

# Madhav Institute of Technology & Science, Gwalior

## ELECTRICAL ENGINEERING

### NEWSLETTER



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*Department of Electrical Engineering is one of the oldest departments established in 1957 at MITS campus. The department is dedicated to the teaching and research activities in the areas of Electrical, Electronics, Instrumentation & Control Engineering. The department educates the students to take up challenging jobs in a wide range of industries and engage themselves in research and development activities for the good of society. The syllabi of the courses are continuously updated and the laboratories modernized to reflect the rapid changes in technology. It also offers high quality research in the (ME and Ph.D.) Programs. Courses offered by the department cater to learning needs from basics to the advanced level. Department offers variety of discipline electives and covers most of the modern technologies. It has state of the art laboratories to provide hands on experiences and support research activities.*

#### Vision

**“To Educate and Prepare World Class Engineers for Global and Social Technological Demands”**

#### Mission

- To strive for excellence in teaching and research and to promote academic growth by offering state-of-the-art undergraduate, postgraduate and doctoral programmes.
- To generate new knowledge by engaging in cutting-edge research for overall development of students and society.
- To identify areas of specialization based on an informed perception of regional, national and global needs
- To undertake collaborative projects which offer opportunities for long-term interaction with academia and industry

#### Programme Educational Objectives (PEOs)

PEO-I - Graduates of the programme will have successful technical and professional careers.

PEO-II - Graduates of the programme will continue to learn and adapt in a world of constantly evolving technology.

PEO-III- Graduates of the programme will be able to apply, analyze, design and create products and solutions for real life Electrical Engineering problems.

PEO-IV- Graduates of the programme will be able to manage projects catering to current societal and industrial needs in an ethical manner working as members/leaders of multidisciplinary teams.

## DEPARTMENT DEVELOPMENT

**The main developments of the last 60 years are chronologically presented here.**

- In 1957, the institute started functioning in residency palace building with B.E Civil, Mechanical & Electrical with an intake of 40 each; later in 1960 the intake was increased.
- In 1964, this building was inaugurated by the President of India, Dr. S. Radhakrishnan.
- The PG and Ph. D. courses were introduced in 1965 .
- In 1974 the name of the institute was changed to Madhav Institute of Technology & Science, MITS as we call it today.
- Masters programmes in Industrial Systems and Drives (ISD) was started in 1995.
- The Institution got Academic Autonomy under RGPV in July 2002 .
- Year 2003 saw the Accreditation of BE –Electrical and Masters in Industrial systems & Drives by National Board of Accreditation (NBA), New Delhi.
- In 2013, the Electrical Engineering Programme received accreditation for 5-years.
- In 2017, Masters in Industrial systems & Drives Programme received accreditation for 2-years (up to June 2019).

## BEST PRACTICES

### **A. Dissemination of Information using Online Platforms**

The Purpose of this practice is to ensure the timely and reliable information regarding a course from course teacher to the students. It will result in less confusion among students about the different aspects of course, e.g. procedure of submission of assignment, evaluation criteria, any change in the course from previous years, resources to be recommended etc. In addition to this, this practice will result in establishing a more informal channel of one-to-one communication between a teacher and a student. Such a channel will ensure that those students, who hesitate to clear doubts in class due to any reason, will clear it in the confines of online platforms. It should also be emphasized that this endeavour will result in development of every student of the class.

The performance of students in various courses in a semester improves manifold, when they become aware about the associated frameworks of the course. These frameworks include how the evaluation will take place, what will be the parameters of evaluation, what will be the mode of evaluation, what are the different resources, both online and offline, required for the course, how to submit assignment and other announcements regarding the course. It was observed that a teacher requires a large amount of time, sometimes a week, to explain all the required procedure and information to the students. This entails ineffective use of teaching hours and it also does not guarantee the reliable transfer of knowledge, as students use to refer the notes he/ she made during the class as per his/her understanding of the instructions.

To overcome the above mentioned problems, it was suggested that use of online platforms like whatsapp, MOODLE, youtube, google classroom should be encouraged by the faculty members to disseminate information to students. It was observed that the students are more comfortable using these sources. Hence, all the students were encouraged to use a common

platform. However, all students don't use the same website, hence, a multi-platform imitative was promoted.

**B.** Model solution to be shown and discussed in the classes after mid-term exams.

**C.** Mid- term result analysis will be done according to following format:

Students Marks	0-6	7-12	13-16	17-20
No. of students				

- Students of column I and II will be considered as the most important slowest learner students and slow learner students respectively.
- Meeting with theses will be done to find the difficulty of students. *Personal Attention Classes* will be conducted for these students. Following steps will be taken to help them:
  - ✓ Learning material of the students will be checked and adequate learning material will be provided.
  - ✓ Revision of course contents as per their need.
  - ✓ Assignments, checking and guidelines for improvement.
  - ✓ The best copy to be shown and discussed among students of column I and II.

### FACULTY ACHIEVEMENT

- **Dr. Manjaree Pandit** Delivered expert lecture on “Self Learning” on 11<sup>th</sup> January 2018 in two-week DST sponsored FDP organized by the Entrepreneurship Development Cell of MITS Gwalior from 9<sup>th</sup> January-19<sup>th</sup> January 2018.
- **Dr. Manjaree Pandit** Delivered expert lecture on “Outcome Based Education & NBA Accreditation”, in AICTE-QIP Short-term Course from 10<sup>th</sup> to 14<sup>th</sup> March 2018 on “Assuring Global Quality in Technical Education through Outcome Based Education” under the IQAC at MITS, Gwalior.
- **Dr. Manjaree Pandit** Delivered expert lecture on “NI Techniques and their Engineering Applications with MATLAB implementation” in one-week AICTE-QIP Short-term Course (STC) on “Numerical Application to Electromagnetics” on 29<sup>th</sup> January 2018, at MITS, Gwalior.
- **Dr. Manjaree Pandit** Delivered expert lecture on "Optimization techniques and its Engineering Applications", in one-week AICTE-QIP Short-term Course (STC) on “Nature Inspired Optimization and its MATLAB implementation” on 17<sup>th</sup> March 2018, at MITS, Gwalior.
- **Dr. Manjaree Pandit** Delivered expert lecture on "Hybrid wind-solar Micro-grid" in RGPV-TEQIP-III sponsored one-week FDP on "Emerging Technologies for Smart Cities", on 29.3.18 at Vikrant Inst. of Tech. & Management, Gwalior.

- **Prof. Vishal Chaudhary** has successfully organised the zonal round of Central India’s Largest Quiz Fest, ChimeraX; under the flagship of ISTE MANIT Bhopal as Faculty Advisor ISTE Student Chapter MITS on 27<sup>th</sup> January, 2018.
- **Prof. Vishal Chaudhary** has successfully organized “Yoga Workshop” as Faculty Coordinator Yoga Club, MITS Gwalior on 30<sup>th</sup> January, 2018.
- **Prof. Vishal Chaudhary** has organized Expert Talk ‘How to Study effectively?’ as Faculty Advisor ISTE Student Chapter MITS on 8<sup>th</sup> Feb, 2018.
- **Prof. Vishal Chaudhary** has successfully organized A Research paper presentation based event AAROHAN2k18 as Faculty Advisor ISTE Student Chapter MITS on 24<sup>th</sup> March, 2018.

**FACULTY**  
**TRAINING PROGRAMME/ FDP ATTENDED**

S. No.	Name of Faculty	Name of Event	Event Venue	Date(S)	Duration
1.	Prof. Ashis Patra	Short term course on Assuring Global Quality in Technical Education Through Outcome Based Education	MITS Gwalior	10-14 March 2018	One Week
2.	Prof. Ashis Patra	Short term course on Optimization Technique And its Engineering Applications	MITS Gwalior	15-19 March 2018	One Week
3.	Dr. Sulochana Wadhvani	Workshop on Outcome Based education for engineering programs	AICTE New Delhi	08-09 February 2018	Two Days
4.	Dr. Shishir Dixit	Short term course on Optimization Techniques and its Engineering Applications	MITS, Gwalior	15-19 March 2018	One Week
5.	Prof. Rakesh Narvey	Workshop on “Effective Techniques of Question Paper Setting: An Outcome Based Education Approach”	MITS, Gwalior	07-08 February 2018	Two Day
6.	Prof. Rakesh Narvey	Short term course on Emerging trends in Internet of things (IOT) and Cyber Security Applications in Smart Grid.	DTU New Delhi	12 – 16 March 2018	One week
7.	Prof. Himmat Singh	GIAN course on Sustainability in The Built Environment	MITS, Gwalior	19-30 March 2018	Two Week
8.	Dr Vijay Bhuria	South Asian Community Volunteer Conference (SA CVC 2018)	Mahabalipuram CHENNAI	2-3 February 2018	Two Days
9.	Dr Vijay Bhuria	Short term course on Assuring Global Quality in Technical Education Through Outcome Based Education	MITS, Gwalior	10-14 March 2018	One Week

10.	Dr Vijay Bhuria	Short term course on Optimization Techniques and its Engineering Applications	MITS, Gwalior	15-19 March 2018	One Week
11.	Dr Vijay Bhuria	GIAN course on Sustainability in The Built Environment	MITS, Gwalior	19-30 March 2018	Two Week
12.	Prof. Kuldeep Swarnkar	Workshop on “Effective Techniques of Question Paper Setting: An Outcome Based Education Approach”	MITS, Gwalior	07-08 February 2018	Two Day
13.	Prof. Kuldeep Swarnkar	AICTE-QIP Sponsored Short Term Course on “Assuring Global Quality in Technical Education Through Outcome Based Education”	MITS, Gwalior	10-14 March 2018	One week
14.	Prof. Vishal Chaudhary	Short Term Course on “Advanced Optimization Techniques for Engineering Applications”	NIT, Kurukshetra, Haryana	13-17 January 2018	One Week
15.	Prof. Vishal Chaudhary	AICTE Sponsored Short Term Course on “Numerical Methods in Electromagnetics”	MITS, Gwalior	27-31 January 2018	One Week
16.	Prof. Vishal Chaudhary	Workshop on “Effective Techniques of Question Paper Setting: An Outcome Based Education Approach”	MITS, Gwalior	07-08 February 2018	Two Days
17.	Prof. Vishal Chaudhary	AICTE-QIP Sponsored Short Term Course on “Assuring Global Quality in Technical Education Through Outcome Based Education”	MITS, Gwalior	10-14 March 2018	One week
18.	Prof. Vishal Chaudhary	Workshop on “Swarm and Evolutionary Algorithms: Theory and Applications”	IIT Roorkee	17-18 March 2018	Two Day
19.	Prof. Vishal Chaudhary	National Conference on Intellectual Property and Entrepreneurship	IIT Roorkee	19 March 2018	One Day
20.	Prof. Punjan Dohre	Faculty Induction Program	IIT Kanpur	09 – 13 February 2018	One week

## EXPERT TALK

Date	Name of speaker	Affiliation	Topic	No. of students
22.01.18	Er. Sunil Kumar Gandhi	Director India Solar Energy Consulting Pvt. Panipat	Industrial Power Distribution System	128

29.01.18	Er. Nikhil Kaushik	Director , A.I. Automation Private Limited, Bhopal	A.C. Motors and Application of Variable Speed Drives in Industry	88
03.02.18	Er. Yogesh Kumar Singh	Senior Research Scientist SPV Reliability lead Program National Institute of Solar Energy Gurgaon	Basic of Solar Energy and Job Opportunities in SPV	112
22.02.18	Er. S.S. Mujalde	Chief Engineer (Testing), MPEB	Techno Legal Aspects of Electrical Energy Generation, Transmission & Distribution	55

### STUDENT PARTICIPATION IN TECHNICAL EVENTS OUTSIDE COLLEGE

Name of Student	Activity	Venue
<b>Shashawat Tiwari</b>	TRTIYAM VISVA VEDA VIJNANA SAMMELANAM 2018	Vijnana Bharati, Deccan College, Pune, Govt. of Maharashtra

### PUBLICATIONS

Name of author(s)	Title of research paper	Name of journal/ conferences	Volume	Pages	Month/Yr of publication
<b>Hari Mohan Dubey, Manjaree Pandit</b>	An overview and comparative analysis of recent bio-inspired optimization techniques for wind integrated multi-objective power dispatch	Swarm and Evolutionary Computation	Vol. 38	12-34	February 2018
<b>Ashis Patra</b>	Artificial neural network based PID controller for control of Dynamical Systems	International journal of advanced and innovative research,	Vol. 6, Issue 7	43-47	
<b>Kuldeep Swarnkar</b>	Economic Load Dispatch Problem of Power Plant In Electric Generation System Using Firefly Algorithm” - -.	International Journal for Science and Advance Research in Technology (INTERNATIONAL PEER REVIEWED OPEN ACCESS JOURNAL)	Vol. 4 Issue 3		March 2018

## INNOVATIONS INTRODUCED

- **Online Feedback using MOODLE**

The constraints of pen and paper method of receiving feedbacks are many, which render the whole process meaningless. The main constraints in this method are- cost of printing which increases with the increase in number of questions. Moreover, the students lose interest in filling those never-ending sheets of paper, and the sheets from the booklets also. In such scenario, the data obtained, from the feedback are not complete and are unreliable. In addition to that, this data can't be analyzed deeply, without investing tremendous amount of resources.

In such a scenario, this year, the student feedback about different Faculty member and courses has been obtained using an online platform, MOODLE. Use of MOODLE for obtaining feedback has resulted in overwhelming participation from students. Moreover, the completeness of data is also guaranteed. The length of feedback questionnaire can be increased without any problem. In addition to that, the data obtained can be analyzed in multitude ways, very easily.

- **Introduction of NPTEL courses under SWAYAM**

During the last few years, the awareness among engineering students about social media has increased exponentially. The inclination among present day students is towards learning from online platforms, where they can learn at their own pace in their own time, at a place of their choice. SWAYAM is an initiative whose motive is to exploit this tendency of students for online learning. Under SWAYAM, the following courses have been selected among the various offered by National Programme on Technology Enhanced Learning (NPTEL):

BE 2<sup>nd</sup> year- *Basic Electronics*

BE 3<sup>rd</sup> year- *MATLAB Programming for Numerical Computation*

ME 1<sup>st</sup> year- *Industrial Automation & Control*

The lectures of the above mentioned courses are available on [www.youtube.com](http://www.youtube.com), where a student can watch them and learn. These courses also include assignments given by Instructors assigned to these courses. These assignments are submitted using Google Classroom, which facilitates transparency and continuity in the evaluation of students. Moreover, a student receives prompt results.

## INDUSTRIAL VISITS

S. No.	Industry	Date	Place	No. of Students
1.	M.P.E.B. Gwalior 220/132KV Substation, Sithouli, Gwalior	22.01.2018	Sithouli	70

## TEAM NEWSLETTER

**Advisor** – Dr. S.Wadhvani

**Member** - Prof. Kuldeep Kumar Swarnkar

Prof. Vishal Chaurdhary

**Composed by-** Mr.Devendra Singh