuzzy controller for sun-tracker system using gray wolf optimization (GWO) technique. He said the design and implementation of TSK fuzzy with variable membership functions has been used to test different objective functions, i.e., MSE, IAE, ISE, ITAE, ITAE & ITAU, ISE & ISU and IAE & IAU, in optimization process. The obtained results authenticate that GWO based optimization technique is a good choice to find optimal solution of fuzzy tuning parameter and error minimization on different constrain set for Sun-Tracker System.

Dr. Babita Jain discussed on the topic fuzzy logic. She covered what is Fuzzy Logic, Fuzzy sets, Membership function, Difference between Fuzzy and Probability, Fuzzy Inference, Why Fuzzy Logic.

Dr. S. DasMahapatra spoke on Game Theory and Optimization. He said a game is a competitive activity in which multiple agents contest or compete to maximize their profit according to a set of



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16 rules. He discussed some Examples Market- {Between firms for setting prices, adjusting quantities and finally to maximize profit} Politics- {Contesting election, campaigning strategy, vote share} Wireless Communication- {Maximize spectrum bandwidth, throughput, avoid packet collision} Auction of Art, Coal Blocks, Spectrum etc.

Dr. P. M. Sonwane discussed on Soft Computing through Particle Swarm Optimization. He covered Why Optimization is required, When to use PSO, How to use PSO, What do you mean by PSO parameter tuning, Practice with one example of your own.

Dr. Rahul Banerjee, discussed on Bio-Inspired Routing in VANETs & Intelligent Transportations Systems. He covered Fuzziness in thoughts and many human expressions, Neural Information Processing , Genetic evolution ,Creatures' Behaviour like Ants , Bee ,Firefly , Cuckoo , Particle Swarm





♦ LIST OF PARTICIPANTS:

S N o.	Applicant name	Are you faculty?	Designation	Are you student?	Category	Department	Institute	Mobile number	Is Institute AICTE approved?	Academic /Industry	Accommodation required
1	Vikas Verma	Yes	Assistant Professor	Faculty - Outside	1	CSE	Jaipur National University	8560892484	Yes	Academic	No
2	Dr. Sandeep Gupta	Yes	Assistant Professor	Faculty - Outside	1	EE	JEC RC University	8769065042	Yes	Academic	No
3	Amit Sharma	No		PG - Outside	1	Civil	MNI T	7791041266	Yes	Academic	No
4	Sohit Aqarwal	Yes	Assistant Professor	Faculty - Outside	1	CE & IT	Suresh Gyan Vinhar University, Jaipur	9251836030	Yes	Academic	No
5	Nagendra Kumar Swarnkar	Yes	Professor	Faculty - Outside	1	EE	Suresh Gyan Vinhar University, Jaipur	9828229045	No	Academic	No
6	Priyank Aqarwal			Faculty - Poornima Group	2	CSE	PGI	8949512266	Yes	Academic	No
7	Dr. Sushindra Kumar Gupta		Assistant Professor	Faculty - Poornima Group	2	Civil	PIET	9461239358	Yes	Academic	No
8	Udit Mamodiyala		Assistant Professor	Faculty - Poornima Group	2	EE	PIET	9694802324	Yes	Academic	No
9	Priyanka sharma		Assistant Professor	Faculty - Poornima Group	2	ECE	PIET	9983175627	Yes	Academic	No





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10	Sural Kumar Prasad	No		UG - Poornima Group	3	CSE	PIET	9955947106	Yes	Academic	Yes
11	Talmni	No		UG - Poornima Group	3	CSE	PIET	7014844324	Yes	Academic	Yes
12	Yuvraj Daqur	No		UG - Poornima Group	3	CSE	PIET	8949090660	Yes	Academic	No
13	Atishey Jain	No		UG - Poornima Group	3	CSE	PIET	9799415822	Yes	Academic	No
14	Shubham singh dagur	No		UG - Poornima Group	3	CSE	PIET	9511559076	Yes	Academic	Yes
15	Yuvraj Saxena	No		UG - Poornima Group	3	CSE	PIET	9116123915	Yes	Academic	No
16	Kunal Kumar	No		UG - Poornima Group	3	CSE	PIET	7033279724	Yes	Academic	Yes
17	Kunwar Abhishek	No		UG - Poornima Group	3	BCA	PU	8368024694	Yes	Academic	No
18	Chetna Bhurani	No		UG - Poornima Group	3	BCA	PU	9983245564			
19	Naman Dixit	No		UG - Poornima Group	3	CSE	PU	9461981920	Yes	Academic	No
20	Shashank Singh	No		UG - Poornima Group	3	CSE	PU	9694631058	Yes	Academic	No
21	Anind Kumar Gupta	No		UG - Poornima Group	3	EE	PU	9877967479	No	Academic	No
22	Nayan Kumar	No		UG - EE, PCE	4	EE	PCE	9507898557	Yes	Academic	No
23	Dr Himani Goyal Sharma		Professor	Faculty - EE, PCE	5	EE	PCE	9676974176	Yes	Academic	No
24	Arpit khandelwal		Assistant Professor	Faculty - EE, PCE	5	EE	PCE	8058227694	Yes	Academic	No
25	Amit Shrivastava	Yes	Professor	Faculty - EE, PCE	5	EE	PCE	9314860660	Yes	Academic	No
26	Dr. Deepika Chauhan	Yes	Professor	Faculty - EE, PCE	5	EE	PCE	9252605292	Yes	Academic	No

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27	Devendra Kumar Doda		Assistant Professor	Faculty - EE, PCE	5	EE	PCE	9352260373	Yes	Academic	No
28	Mohammad Iqbal	Yes	Associate Professor	Faculty - EE, PCE	5	EE	PCE	9602022384	Yes	Academic	No
29	Pankaj Ghakkar	Yes	Assistant Professor	Faculty - EE, PCE	5	EE	PCE	7737764255	Yes	Academic	No
30	Dr. Pravin Machhindra Sonwane	Yes	Professor	Faculty - EE, PCE	5	EE	PCE	8805868462	Yes	Academic	No
31	Trimesh Kumar		Assistant Professor	Faculty - EE, PCE	5	EE	PCE	9413056699	Yes	Academic	No
32	Dr. Payal Bansal	Yes	Associate Professor	Faculty - Non - EE, PCE	6	ECE	PCE	9785487195	Yes	Academic	No
33	Arpit Singh Bhadoria		Assistant Professor	Faculty - Non - EE, PCE	6	Civil Engineering	PCE	8770918450	Yes	Academic	No
34	Amit Kumar Jain	Yes	Assistant Professor	Faculty - Non - EE, PCE	6	ECE	PCE	9509677599	Yes	Academic	No
35	Tarun Mishra	Yes	Assistant Professor	Faculty - Non - EE, PCE	6	ECE	PCE	9982013388	Yes	Academic	No
36	Manisha Kumawat	Yes	Assistant Professor	Faculty - Non - EE, PCE	6	ECE	PCE	8209399842	Yes	Academic	No
37	mukesh chand		Assistant Professor	Faculty - Non - EE, PCE	6	ECE	PCE	9461779584	Yes	Academic	No
38	Brijraj Singh Solanki	Yes	Assistant Professor	Faculty - Non - EE, PCE	6	ECE	PCE	9829533943	Yes	Academic	No

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		Yes	Assistant Professor	Faculty - Non - EE, PCE	6	IT	PCE	7062247280	Yes	 विज्ञान एवं प्रौद्योगिकी विभाग DEPARTMENT OF SCIENCE & TECHNOLOGY Academic	No
40	Aman Jain	No		UG - Non - EE, PCE	7	ECE	PCE	7014383427	Yes	Academic	No
41	Rahul Rathl	No		UG - Non - EE, PCE	7	ECE	PCE	7737821823	Yes	Academic	No
42	Vansh Gupta	No		UG - Non - EE, PCE	7	ECE	PCE	6377163048	Yes	Academic	No
43	Manish Kumar	No		UG - Non - EE, PCE	7	ECE	PCE	9262225777	Yes	Academic	No
44	Vikash kumar	No		UG - Non - EE, PCE	7	ECE	PCE	7488103127	Yes	Academic	No
45	Ananya katara	No		UG - Non - EE, PCE	7	ECE	PCE	8094611961	Yes	Academic	No
46	Harsh salhl	No		UG - Non - EE, PCE	7	EC E	PCE	8619920374	Yes	Academic	No
47	Ishita chauhan	No		UG - Non - EE, PCE	7	ECE	PCE	9.19057E+11	Yes	Academic	No

  
**Dr. Mahesh Bunde**  
 B.E., M.E., Ph.D.  
 Director  
 Poornima College of Engineering  
 ISI-0, FIICO Institutional Area  
 Silepura, JAIPUR



♦ **FEEDBACK ANALYSIS:**

DST (Rajasthan) SPONSORED NATIONAL WORKSHOP ON "Recent Advancements in Soft Computing and Optimization Techniques for Smart Engineering Systems" on February 24-26, 2020.			
	Attributes	Comments	No. Of Comments
Program	Organizing level	Excellent	8
		Very Good	7
		Good	6
		Poor	2
	Guests/ Dignitaries	Excellent	16
		Very Good	2
		Good	3
		Poor	2
		Excellent	5

	Reception & publicity	Very Good	7	 विज्ञान एवं प्रौद्योगिकी DEPARTMENT OF SCIENCE & TECHNOLOGY GOVERNMENT OF INDIA
		Good	9	
		Poor	2	
The Talk Contents	Relevance	Excellent	8	
		Very Good	7	
		Good	8	
		Poor	0	
	Depth	Excellent	8	
		Very Good	8	
		Good	5	
		Poor	2	
	Interest	Excellent	8	
		Very Good	9	
		Good	5	
		Poor	1	
	Importance	Excellent	10	
		Very Good	7	
		Good	5	
		Poor	1	
	Understandsding	Excellent	5	
		Very Good	8	
		Good	7	


DEPARTMENT  
SCIENCE & TECHNOLOGY

		Poor	3
The Facilitators	Knowledge	Excellent	16
		Very Good	3
		Good	2
		Poor	2
	Preparedness	Excellent	12
		Very Good	3
		Good	5
		Poor	3
	Response to participant's questions	Excellent	12
		Very Good	2
		Good	6
		Poor	3
	Delivery	Excellent	11
		Very Good	5
		Good	5
		Poor	2
Overall understanding of concepts		Excellent	5
		Very Good	11
		Good	7
		Poor	7
Duration of the program		Excellent	5
		Very Good	7
		Good	10
		Poor	0
Overall how would you rate this program		Excellent	9
		Very Good	7
		Good	5
		Poor	2
Would you like to work in this direction		Yes	16
		No	7
Would you like to attend similar activity in future?		Yes	20
		No	3
Suggestions	The duration could be extended to seven days		
	More Practical sessions should be included		
	Nice startup for information		
	Session should cover more duration		
	Gave good knowledge		

◆ VOTE OF THANKS:



Dr Babita Jain thanked all the participants for wholeheartedly take active participation in the National Level Three days workshop sponsored by De Department of Science and Technology, Rajasthan. Out of the overwhelming reponse of 85 participants, 47 participants were shortlisted. The main objective though very comprehensive highlighted on various techniques used for smart Engineering Systems and their recent advancement. After a theory session of almost four hours of theory Interactive Session, at least two hours of hands on practice was given to 29 the participants .

The workshop aimed at developing expertise of soft computing and optimization techniques like Fuzzy Logic, Artificial Neural Networks, Particle Swarm Optimization etc. that can be used to solve various complex and smart engineering systems.

The participants gained expertise in various techniques of Soft Computing and Optimization like Fuzzy Logic, Artificial Neural Networks, Particle Swarm Optimization etc. They were also able to solve various Complex and Smart Engineering Systems. The participants were able to apply suitable Soft Computing/Optimization Technique for linear, non-linear, complex and multi-dimensional engineering systems to reach to the solution of complex problems in various engineering domains. Participants also understood features of Smart Grid in the context of Indian Grid and address various issues related to the Generation, Transmission, Distribution, Utilization, Optimization and Scheduling of electrical power in Smart Grids. They are also expected to apply Evolutionary Algorithms to the Smart Grids and Distributed Generation systems.

FINALLY, An INSPIRING QUOTE BY MARTIN LUTHER KING, “AN INDIVIDUAL HAS NOT STARTED LIVING UNTIL HE RISES ABOVE THE CONFINES OF HIS INDIVIDUALISTIC CONCERNS TO THE BROADER CONCERNS OF HUMANITY”