

Electronica

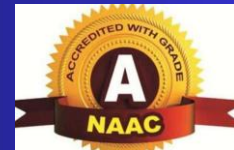


Newsletter

January 2023 to June 2023



Deogiri Institute of
Engineering &
Management Studies



Department of Electronics and
Telecommunications Engineering

Electronica Newsletter

Department of Electronics and
Telecommunication Engineering



January 2023 - June 2023

DEPARTMENT VISION AND MISSION

Vision

To provide valuable resources for Industry and Society through research and excellence in Electronics and Telecommunication Engineering

Mission

1. Educating students with requisite technical expertise to meet the growing challenges of the Industry.
2. Promoting research through constant interaction with research bodies and various Industries.
3. Equipping students with fundamental subject knowledge to enable them for continuing Education.

Program Educational Objectives (PEOs)

- Graduates would be able to provides the Engineering solution with strong research capabilities in the areas of Electronics and Telecommunication Engineering.
- Graduates would be able to achieve good carrier using improved skill sets.
- Graduates would be able to provide a solid foundation and advanced programming skill in the field of Electronics.

Program Specific Outcomes (PSOs)

1. Apply knowledge to use modern tools and techniques for Electronics and Telecommunication Engineering
2. Identify Design, and Test Analog, Digital Communication Systems and Signal Processing using software and hardware tools.
3. Design and Develop computing systems while using best practices for software and hardware implementations.
4. Create social and professional skills awareness for lifelong learning.

List of Program Outcome

1. Engineering knowledge	2. Problem analysis	3. Design/development of solutions	4. Conduct investigations of complex problems
5. Modern tool usage	6. The engineer and society	7. Environment and sustainability	8. Ethics
9. Individual and team work	10. Communication	11. Project management and finance	12. Life-long learning

Student Activity

Research Paper Publication

Title of paper	Name of the author/s	Name of journal	ISBN/ISSN number
The Emerging Technologies in the field of semiconductors along with the use of the system on chip	Parul N. Damahe, Krishna T. Madrewar	STM JOURNALS	ISSN:2455-3379

Parul N. Damahe, Krishna T. Madrewar “the Emerging Technologies in the field of semiconductors along with the use of the system on chip” published a research paper. There is abstract of paper. An entire electronic or computer system can be combined onto a single platform using a system on chip, which is effectively an integrated circuit. The primary objectives underlying the development of this system on chip are to decrease energy waste, cut costs, and decrease the area occupied by massive systems. Students can understand and experience many methods utilised at each level of the design hierarchy using this strategy. The expansion of space capability by enhancing the System on Chip to deliver affordable, high-performance, and reliable data, on-board assists in overcoming processing limitations.

NPTEL COURSE

NPTEL COURSE online Certification (funded by MoE , Govt of India) awarded certificate to the following student for successfully completing course

SR.No.	Name of the Faculty	Name of the Course
1	Akanksha Sunil Bari	German-I
2	Bhausahab Manik Chavan	German-I
3	Dhanshree N. Mahajan	German-I
4	Manasi Sahebrao Javale	German-I
5	Ivan Sudhkar kharat	German-I
6	Sakshi Joshi	German-I
7	Bhakti Bhachandra Sonule	German-I

INDUSTRIAL VISIT

Sr. No.	Name and Address of The Company/ Industry	Class
1	Garware Hi-tecg Film Pvt. Ltd.,Waluj MIDC, Chh. Sambhajinagar	Btech A
2	Kaushalya Engineering, Shantiudaynagar, Chh. Sambhajinagar	Btech A
3	Precision Power Products Pvt. Ltd, Chh. Sambhajinagar	SY-A
4	Precision Power Products Pvt. Ltd, Chh. Sambhajinagar	TY-A
5	Manu Electrical Pvt. Ltd, Chh. Sambhajinagar	TY-A

Manu Electricals

We Manu Eletricals, an ISO 9001, ISO 14001, OHSAS 18001 certified company, based in Aurangabad, Maharashtra, India, is engaged in design and manufacturing of Eletronic Assemblies. Manu Eletricals is one and only EMS facility in Aurangabad based at M110/3/4/5 M.I.D.C. Waluj and is equipped with World's best KOREAN SMT Machine, Finger type Automatic wave solder machine, Motorised touch up and insertion line. The company was established in 2008, with a work force of around 20 employees with its continuous Technology Upgradation, Complete Customer Satisfaction and Total Quality Management has grown many folds and today Company operates with 5 Modern Setups for Eletronic/Eletrical/Mechanical and Appliances products for our various corporates and International customers, total built in around 40,000 Sq.Ft. area with a work force of 120 dedicated employees under the management of Dr.V.S.Deolankar.



MENU ELECTRICAL Flexible, High technology, High mix environment:

- **SMT Line capable of handling PCB's up to 50 mm x 50 mm and 610 mm x 510 mm**
- **ETA high accuracy printer**
- **SAMSUNG SM481 High Speed Multi mounter handling compenents from 0402 to 45 mm square.**
- **Automated placement for single and double-sided assemblies.**
- **BGA & Micro BGA (Ball Grid Array)**
- **Fine-pitched QFPs, passives and SMT connetors.**
- **High-density, complex SMT, chip on chip.**
- **RoHS compliant SMT line.**
- **Single / Multi-layer boards.**
- **Flexible circuit assemblies.**
- **Low-volume to high-volume manufacturing.**
- **SAMSUNG SM481 High Speed Multi mounter with tray feeder, stick feeders handling components from 0402 to 45 mm including BGA, uBGA, SOIC, PLCC, QFP & CSPs.**
- **Trays handling capability and large number of feeders.**
- **Fine pitch connectors.**
- **ETS E8 Reflow Oven, the 8 heating zones and 2 cooling zones allow for optimal profile control.**

FACULTY ACTIVITY

NPTEL COURSE online Certification (funded by MoE, Govt of India) awarded certificate to the following faculty for successfully completing course

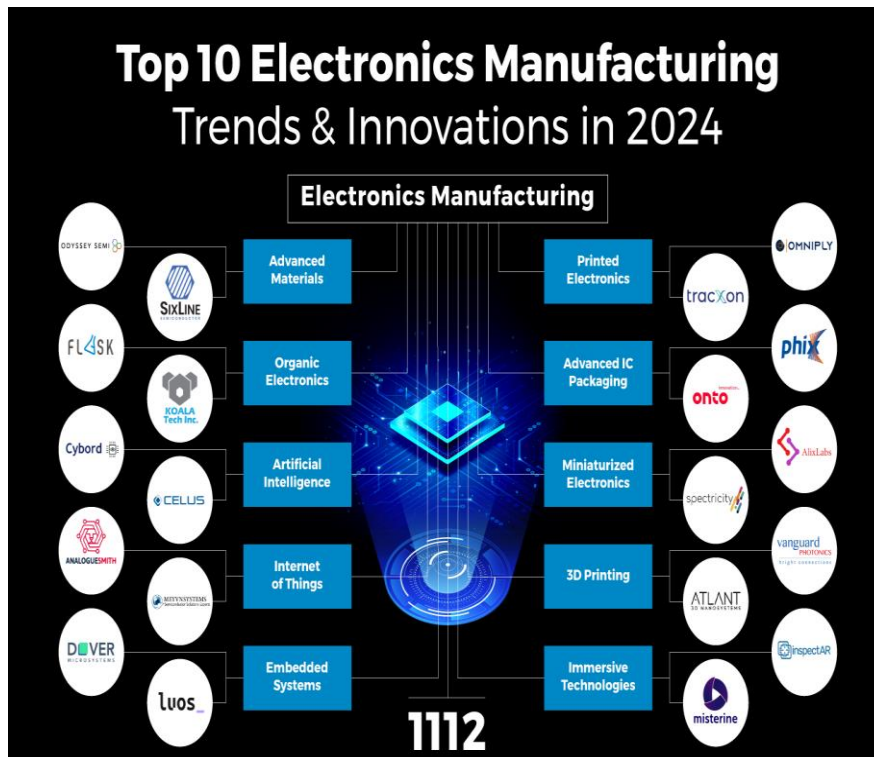
SR.No.	Name of the Faculty	Name of the Course
1	Rajesh M. Autee	Intellectual Property Right and Competition Law
2	Rrutuja G. Shelke	Research Methodology
3	Vitthal Kundlik Bhosale	Digital Image Processing
4	Arti Wadhekar	Cyber Security and Privacy
5	Ingle Krishna Sudhakar	Research Methodology
6	Krishna Tukaram Madrewar	Fundamentals of Electrical Engineering
7	Laxmikant Kailas Shevada	Electromagnetic Theory

Number of Quality Publications in Refereed/SCI Journals, Citations

Sr . No .	Name of Faculty	Quality of Paper	Title of Paper	Journal/Conference Details	SCI Impact Factor	Date of Publication
1	RAJESH MURLIDHAR AUTEER	Scopus Indexed Journal	DESIGN AND DEVELOPMENT OF SPICE-ASSISTED HYBRID DRIVER CIRCUIT FOR MEASUREMENT OF 4 KW (5.5 HP) SWITCHED RELUCTANCE MOTOR	YMER -AN INTERNATIONAL PEER-REVIEWED JOURNAL	NA	24-01-2023

Electronica Tech News

Electronics Technology Trends in 2024



1. Advanced Electronic Materials

The semiconductor industry has been reliant on silicon for decades, but there is a limit to how far you can etch, lithograph, and pattern a silicon material. As a result, innovation to increase the performance of integrated circuits is coming from new materials and architectures.

2. Artificial Intelligence

AI-powered solutions are gaining popularity in every sector. AI impacts the growth of semiconductor manufacturing in two ways, one by building demand for innovative AI-capable electronics components, and two, by enhancing the product manufacturing and design processes. The conventional methods have limitations in reshaping product development cycles, improving product design processes, and reducing defects. But the application of AI is solving all these limitations.

3. Printed Electronics

Printing electronic components on a semiconductor substrate is the most effective way to reduce the overall cost of the manufacturing process. So, manufacturers are always trying to tackle this challenge by searching for new technologies and advancements in conventional printing technologies.

4. 3D Printing

Additive manufacturing in the electronics industry eliminates the need for flat circuit boards. It enables new innovative designs and shapes that cannot be produced through conventional means. 3D printers also fabricate electronic components as a single, continuous part, effectively creating fully functional electronics that require little or no assembly.

5. Advanced IC Packaging

In recent years, chip packaging has become a hot topic along with chip design. The traditional way to scale a device based on Moore's law has limitations nowadays. The other way to get the benefits of scaling is to put multiple complex devices in an advanced package. So, semiconductor manufacturers develop new advanced IC packaging technologies to provide greater silicon integration in increasingly miniaturized packages.

6. Miniaturized Electronics

Miniaturization enabled the use of electronics in several novel application areas. Particularly, healthcare and automotive industry applications have space limitations in terms of implementing specific devices. Previously, the miniaturization concept was limited by their practical handling, display, and battery, but not by the built-in electronics.

7. Internet of Things

The rapid growth of the Internet of Things represents an unprecedented opportunity for the IoT electronics manufacturing industry. It re-evaluates the fabrication process and manages practices that are found to be difficult to achieve with conventional approaches. In other ways, the IoT enables electronic manufacturing machines to self-process and store data while being digitally connected.

Continuous improvements in the fabrication of sensors are also required since sensors are the key components that enable IoT applications. Further, the transition to 5G-enabled devices requires flawless, innovative chips with more efficient architectures at lower costs.

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Editorial Team

Chief Editor: Prof. K. T. Madrewar

Co Editor : Prof. K. J. Kakade

Students Co-ordinator

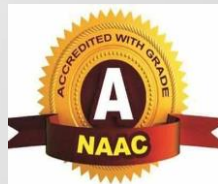
Shubham Pitekar, Sakshi Shelke (S.Y. E&TC)

Parul Damahe ,Suryakant K. Kulkarni (T.Y. E&TC)

Bhakti B. Sonule, Apeksha N Kulkarni (B.tech E&TC)

Marathwada Shikshan Prasarak Mandal's

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