

**CHHOTUBHAI GOPALBHAI PATEL INSTITUTE OF TECHNOLOGY**  
**Department of Electronics & Communication Engineering**

**A REPORT**  
**ON**  
**“ELECTRONICS COMPONENTS AND DESIGN ESSENTIALS: FROM IDEA TO**  
**IMPLEMENTATION”**

<b>Organizing Department</b>	<b>Department of Electronics and communication engineering</b>
<b>Chief Patron</b>	Dr. D. R. Shah, Provost, UTU.
<b>Patron</b>	Prof. B.M. Vadher, Director, CGPIT.
<b>Convenor</b>	Dr. Mayank R. Kapadia, Head EC/ICT Department
<b>Programme Coordinators</b>	Prof. Nita Patil Prof. Chintan Desai Prof. Nupur Pathak
<b>Target Audience</b>	Faculty members of Academia, UG & PG Students
<b>Total Number of Participants</b>	32
<b>Date of Programme</b>	1 <sup>st</sup> September ,2023
<b>Invited Speakers</b>	Mr. Kamal Sonani, Founder, R&D ~ Product Development Head of Sonani Electronics Associate with Tez Technologies

## Schedule of Workshop:

Timing	Topics	Session Details	Speaker Details
8:30 AM - 9:15 AM	Registration and Welcome Tea/Coffee	<ul style="list-style-type: none"><li>Participants arrive and complete the registration process.</li><li>Light refreshments will be provided.</li></ul>	Mr. Kamal Sonani Founder, R&D ~ Product Development Head of Sonani Electronics Associate With Tez Technologies
9:15 AM - 9:30 AM	Inaugural Session	<ul style="list-style-type: none"><li>Opening remarks by the Head of the Department.</li><li>Introduction to the workshop objectives and schedule.</li></ul>	
9:30 AM - 10:45 AM	<b>Session 1:</b> <ul style="list-style-type: none"><li>Basics of Electronics Components</li><li>Circuit Design Fundamentals</li></ul>	<ul style="list-style-type: none"><li>Introduction to circuit design process.</li><li>Hands-on: Designing simple circuits using breadboards.</li><li>Practical tips for efficient circuit design.</li></ul>	
10:45 AM - 12:30 PM	<b>Session 2:</b> <ul style="list-style-type: none"><li>PCB Design, Circuit Design parameters</li><li>Idea to Product - Roadmap</li><li>New Methods to Evaluate any Development</li></ul>	<ul style="list-style-type: none"><li>Basics of printed circuit board (PCB) design.</li><li>Introduction to PCB design software.</li><li>Design considerations, layout, and routing.</li><li>Practical session: Participants design a simple PCB layout using provided software.</li><li>Guidance on avoiding common PCB design mistakes.</li></ul>	

## Details of the Workshop:

Department of Electronics & Communication Engineering, CGPIT organized a one-day workshop at Uka Tarsadia University on 1st September 2023. A total of 32 participants participated in this workshop from B. Tech which includes Information and communication technology, Electronics and communication engineering, and mechatronics department.

The workshop started with the UTU anthem as per tradition; our experts were felicitated by the coordinators (Prof. Nita Patil, Prof. Nupur Pathak, and Prof. Chintan Desai) of the workshop. Dr. Mayank Kapadia gave a brief introduction about the electronic components and also welcomed the speaker of the event.

Honourable Director of CGPIT, Prof. B.M. Vadher gave the motivational speech. He motivated the faculties and students to participate in the practicality of the curriculum and also explained the importance of reading books. He also congratulated the EC Department for organizing such a workshop. He also appreciated the efforts made by the EC Department with the great coordination. One of the students participating has given a welcoming speech.

The program coordinator coordinated the program well and ended with a felicitation process by Prof. B.M. Vadher.

### **Session Details:**

- Basic components of electronics.
- Basic concepts of the components used in electronics.
- Discussed about the sensors such as Thermal sensor, Radar sensor, Motion sensor.
- Schematic designs, PCB designs also about flexible PCB.
- Components such as Register, Capacitor, Inductor, MOSFET, Zener diode.
- Microprocessor and Micro controller.
- Also discussed about the Arduino, Raspberry Pie, LED, Multiplexing
- Explained the basic about the IOT, Motherboard, Communication.
- Protocol Design and about basic hardware.
- Flying Probe Test (FPT).
- Schematic, Hardware, 3D Printing.
- Also mention some useful websites for students to use for clearing their doubts such as "Easy Eda", [www.diode.com](http://www.diode.com).
- Schematic view of PCB and about Stepper motors.

### **Speaker Details:**

Mr. Kamal Sonani,  
Founder, R&D ~ Product Development  
Head of Sonani Electronics Associate with Tez Technologies.

### **Glimpse of the Workshop:**













