

Registration Form

Faculty Development Program on Optimization Techniques and its Engineering Applications

(15th–19th March, 2018)

Name:

Gender:

Designation:

Department:.....

Organization:

Correspondence address:

.....

Mobile No.:

E-mail:

Highest Qualification:

Teaching/Research Exp. (Years):

Lodging Requirement: Yes/No.....

(Signature of the Applicant with date)

Sponsorship Certificate

It is certified that our institute is recognized by AICTE. The applicant is hereby sponsored and will be permitted to attend the above faculty development program, if selected.

Date: Signature and Seal of the sponsoring authority

Note:

1. Photocopies of this form can be used
2. Scanned copy of registration form can also be sent by e-mail

Registration

Teachers of AICTE recognized engineering institutions are eligible to apply for the course. Participants will be given course material. Accommodation will be arranged on request on “first come first serve” basis to the outstation participants. The number of participants is limited to 30 for the course. Since funds are limited, it may not be possible to admit many outstation candidates. Merit and availability of funds will be taken into consideration while selecting candidates. The interested candidates need to apply on the prescribed format by the due date at the following address.

How to Register

The participants may register by sending the completed and duly signed registration form through post or email to mits.optimization@gmail.com by 13th March 2018.

Address for Communication

1. **Dr. Manish Kumar Sagar**
Associate Professor & I/c HMED
Madhav Institute of Technology & Science
Race Course Road, Gwalior- 474005 (M. P.)
Mobile: +91-9425338833, 0751-2409232, 313
Email: mits.optimization@gmail.com
2. **Dr. Pratesh Jayaswal**
Associate Professor, Mechanical Engineering Department
Madhav Institute of Technology & Science
Race Course Road, Gwalior- 474005 (M. P.)
Mobile: +91-9826561725, 0751-2409231
Email: mits.optimization@gmail.com

Financial Assistance

There will be no registration fee for the participants. Free boarding and lodging will be arranged in the institute Hostels/Guest house or Hotels. Reimbursement towards TA/DA will be made to participants attending the course in full. TA is limited to III AC for to and fro railway fares via the shortest route.

AICTE-QIP Sponsored



ONE WEEK
FACULTY DEVELOPMENT PROGRAM

on

Optimization Techniques and its Engineering Applications

(15th–19th March, 2018)



Organized by

**Department of Mechanical Engineering
Madhav Institute of Technology & Science**

(Accredited by NAAC)

(A Govt. Aided UGC Autonomous Institute under RGPV, Bhopal)

Gole ka Mandir, Gwalior-474005

www.mitsgwalior.in

About the Institute

Madhav Institute of Technology & Science (MITS) 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 20th October 1956 and the building was inaugurated by Late Dr. S. Radhakrishnan on 11th December, 1964. The President of India, Dr. Pratibha Devi Singh Patil graced the Golden Jubilee celebration of the Institute as Chief Guest on 20th June, 2008. MITS has its own lush green campus spreaded over 45 acres in city of rich heritage. The campus is about 3 kms from Gwalior railway station and 4 kms from airport. The Institute offers education in eleven undergraduate programmes, eighteen PG programmes and has a QIP centre for Ph.D. The prime objective of the Institute is to provide quality education in engineering and technology and to conquer this venture; the Institute has taken several initiatives by developing infrastructure and skills of faculty, staff and students from the fund given by World Bank under TEQIP-III.

About the Department

The Department of Mechanical Engineering was established in 1957 to play a pivotal role in developing highly trained manpower in the frontier areas of manufacturing, design, thermal and industrial engineering to face challenges of the industries. Our mission is to make the department as a Centre of Excellence in the field of Mechanical Engineering envisaged with highly developed educational infrastructure, excellent faculty with international exposure in modern technologies and active association with research in the relevant industries. The department offers two undergraduate Programmes (B.E. Mechanical Engineering and B.E. Automobile Engineering) and one postgraduate programme (M.Tech Production Engineering). Department also offers Ph.D. programme in Mechanical Engineering under QIP.

Preamble

Optimization in engineering mostly impacts process systems engineering including design, control, operations, scheduling, and parameter estimation. Though the use of linear and nonlinear programming for solving optimization problems has not lost its significance even after the development of population based optimization techniques, in the recent past soft and evolutionary computing have played a key role in various single and multi-objective optimization problems which involve multiple variables with linear/nonlinear constraints. This new class of population based optimization techniques has found extensive application in the disciplines of engineering. The main components of this new field are: Genetic algorithm (GA), Particle swarm optimization (PSO), ANN, Convex optimization, Support vector machine optimization etc. In addition, process optimization by statistical experimental design aspects will also be covered with application to Chemical, Civil, Mechanical, Electrical, Electronics, computer science, IT and Biotechnology Engineering related problems involving parameter identification, optimal control and structural optimization. The one week FDP aims to introduce the participants to these optimization techniques and provide them with hands-on experience, enabling them to apply the techniques in their respective fields. This FDP will bring together 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.

Topics to be covered

- Linear and nonlinear programming
- Multi variable & Multi objective optimization
- Design of Experiment
- MATLAB tool support for optimization
- Fuzzy Logic
- Operation research
- Taguchi Method
- Convex optimization
- Support vector machine optimization
- Human-Inspired Computing and its applications

Resource Persons

Following experts have kindly consented to deliver the expert talk in this FDP:

- Prof. Raghu Nandan Sen Gupta, IIT, Kanpur
- Prof. Shiv Prasad Yadav, IIT Roorkee
- Prof. Rajesh Kumar, IIT BHU
- Prof. S. S. Mahapatra, NIT Rourkela
- Prof. M. Pandit, MITS, Gwalior
- Dr. Balaji R, IIT Madras
- Dr. S.K. Gupta, IIT Roorkee

Other experts will be from reputed institutes such as IITs, IIITs, NITs and from esteemed industries for proper blend of academia and industry.

Course Conduction Team

Coordinators

Dr. Manish Kumar Sagar

Associate Professor & I/c HMED

Dr. Pratesh Jayaswal

Associate Professor, QIP Coordinator

Co-coordinators

Dr. Amit Aherwar

Assistant Professor

Mechanical Engineering Department.

Dr. Dharmendra Jain

Assistant Professor

Mechanical Engineering Department.

Location

Gwalior city has major road and rail connection. The Institute is located on Agra-Bombay Road (NH-3) and is approximately 320 KM from Delhi. Most of the south bound trains from Delhi stop at the Gwalior station. The institute is located in the heart of city and is at a distance of about 2 km from Gwalior Bus Stand/ Gwalior Railway Station.