# National Institute of Electronics and Information Technology, Aurangabad

**Name of the Course** : Printed Circuit Board Design and Fabrication
**Course Code** : PD101
**Duration** : 5 Days

**Preamble** **:** ITI /Diploma /B.E. Electronics /B.Sc. Electronics

**Objective of the Course:**

1. To train students to get awareness of various Packages ofElectronic   Components.

2. To train students in Printed Circuit Board design, Drafting and Fabrication.
3. To make aware of importance of documentation related to PCB design and fabrication.
4. To train students in design flow of PCB design s/w.
5. To train students in output file generation.
6. To make aware of fabrication Techniques of PCBs like-
    Film Master Generation, Screen Printing and Photo-printing  Techniques.

**Outcome of the Course:** On completion of the Course,

- Students can explore different aspect of Printed Circuit BoardDesign and  fabrication.
- Students   can learn various types of PCBs. Schematic Design entry Rules for Schematic Entry, Component Layout methods /Placement Rules  , Routing Techniques for single sided ,Double sided and Multilayer PCBs.
- Post Processing of   design and Fabrication documents.
- After completing this course students can design and fabricate their own PCB for their Project and can also work in PCB Designing and Fabrication area.

**Course Structure :**

| Code | Module /Topic | Duration/Time |
|------|---------------|---------------|
| PCB01 | Introduction to Printed Circuit Boards .Types of  PCBs-Single sided /Double Sided /Multi-layer. Importance of   Documentations in PCB Design and  Fabrication. | 9:30 AM to 5:00 PM |
| PCB01 | Introduction   to Schematic Capture.(schematics Rules ,Useful tips to create readable schematics) . Design with Through hole and SMDs . Introduction to PCB Capture (Layout Planning Rules and Useful Tips ) | 9:30 AM to 5:00 PM |
| PCB01 | Introduction to Routing Techniques (Various Routing Techniques and   Useful Tips ) Introduction to Post Processing | 9:30 AM to 5:00 PM |
| PCB01 | Film Master Generation and Screen Printing Techniques in PCB Fabrication. | 9:30 AM to 5:00 PM |
| PCB01 | Photo-Printing  Techniques in PCB Fabrication | 9:30 AM to 5:00 PM |

**Other Contents:**

a. **Course Fees**:Rs.2000/-

b. **Eligibility**:
- Candidates who have appeared in the qualifying examination and awaiting results may also apply.
- On the date of counseling/admission, the candidate must produce the original mark lists up to the last semester/year of examination.

c. **Number of Seats** : 20

d. **Selection of candidates:** The candidates passed in the qualifying examination will be based on their marks obtained, subject to eligibility and availability of seats.

e. **Admission Procedure** :

Students who have been selected for test/interview/counseling/admission are required to report to the Institute on the prescribed day by 9:30 hrs along with the following-
1. Attested Copies of Proof of Age, Qualifications, etc
2. Original Certificate of the above.
3. Two copies of photograph and one stamp size photograph for identity card.
4. SC/ST Certificate (if applicable) .
5. Income Certificate (if applicable).

The students on reaching the Institute are required to meet the Front Office Councilor (FOC). The FOC then directs the student to the Course Coordinator. The student gets the enrollment form verified by the Course Coordinator and then meets the FOC who shall direct the student to the Accounts for payment of fees. A student is thus admitted.

f. **Discontinuing the course**: No fees under any circumstances shall be refunded in the event of a student discontinuing the course. A student can however, be eligible for module certificates (applicable only for courses which provide for modular admission) which he has successfully completed provided he has paid the entire course fees.

g. **Course Timings** : 9:30 AM to 5:00 PM

h. **Course enquiries :**

Students can enquire about the various courses either on telephone or by personal contact between 9:30 A.M. to 5.00 P.M. (Lunch time 1.00 pm to 1.30 pm).

i. **Placement**: Support shall be provided

j. **Hostel facilities:**

*Limited Hostel accommodation is available for boys and girls on daily or monthly chargeable basis.*

k. **Canteen facilities :**

The Centre has a canteen functioning at the main campus and food at reasonable rates is available for breakfast, lunch, and dinner.

l. **Lab Facilities**:

Lab Facilities: We have state-of-the-art lab facility in  Printed Circuit Board which includes,
Design Tool  :  PCB Design S/W-

CADSTAR –Design Editor of Bundle  :
- Schematic Entry
- PCB Layout
- Embedded Router

Fabrication   : 1.Screen Printing and Photo-Printing Set Up.

2.SMT Set Up.

m. **Faculty**

*The centre has a team of enthusiastic and competent engineers with postgraduate qualifications who have undergone specialized training in various International Universities and Industries.*

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