

PRAGATI ENGINEERING COLLEGE



E C E DEPARTMENT



A 3-Day Workshop

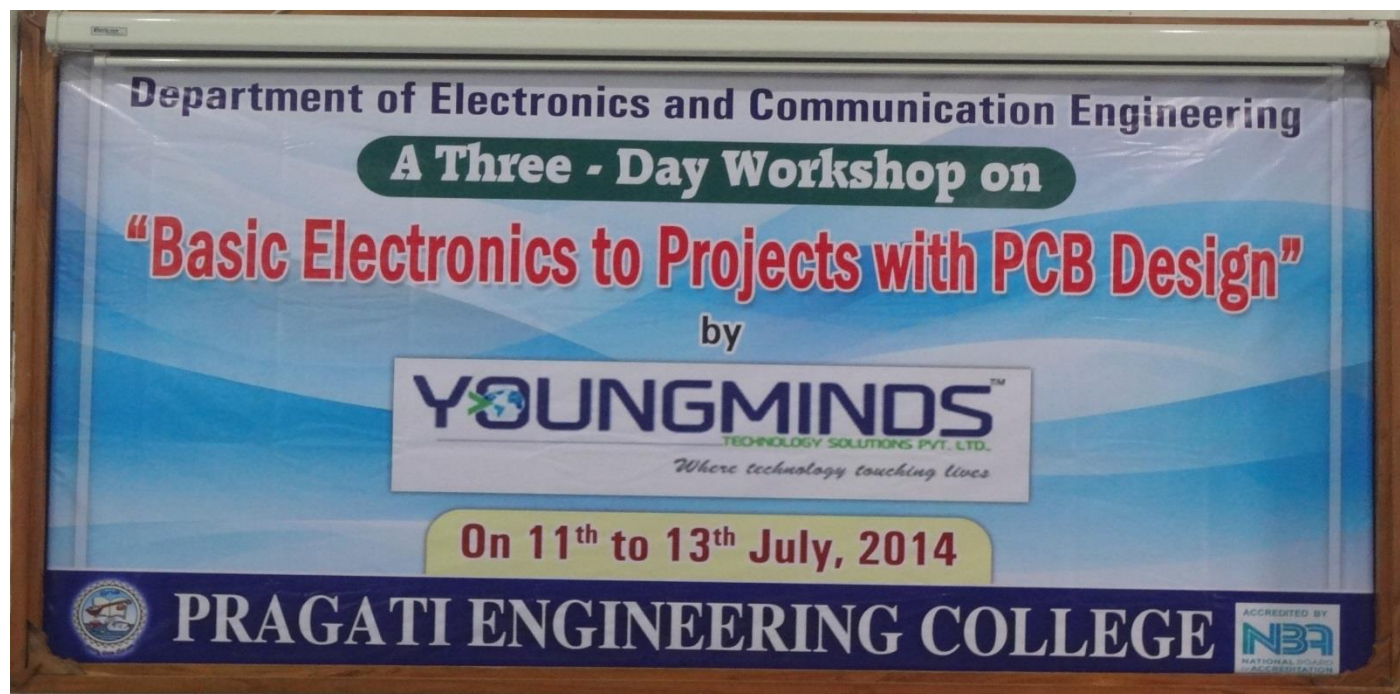
On

***Basic Electronics to Projects with
PCB Design***

By



From 11th to 13th July, 2014.



Summary of the workshop:

The 3-day workshop summarized in it: the basic electronic, mini projects, PCB designing using ORCAD software and a lab session apart from personal interaction with the students that involved doubts clarification and application point-of-view. The difference in various electronic components which may ease of manufacturing of PCBs and those steps that reduce the size of the components and planned to be used in the design of electronics are well explained step-by-step designing of PCB is vividly shown using ORCAD software . The lab session dealt with: involved in making students to have a close view of hardware components. The workshop also indulged in it: presentations that give more clear idea regarding all the electronic components and some videos that showed the power of electronics

Objectives involved:

Day-1:

Day-1 is all about basic electronics that include resistors, capacitors, inductors and their uses in various applications. LED, seven segment display, LCD, indicators, sensors, and their definitions to real time sensors.

Types of sensors that sense temperature, heat, pressure, heart beat sensors. The session also included the information regarding IR, PIR, light detecting resistance (LDR), photo diode, photo transistors, and their applications. IC evolution technologies, i.e., process and an in-brief IC 555 introduction.



Day-2:

Students are taught on mini project designing that include automatic street lights, automatic alarm system, clap switch, flash light controlling using IC 555 and an IR operated switch.



Day-3:

Designing PCB using ORCAD software is explained in detail. Initially all the building parts and their symbols are taught and then steps for creating a new projects, next steps involved in visualizing how to create multi sheet flat designs.

Design checking of PCB is shown besides the concept of adding inters sheet signal references. Creation of a net list which means the list that contains all the components, component designators, their foot prints, rat nest, tracks, vias, layout activities and finally building a hierarchical design are taken into presentation

In the ending session, students are shown projects like providing water to entire city or town which involved bridge rectifier, timers, multivibrators, delay circuits, and other mini projects that involved 555 timers.



Chief Guest Remarks

- ❖ Student's participation is very good.
- ❖ Student's interaction was very good.
- ❖ Students can do small embedded applications with help of your staff members.
- ❖ The Guest lecture is helpful to 1st years and 2nd years as it is more application oriented.
- ❖ Need to concentrate more on Research work in this Embedded field.

Senior Faculty Remarks

- ❖ If Target Audience is Final years they may have benefited in lot of ways (job oriented and knowledge oriented).
- ❖ Seminar is more concentrated towards Basic electronic components and its applications, so it will be beneficent to students
- ❖ The Seminar is most useful for 1st years and 2nd years students.
- ❖ These types of seminars need to be arranged for 3rd and final years to know the importance of that subject in Embedded real time application.
- ❖ The 2nd day of the workshop was really great because of they shown some EMBEDDED Model projects to the students.
- ❖ Appreciated the suggestion given by the Chief Guest in the field of Embedded Systems.

Junior Faculty Remarks

- ❖ This 3-day Workshop is more concentrated towards embedded real time application so it will be beneficent to students.
- ❖ 1st & 2nd year students are benefited by this workshop by learning about basic electronics applications.
- ❖ Video presentation about How IC was fabricated in INTEL, students may have some idea regarding IC design.
- ❖ Last day of the workshop was more important because how PCB was designed by using OrCAD tools. This session was more benefited to the students.

Students Feedback

- ❖ Workshop was well planned in 3 days.
- ❖ The content is very good and helpful for real time application.
- ❖ Work shop is worthy and helped in knowing various concepts related to basic electronics
- ❖ Excellent explanation, keen observation towards students getting cleared in their doubts, dilemma regarding explained concepts
- ❖ Straight-to-the point and easy steps are spelled out to the students in a way that make their level of memorizing easy.
- ❖ If videos regarding IC fabrication in INTEL were presented then it would have been more useful.
- ❖ In this workshop shown some Embedded real time model projects that was very useful.
- ❖ Need to do some basic Embedded projects.
- ❖ Overall the Feed Back is GOOD.

Management Suggestions

- ❖ Need to Conduct this type of workshops for have good Industry Institute Interaction.
- ❖ Need to Conduct this type of workshops for 3rd and 4th Years.
- ❖ Suggested the Department to Have a R&D to do small embedded real time Projects.

Event Co-ordinators

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