

## PROSPECTUS FOR POST GRADUATE COURSES 2011-12

1. Post Graduate course in Tool, Die & Mould Design (PGTD)
2. Post Graduate course in CAD/CAM and Tool Engineering (PGCTE)
3. Post Graduate course in Mechatronics (PGM)
4. Post Graduate course in VLSI & Embedded Systems (PGVES)



## ABOUT CITD

The Central Institute of Tool Design is an ISO 9001: 2008 Certified Premier Institute in Asia providing specialized training courses in tool Design and Manufacturing, CAD /CAM and LCA techniques. The Institute was established in the year 1968 by the Government of India with the assistance of UNDP and ILO as an executing agency. CITD was converted into a Government of India Society in 1970 under the administrative control of the Ministry of SSI. The Development Commissioner, Ministry of MSME is the ex-officio Chairman of the Governing Council. The Principal Director is the Chief Executive of the Institute.

### **AIMS & OBJECTIVES:**

- a) Training of the technical personnel in design and manufacturing of tools, Jigs & fixture, dies & moulds, press tools, CAD/CAM, CNC and LCA techniques.
- b) Provision of advisory, consultancy and common service facilities to small scale units including assistance in the design and development of tools for various processes, calibration of Mechanical Measuring Instruments.
- c) Recommending measures to standardize tools and tooling elements, components of Jigs & Fixtures, Dies & Moulds, Press Tools and other tools.
- d) Production on Limited basis of tools, Jigs & fixtures, press tools, dies & moulds, gauges and special cutting tools subject to the condition that job works undertaken by the Institute should suit to the needs of the training.

The Institute has a well equipped Tool Room with sophisticated CNC machines like CNC EDM (Charmilles Roboform 54); CNC Wire Cut EDM (AGIE Cut Classic – III & Electronica), 4-Axis & 5-Axis High Speed Machining Centers, Kellenberger CNC Cylindrical Grinding machine and 3D Coordinate Measuring Machine with Scanning & Digitization facilities. The institute is equipped with latest versions of EMCO (Austria make) Table Top CNC Turning and Milling machines with closed loop system to impart training in CNC Programming.

The Calibration laboratory is set up in CITD with Universal Horizontal Microscope ULM OPAL600 Carl Zeiss Technology, Germany and Slip Gauge Measuring Unit 826 with Millitron 1240, Mahr, Germany to Calibrate Limit Guages, Micrometers, Dial Indicators, etc., The CAD/CAM Centre is equipped with latest hardware like Compaq, HP, DELL & IBM Workstations, QUAD CORE Systems & software like AutoCAD-2009, I-DEAS, Pro-E wild fire CATIA V5R18, ANSYS-11, Hypermesh-9 Unigraphics NX6, Master CAM X3, Solid Works-2008, Nastran, etc.

The Institute is also equipped with an Automation Centre with Programmable Logic Control Systems; Hydraulic, Pneumatic, Electronic Controls with Simulators, Working models of Automation Systems etc

The Institute has a special Library with a collection of technical books in Tool Engineering field and subscribe to various International journals like CIRP Annals, American Machinist, Journal of Engineering Materials & Technology (ASME), Precision Engineering (JAPAN) and Precision Tool Maker, etc. The documentation center collects and organizes information and data useful for the technological advancement in Tool Engineering. For the dissemination of information,

the center publishes a computerized current awareness abstracting bulletin and provides technical enquiry services.

The Institute also extends its services to the developing countries by imparting knowledge and necessary skills to their personnel in the field of Tool Design, CAD/CAM and Low Cost Automation Techniques.

**I. Various Long Term Courses conducted By CITD:**

1. M.E (Mechanical – CAD/CAM) of two years (4 Semesters) duration,  
In collaboration with Osmania University.
2. M.E (Tool Design) of two years (4 Semesters) duration ,  
In collaboration with Osmania University.
3. M.Tech (Mechatronics) of two years (4 Semesters) duration  
In Collaboration with Jawaharlal Nehru Technological University Hyderabad.
4. Post Graduate course in Tool, Die & Mould Design (PGTD) of one and a half years duration. (3 Semesters), Recognized by the Govt. of India as an advanced Post Graduate qualification for recruitment to superior posts.
5. Post Graduate course in CAD/CAM and Tool Engineering (PGCTE) -3 semesters
6. Post Graduate course in Mechatronics (PGM) -3 Semesters
7. Post Graduate course in VLSI & Embedded Systems (PGVES)-3 semesters
8. Post Diploma in Tool Design (PDTD) – One year duration (2 Semesters) approved by AICTE, New Delhi.
9. Post Diploma in Engineering & Technology (PDE&T) – One and Half years (3 Semesters) approved by AICTE, New Delhi.
10. Diploma in Tool, Die & Mould Making – (DTDM) for 10<sup>th</sup> class passed students – Four years duration, (8 Semesters) approved by AICTE, New Delhi, and recognized by the State Board of Technical Education and Training, Govt. of A.P.
11. Diploma in Electronics and Communications Engineering – (DECE) ) for 10<sup>th</sup> class passed students – Three years duration, (6 Semesters) approved by AICTE, New Delhi, and recognized by the State Board of Technical Education and Training, Govt. of A.P.
12. Diploma in Production Engineering – (DPE) ) for 10<sup>th</sup> class passed students – Three years duration, (6 Semesters) approved by AICTE, New Delhi, and recognized by the State Board of Technical Education and Training, Govt. of A.P.
13. Diploma in Automation & Robotics Engineering – (DARE) ) for 10<sup>th</sup> class passed students – Three years duration, (6 Semesters) approved by AICTE, New Delhi, and recognized by the State Board of Technical Education and Training, Govt. of A.P.

**EVENING COURSES (Part-time)**

2. Diploma in Tool Engineering (DTE) – for ITI students Two years duration.

## SHORT TERM TRAINING PROGRAMMES

These courses are tailor made to cater to the needs of the specific fields in tool design, manufacture, low cost automation and CAD/CAM for working engineers, supervisors, technicians etc., Separate brochures are available and can be had on request.

## SPECIALISED TRAINING PROGRAMMES

These courses are conducted to update knowledge of technical personnel working in the industries in the latest technology in Tool Engineering by conducting seminars, workshops etc., The Institute conducts in house training programs either at the Industries or at CITD in the field of Tool Design Automation & CAD/CAM.

## 2. TRAINING COURSES

The following Post Graduate courses are conducted by the Institute.

### Course No.1 – Post Graduate course in Tool, Die & Mould Design (PGTD)

(Recognized by the Govt. of India, Ministry of Education as an advanced Post Graduate qualification)

Duration	1 ½ years (3 Semesters)
Qualification	B.E/B.Tech. (Mech& Prod.) or recognized equivalent qualification.
Age	Upto 45 Years .
No. of seats	60 Seats
Mode of Selection	First come first serve basis
Course Fee	a) Rs 20,000 /- per Semester for self sponsored. b)Rs. 25.000/- per semester for industry sponsored candidates.

### Course No.2 – Post Graduate course in CAD/CAM and Tool Engineering (PGCTE)

Duration	1 ½ years (3 Semesters)
Qualification	B.E/B.Tech. (Mech& Prod.) or recognized equivalent qualification.
Age	Upto 45 Years .
No. of seats	40 Seats
Mode of Selection	First come first serve basis
Course Fee	Rs 22,000 /- per Semester.

### Course No.3 – Post Graduate course in Mechatronics (PGM)

Duration	1 ½ years (3 Semesters)
Qualification	B.E/B.Tech. (ECE/Mech/EEE/EIE) or recognized equivalent qualification.
Age	Upto 45 Years .
No. of seats	40 Seats
Mode of Selection	First come first serve basis
Course Fee	Rs 20,000 /- per Semester.

## Course No.4 – Post Graduate course in VLSI & Embedded Systems (PGVES)

Duration	1 ½ years (3 Semesters)
Qualification	B.E/B.Tech. (ECE/EEE/EIE.) or recognized equivalent qualification.
Age	Upto 45 Years .
No. of seats	40 Seats
Mode of Selection	First come first serve basis
Course Fee	Rs 22,000 /- per Semester.

### 2.1 Admission Process

The selection of all categories of candidates for the admission to the various courses is done through Counselling.

Following categories of candidates are eligible for appearing to the Counselling

- a. Indian nationals studying in the final year of their qualifying certificate in Indian Institutes.
- b. Indian nationals who have obtained their qualifying certificate from Indian Institutes.
- c. Candidates should not be studying in any other course or undergoing any other training at the time of admission.
- d. The seats mentioned in all the courses are provisional. The Institute reserves the right to increase or decrease the number of seats.

### 3. All Courses

3.1 Medium of instruction – English

3.2 Tentative Date for Commencement of course: August, 2011

3.3 Working hours 9:30 A.M. to 5:00 P.M. with Sunday as weekly holiday.  
(Weekly holidays & working hours are liable to change.)

### 3.4 Methodology of imparting training

- a) Lectures supported by audio-visual aids
- b) Film shows in technical subjects
- c) Tool Design exercises.
- d) Technical Literature / handouts on related subjects
- e) Working on computers.
- f) Expert guest Lectures
- g) Factory visits
- h) Personality Development Lectures.

**COURSE CONTENTS**  
**Post Graduate in Tool Design (PGTD)**

1	Design Practice	9	Dies for Metal Casting
2	Tool Room Practice	10	Machining Process
3	Materials for Tooling	11	Metrology
4	Design of Sheet Metal Forming Tools (Press Tools)	12	CAD/CAM(AutoCAD & Master CAM)
5	Jigs & Fixtures	13	Plastic Processing Tools
6	Bulk Forming Tools	14	CIM
7	Process Planning	15	Special Cutting Tools
8	Gauges	16	LCA
<b>Last Six Months</b>			
Project from any one of the above subjects should be chosen.			

**Post Graduate course in CAD/CAM and Tool Engineering (PGCTE)**

1.	GD&T and Design Practice	7.	Cutting Tools
2.	Tooling Materials	8.	Plastic Moulds
3.	Metrology & Gauges	9.	Forging Dies
4.	Jigs & Fixtures	10.	Design for Manufacturing
5.	Press Tools	11.	Computer Graphics & CNC Technology
6.	Die Casting Dies	12.	Industrial Hydraulics & Pneumatics
13.	Latest CAD/CAM/CAE Software's		
a.	AutoCAD	f.	UNIGRAPHICS
b.	PRO-E	g.	MASTERCAM
c.	CATIA	h.	DELTCAM
d.	ANSYS	I.	SOLIDWORKS
e.	HYPERMESH	j.	CNC Programming
<b>Last Six Months</b>			
Project from any one of the above subjects should be chosen.			

### Post Graduate course in Mechatronics (PGM)

1	Applied Industrial Pneumatics	6	Microprocessor, Microcontroller and PLC
2	Applied Industrial Hydraulics	7	Sensors Technology and Instrumentation
3	Mechanical Engg. Machining Process and Metrology	8	Mechatronics Technology
4	Electrical Engineering	9	Neural Networks
5	Applied Electronic Control for Automation	10	Fuzzy Logic
<b>Last Six Months</b>			
Project from any one of the above subjects should be chosen.			

### Post Graduate course in VLSI & Embedded Systems (PGVES)

First Semester		Second Semester	
1.	Foundation of VLSI CAD	1.	DSP Processors Architecture
2.	Micro Controllers for Embedded System Design	2.	Mixed Signal IC Design
3.	CMOS Analog Integrated Circuit Design	3.	System on Chip Design
4.	Embedded Real Time Operating Systems	4.	Embedded Computing Systems
Elective - I		Elective - III	
5.	a)Micro Electronics Fabrication Technology (or) b)Advanced Digital Signal Processing (or) c)Digital VLSI Design	5.	a) Macro Electronics (or) b) Computer Networks (or) c) Low Power VLSI Design
Elective - II		Elective – IV	
6.	a) Advanced Logic Synthesis (or) b) Advanced Operating Systems (or) c) Artificial Neural Networks	6.	a) High Speed VLSI Design (or) b) Image Processing (or) c) Optical Integrated Circuits
7.	Embedded Systems Lab	7.	VLSI Systems Lab
<b>Last Six Months</b>			
Project from any one of the above subjects should be chosen.			

## 5.0 Distribution of marks in each semester for final grading

The following distribution is made for calculating the total marks at the end of the semester.

### Sessional Marks

• Practical exercises in the training	20%
• Home assignments / weekend tests	20%
<b>Semester examination – Theory</b>	<b>30%</b>
<b>Semester examination – Practical</b>	<b>30%</b>
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<b>Total / Semester</b>	<b>100%</b>
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### 5.1 Minimum requirements for Award of Certificate

- a) 75 % attendance
- b) 50 % marks (aggregate)

### 5.2 Standard of Passing and Award of class

The final grading for the courses shall be awarded on the basis of the total aggregate marks obtained in all semesters.

- |               |                                   |
|---------------|-----------------------------------|
| 75% and above | - First Division with Distinction |
| 60%           | - First Division                  |
| 50%           | - Second Division                 |

## 6.0 ADMISSION TO ALL COURSES

Academic year commences during August of every year. Candidates of all categories selected through counseling are admitted to the courses on the basis of merit and on payment of course fee and caution deposit.

Course fee is payable on the counseling day and the fee once paid will not be refunded. The trainees should deposit caution money of Rs. 1,000/- which will be refunded at the successful conclusion of the course and not before under any circumstance.

### 6.1 APPLICATIONS

- a) Prescribed application form & prospectus can be had from Director (Training) CITD, Balanagar, Hyderabad – 500 037 on submission of demand draft for Rs.400/- (Rs.200/- for SC/ST) and (**PWD are fully exempted**) drawn in favour of Principal Director, CITD, Hyderabad, on any Nationalized Bank payable at Hyderabad (preferably on State Bank of Hyderabad, Balanagar Branch, Hyderabad – 500 037).
- b) The candidate can download application form from our website [www.citdindia.org](http://www.citdindia.org) and the filled in application form can be sent to Director (Trg.) CITD, Balanagar, Hyderabad along with prescribed cost of application as above by Demand Draft.

## 7.0 INSTRUCTIONS FOR FILLING UP THE APPLICATION FORM

- a) Please read the instructions given in this section carefully before filling the Application Form.
- b) Candidates who have appeared for the qualifying examination and whose results are awaited can also apply by enclosing a bonafide certificate from the concerned Institution. However, they should qualify at the time of admission. The Institute is not responsible for any delay in declaration of results of the qualifying examination.
- c) **Photograph:** Affix three recent and identical passport size photographs at the appropriate place attested by a Gazetted Officer.
- d) **Name:** Write your name in capital letters as given in the records of the Board of Secondary Education. This name should be given in all future correspondence in the same form. One box should be left between two parts of the name. In case, the name is long and cannot be accommodated within the boxes provided, you should abbreviate the middle name.
- e) **Date of Birth:** Indicate your date of birth in the boxes provided.

For example: Date of Birth is **31 August 1980**

D	D		M	M		Y	Y	Y	Y
3	1	-	0	8	-	1	9	8	0

AGE

2	5
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<b>Caste Category ( Use Code)</b> For Example : In case of others	0	4
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- f) **Father's / Guardian's Name:** In maximum two lines
- g) **Permanent Address:** Correct address is required for all future correspondence. Write the complete postal address with PIN CODE to which communication is to be sent.
- h) **Academic Qualification:** As reflected under Item No.2 of the Prospectus.

## 8.0 Reservation

- A. Reservations exist as per Govt. of India Rules.
- B. Age Relaxation for SC/ST/BC/Person with disabilities (PWD) category candidates exist as per Govt. of India Rules.

- C. In case of SC/ST candidates, they are required to pay the full semester fee and other fee/deposits or produce a specific sanction letter in the name of the candidate sectioning the course fee / scholarship from the competent authority viz., District Social Welfare Officer. If, the candidate fails to pay fee or produce a letter for course fee, etc., he will forfeit the seat and the same will be offered to the next SC/ST candidate in the order of merit.

#### **9.0 DOCUMENTS TO BE HANDED OVER AT THE TIME OF JOINING**

- 1) Original certificates of qualifying examination i.e., SSC / Metric/B.E/B.Tech., Transfer Certificates, Date of Birth Certificate, Bonafide Certificate, Integrated caste Certificate, Latest Income Certificate, Xerox copy of ration card etc applicable.

**These original certificates once submitted will not be given back to the trainees under any circumstances till they complete the scheduled training period at this Institute. Therefore candidates are advised to take sufficient number of Xerox copies to keep with them before submitting the originals to CITD at the time of counseling.**

- 2) Certificate of physical fitness from any Assistant Civil Surgeon and Ophthalmologist. The Institute reserves right to send the candidate for further Medical examination, if necessary.
- 3) The trainee should give an undertaking for good conduct and behavior and to abide by the rules & regulation as prescribed by the Institute.

#### **10. GENERAL TERMS AND CONDITIONS TO BE FOLLOWED DURING TRAINING:**

- a) **In the case of all courses the course fee for next semester should be paid before beginning of the semester i.e., by 31<sup>st</sup> January and 31<sup>st</sup> July of every year. A late fee of Rs.1000/- per week subject to the maximum of two weeks will be levied if the semester fee is not paid in time. Thereafter Defaulters are liable to be terminated from training. Their results of previous semester will be withheld and they will not be allowed to attend classes for next semester.**
- b) **Hostel :** Limited hostel facility is available. The students will have to pay hostel rent in advance as per rules and regulations of the hostel.
- c) **Eligibility of leave :** Casual leave 12 days per academic year. Sick leave 15 days per academic year (Period exceeding 3 days needs medical certificate from a Registered Medical Practitioner to be submitted within 7 days.)
- d) No traveling allowance or any other allowance will be paid for attending counseling/ Joining the course or on termination thereof.
- e) Final year trainees are exposed to campus interviews, by intending industries. They can appear for interviews and get absorbed. However, the Institute does not guarantee any employment or absorption.

*( It may be noted that the ex-trainees of the Institute have earned excellent reputation with their employers and as such prominent industries are coming forward to absorb candidates before completion of their training.)*

- f) The trainees shall not cause any damage or loss to the property of the Institute, failing which they are liable to bear the loss.
- g) Any information given in the application by the candidate, if, found incorrect after selection, the trainee is liable for such punishment as may be deemed fit including his/her disqualification and / or dismissed from training course.
- h) The trainees are expected to complete the assignments as per schedule of training programs.
- i) The trainees will have to strictly undergo the training as per the schedule and instructions and comply with all the rules of discipline as may be in force from time to time. Copying in examination and malpractice during the exams will be viewed seriously.
- j) The trainees should complete the full course of training and will not be allowed to discontinue the training.
- k) The trainees are not permitted to join part-time / evening courses of study conducted by any other University / Institute.
- l) The trainees are expected to maintain utmost discipline and good manners inside and outside the campus and not get involved in activities which cause blemish to the good image of the institute.
- m) The trainees have to follow the rules and regulations pertaining to any department of the Institute.
- n) The Institute reserves the right to fill – up any vacant seat from among the candidates present at the time of counseling as per the merit, subject to payment of requisite fee applicable to self sponsored.
- o) No request for extension of time for submission of proof of pass or submission of original and the trainees have to abide by these rules.
- p) The Institute reserves the right to alter, vary change and / or modify the rules governing the admissions, or any other procedure from time to time depending upon exigencies of training and the trainees have to abide by these rules.
- q) The trainees have to follow the rules and regulations made by the institute pertaining to any department, examination, hostel, discipline etc.
- r) The Institute reserves the right to terminate the trainee at any time at its discretion for misconduct/indiscipline/irregular attendance, breach of rules etc. In such an event , the course fee paid by the candidates shall not be refunded.
- s) The Institute shall take all precautionary measures with regard to safety. However, the trainees should decide to join the course at their own free will and at their own risk. In case of any injury or any disablement (temporary/permanent) suffered by the trainees during the course due to any accident or otherwise, the Institute shall not be liable to pay any compensation whatsoever. The trainees shall indemnify the Institute in this account.
- t) Trainees shall arrange at their cost, all stationary, drawing and other instruments and books prescribed for the course.
- u) **Ragging of any kind will be viewed seriously and offenders shall be liable to be prosecuted under the law. Their training will be terminated and the fee paid by them shall be forfeited. They will not be allowed to rejoin the semesters/course afresh.**
- v) The trainees should give an undertaking to abide by the rules & regulations of the Training.



*For Further Clarification, Please Contact:*

**Training Department**



**CENTRAL INSTITUTE OF TOOL DESIGN**

(A Govt. of India Society - Ministry of MSME)

BALANAGAR, HYDERABAD - 500 037, A.P

(An ISO 9001:2008 Institution)



स्थापित : 1970  
ESTD : 1970

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**Citd - THE INSTITUTE FOR ENHANCEMENT OF TECHNOLOGY**