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Technical Talk-V

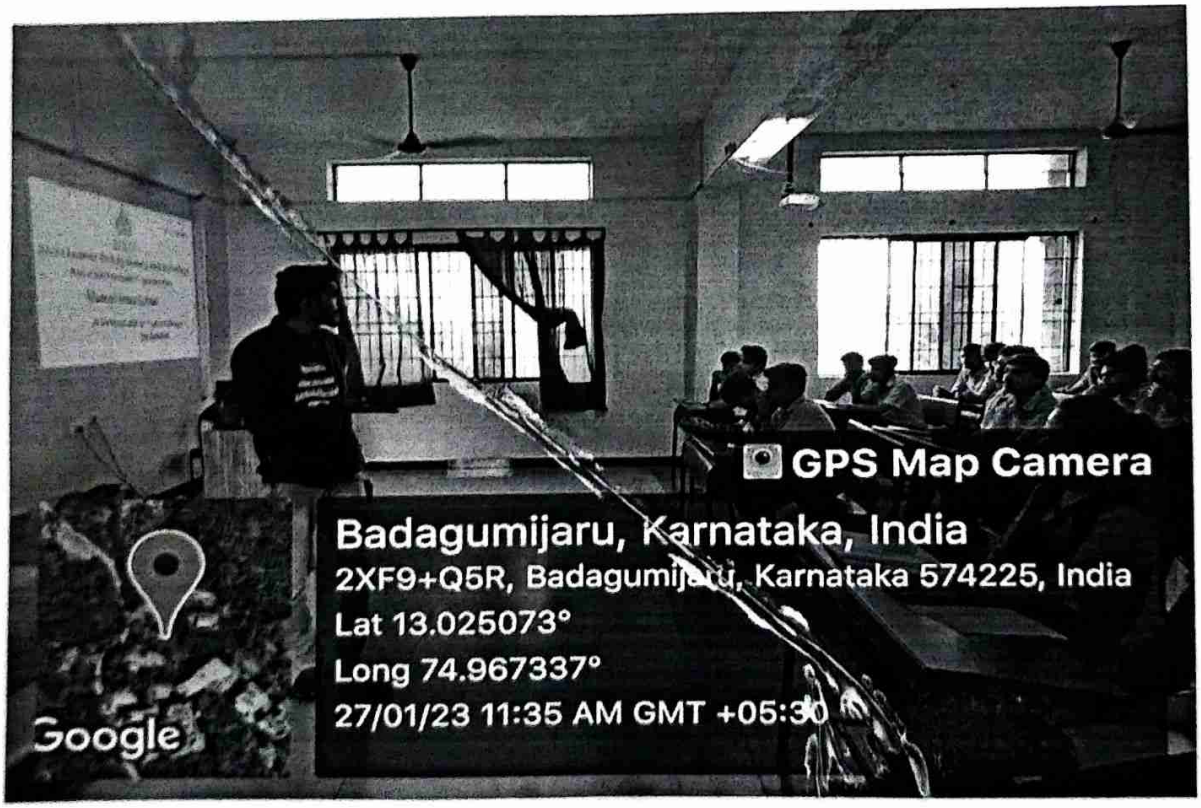
Resource person: Mr. Rakshith

Topic: "Layout Design"

Place: Department of ECE,AIET

Date: 27 January 2023| **Time: 3:00 PM** to **4:30 PM.**

5th technical talk was held on 27th 0f January 2023 by the ECE department. The resource person of the day was Mr. Rakshith who is an alumnus of our college.



The resource person discussed about the quality analysis that goes through in the layout design for every PCB designing. He explained how PCB design can be done using layout design . We also learnt that how PCB designing is important for all kinds of

power converters especially for usage in industrial applications. The parameters impacting the design and robustness of PCB are strain inductance associated with the circuit. For the design of control circuits, the primary requirement is precision. In order to make the PCB design reliable, reduction of strain inductance along with maintaining the simplicity, modularity, compactness and better cooling management is required. These parameters are key for designing PCBs with precision, performance, attainment of low power consumption and high-power converters at fast manufacturing speed. In the talk following points related to layout design were discussed.

THE BASIC DESIGN FLOW:

- The ideal PCB design starts with the discovery that a PCB is needed and continues through the final production boards . After determining why the PCB is needed, the product's final concept should be decided. The concept includes the design's features, the functions the PCB must have and perform, interconnection with other circuits, placement, and the approximate final dimensions. Ambient temperature range and concerns regarding the operating environment should be addressed and used to specify the materials selected for the PCB. Components and PCB materials must be selected to guarantee operation under all expected and potential forms of duress the board may be exposed to during its lifetime. The circuit schematic is drawn based on the concept. This detailed diagram shows the electrical implementation of each function of the PCB. With the schematic drawn, a realistic drawing of the final PCB dimensions should be completed with areas designated for each of the circuit's schematic blocks