

Amount .....Date .....

14. Sponsored By

Name.....

Designation.....

Organization.....

15. Free boarding and lodging at institute campus  
(for outstation participants) required: YES/NO

Signature (Applicant)

Mr./Ms/Dr./Prof..... is a  
regular faculty member of our institution and is  
permitted to attend the course if selected.

Signature

(Head of Institution/Organization with seal)

\*\* (You may get this form enlarged by Xeroxing on A4  
size paper for submission)

**Address for correspondence:**

**Dr. Manjaree Pandit**

Professor,

Department of Electrical Engineering

Madhav Institute of Technology & Science,  
Gwalior-474 005

Phone no. 0751-2409380, 2409311, 2409363

Email: drpanditm@yahoo.com

Institute website: www.mitsgwl.ac.in

### ***About the Institution***

Madhav Institute of Technology and Science was established in 1957 by His Highness Late Sir Jiwaji Rao Scindia, Maharaja, of the erstwhile state of Gwalior. The foundation stone of the Institute was laid by Late Dr. Rajendra Prasad, on 20<sup>th</sup> October, 1956 and the building was inaugurated by Late Dr. S. Radhakrishnan on 11<sup>th</sup> December, 1964. The president of India, Dr. Pratibha Devisingh Patil graced the Golden Jubilee Celebrations of the institute as Chief Guest on 30<sup>th</sup> June, 2008.

The institute has a campus of around 45 acres. The prime objective of the Institute is to provide quality technical education at undergraduate and postgraduate levels. The faculty is actively engaged in research and has published numerous papers in National and International journals.

### ***About Gwalior***

Gwalior is a fast growing city and has a formidable industrial center. The Institute is about 3 Kms from Gwalior railway station. Gwalior will be cold during the month of December and the participants will require woollens and winter wear.

### ***Registration***

The completed application in the given format must reach the coordinator through proper channel on or before **15<sup>th</sup> November 2011**, along with a refundable crossed bank draft of Rs. 500/- in favor of **Director, MITS Gwalior**, payable at Gwalior.

This amount will not be refunded to candidates who don't report after selection. Selected candidates will be intimated by **20<sup>th</sup> November 2011**. Participants from Industry, Government Departments, etc., are required to pay a course fee of Rs. 1000/-.

**AICTE SPONSORED**

**STAFF DEVELOPMENT  
PROGRAMME**

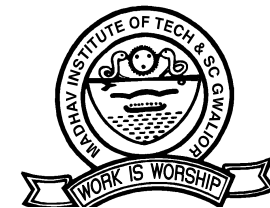
ON

**EVOLUTIONARY COMPUTING  
TECHNIQUES FOR NUMERICAL AND  
ENGINEERING OPTIMIZATION  
(12<sup>th</sup> to 23<sup>rd</sup> December, 2011)**

**Course Coordinator**

**Dr. Manjaree Pandit**

**Organized By**



**Department of Electrical Engineering  
Madhav Institute of Technology and Science  
(An autonomous institute under RGPV, Bhopal)  
Gwalior (M.P.) 474 005  
www.mitsgwl.ac.in**

**About the course**

Traditional methods often prove cumbersome for complex real world problems; hence, researchers have been looking into biological processes and natural beings for inspiration. Optimization is at the heart of many natural processes including Darwinian evolution, social group behavior and foraging strategies. Over the last few decades, there has been remarkable growth in the field of nature-inspired search and optimization algorithms. Currently these techniques are applied to a variety of problems in all the branches of engineering, science, management and medicine.

In computer science, evolutionary computation is a subfield of computational intelligence that involves combinatorial optimization problems. The superiority of evolutionary techniques lies in their non dependence on nature of optimization function, parallel processing and population based random search ability. Broadly speaking, the field includes, genetic algorithm, evolutionary programming, particle swarm optimization, differential evolution, simulated annealing, ant colony system, bacterial foraging, quantum evolutionary programming, biogeography based optimization, harmony search, artificial immune system, frog leaping algorithm, tabu search and many more similar techniques.

The idea behind this course is to focus on the diverse applications of evolutionary computing in the field of numerical and engineering optimization, and discuss the different modeling details for benchmark problems and specific applications. The advantages of these powerful modeling techniques will be clearly brought out in comparison to the conventional methods for complex, ill defined problems.

**Course Contents**

The main aim of this course is to introduce participants to the growing area of evolutionary computing and to motivate them to apply these paradigms in their relevant research areas. The course will provide an introduction to:

- Evolutionary techniques like Evolutionary Programming, Genetic Algorithms, Particle Swarm Optimization, Bacterial Foraging, Ant Colony System, Artificial Immune System, Differential Evolution, Quantum Computing, etc. for system modeling
- Hybridization of different evolutionary computation techniques
- System modeling for standard numerical benchmark problems
- Specific implementation in different real world problems

Laboratory demos will supplement the material presented in the lectures.

**Faculty**

The department has qualified faculty in the field of evolutionary computing. Many research projects have been successfully completed/or are in progress in this area.

Experts from leading institutes will also be invited to deliver lectures.

**Eligibility**

The course is interdisciplinary in nature and is open to full time regular faculty members of AICTE approved institutions.

The participants must be sponsored by their respective institutions. The total number of participants is limited to 50. Sponsored candidates will be paid TA/DA as per AICTE norms. Lodging and Boarding will be arranged in the guest house/hostels.

**\*\*APPLICATION FORM**  
**AICTE Sponsored Staff Development Programme**  
**on**  
**EVOLUTIONARY COMPUTING**  
**TECHNIQUES FOR NUMERICAL AND**  
**ENGINEERING OPTIMIZATION**

**((12<sup>th</sup> to 23<sup>rd</sup> December, 2011)**

1. Name.....
2. Date of Birth.....
3. Designation .....
4. Organization.....
5. Department .....
6. Address for communication  
.....  
.....  
.....
7. Phone .....
8. Fax.....
9. E-mail.....
10. Teaching Experience.....(Years)
11. No. of short term courses attended.....
12. Research Interests.....  
.....
13. Payment Details  
Draft No.....  
Bank.....