National Institute of Electronics and Information Technology, Aurangabad

Name of the Course : Present Power Electronics and Future Trends
Course Code : PE 101
Duration : 4 Weeks (120hrs)

Preamble:

Elber Moll and his team working in Bell Labs,and Subsequently R.A.York and his associates working in General Electric Company USA developed 1st P-N-P-N Device Thyristor which could handle large Electrical Power and could be controlled Electronicaly using very low power.Subsequently other Power Electronic Devices were developed,G.T.O,I.G.B.T, MOSFET , Triac.Compared to Electrical conventional methods of using Rheostats ,Power Electronic control offers following advantages:

1) High Efficiency.
2) Compact.
3) Accurate Control.
4) Light Weight.
5) Low cost

Objective of the Course:

The course aims at imparting up to date knowledge to the candidates and to improve their understanding of " Power Electronics.",so that they can become competent in that field,in Academics or in Industries

Outcome of the Course:

On completion of the Course, There will be increase in confidence level of candidate and the Competence of the candidate will improve in the field of power electronics which will help the candidate for career development in academics or in industry.

Course Structure:

The course consist of following modules as given in the table below.
(Course Duration: 4 weeks (120hrs))

Code	***Module***	***Duration***
PE101	Power Devices	*15hrs*
	DC Motors, AC Motors	*20hrs*
	DC Drives	*25hrs*
	AC Drives	*15hrs*
	Transformers, SMPS	*25hrs*
	Recent Trends in Power Electronics	*20hrs*

Other Contents

a. **Course Fees**: Rs 8,000/-

b. **Eligibility**:

- Diploma/B.E./B.Tech(Electrical/Electronics)
- 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** : 15

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**:
We have state-of-the-art lab facility in power electronics lab which include,

- Cathode Ray Oscilloscopes
- Power Oscilloscope
- DC Motor
- Induction Motor
- DC Motor- Generator Set
- 3 Phase Induction Motor- Generator Set
- DC Power Supplies
- Trainer Kits of Single phase SCR Semiconverter
- Trainer Kits of Single phase SCR Full converter
- Trainer Kits of 3 phase SCR Semiconverter
- Trainer Kits of 3 phase SCR Fullconverter
- Trainer Kits of Inverter firing Circuit & Power circuit
- Trainer Kits of DC Chopper.
- Power Transformers
- Power Diodes, Thyristors, Triacs.

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