सत्यमेव जयते
MINISTRY OF MICRO, SMALL & MEDIUM ENTERPRISES
GOVERNMENT OF INDIA

PROSPECTUS FOR DIPLOMA COURSES 2024

Telephone:
040-29561795
9502405170

E Mail:
training@citdindia.org

Website:
www.citdindia.org

Central Institute of Tool Design

Balanagar, Hyderabad, PIN-500037

ABOUT

Central Institute of Tool Design (CITD) an ISO 9001:2015, 14001:2015 & 50001:2018 certified premier technical training institution of India, established in1968; provides specialised training courses in Tool Design & Manufacturing, CAD, CAM, CAE, VLSI, Embedded Systems, Electronics, Mechatronics and Robotics at various levels such as Certificate, Diploma, Post Diploma, Post Graduate Diploma, M.E. and M.Tech.

The Institute was established in the year 1968 by Government of India with the assistance of UNDP and ILO as an executing agency. It was converted into a Government of India Society in 1970 under the administrative control of the Ministry of MSME. The Development Commissioner; Ministry of MSME is the ex-officio Chairman of the Governing Council. The Principal Director is the Chief Executive Officer of the Institute.

AIMS & OBJECTIVES

a) Training of the technical personnel in Design and Manufacture of Jigs & Fixture, Dies & Moulds, Press Tools, CAD/CAM, CAE, VLSI & Embedded Systems, Mechatronics & Robotics.

b) Provision of advisory, consultancy and common service facility & service 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 of 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, CNC Wire Cut EDM 4-Axis & 5-Axis High Speed Machining Centres, and 3D Coordinate Measuring Machine with Scanning & Digitization facilities. The Institute is equipped with latest version of EMCO Tabletop 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 Gauges, Micrometers, Dial Indicators, etc.

The CAD/CAM Centre is equipped with latest configuration workstations and softwares like AutoCAD, Pro-E, CATIA, ANSYS, Hypermesh, Unigraphics, Master CAM, Del CAM, Nastran & Patron, ABACUS, LS-DYNA, Q-FORM, SOLIDCAST, etc.

The Institute is also equipped with an Automation Centre with Programmable Logic Control Systems, Hydraulic, Pneumatic and Electronic Controls with Simulators.

CITD has a Library with a collection of technical books in Tool & other Engineering fields and subscribes 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 centre collects and organizes information and data useful for the technological advancement in Tool Engineering. For the dissemination of information, the centre also provides technical enquiry service.

DIPLOMA COURSES

- **Course No.1**
  Diploma in Tool, Die & Mould Making (DTDM)

Duration	4 Years (8 Semesters)
Age	Minimum 15 years, Maximum 19 years as on 20th May, 2024. Relaxation up to 5 years for SC/ST Candidates.
No. of Seats	60
Mode of Selection	Through Entrance Examination
Eligibility for Admission	10th Pass with 50% for general & 45% for SC / ST
Course Fee	₹22,000/- per Semester

- **Course No.2**
  Diploma in Electronics & Communication Engineering (DECE)

- **Course No. 3**
  Diploma in Automation & Robotics Engineering (DARE)

- **Course No. 4**
  Diploma in Production Engineering (DPE)

Duration	3 Years (6 Semesters)
Age	Maximum 19 years as on 20th May, 2024. Relaxation up to 5 years for SC/ST Candidates.
No. of Seats	60 Each
Mode of Selection	Through Entrance Examination
Eligibility for Admission	10th Pass
Course Fee	₹22,000/- per Semester

 # Detailed syllabus of all the courses can be found at the end.

HOW TO APPLY

How to Apply

On-line: Candidates can apply online at CITD website under the following:
Link: ***Diploma Admissions- 2024***
URL: ***http://tinyurl.com/citdhyd***
Scan:

Off-line: Application form can be downloaded from our website www.citdindia.org under the **link "Diploma Admissions - 2024"** or can be collected from CITD Admissions Desk on any working day from 10:00 a.m. to 05:00 p.m. and filled in application forms can be sent to **'The Principal Director, CITD, Balanagar, Hyderabad - 500 037'** along with necessary documents, photograph & application fee or can be deposited at CITD Admissions Desk from 10:00 a.m. to 05:00 p.m.

MODE OF PAYMENT OF APPLICATION FEE

"Application cost ₹800/- for General Category and ₹400/- for SC/ST Category"

For Off-line application:
- ✓ *By way of Demand Draft drawn in favor of **Principal Director, CITD, Hyderabad***
- ✓ *By Online at www.citdindia.org or scan QR Code for direct transfer*

For On-line application:
Through link provided in online application format or scan QR Code for direct transfer.

Further details can be obtained from **Admission Desk, Diploma Block, Central Institute of Tool Design, Balanagar X Road, Balanagar, Hyderabad-500037**, on any working day between 10:00 a.m. and 5:00 p.m.

ENTRANCE EXAMINATION

Syllabus

1) Mathematics, 2) Science, 3) English 4) Aptitude and General Knowledge of 10th Standard.

Duration

1½ hours (Objective Type).

Declaration of Result

Merit list of the candidates will be displayed on the notice board of the institute as well as on Website www.citdindia.org.

As per the list, all the interested candidates are required to be present on the counselling day as per the counselling dates along with all the original certificates & prescribed fees etc.

Venue *(only for entrance, may subject to change)*

University College of Engineering
Osmania University
Hyderabad – 500 007

Use of Unfair Means

Use of unfair means by candidate at the entrance examination whether detected at the time of examination, evaluation or at any stage will lead to cancellation of his/her admission into the course.

RESERVATION

Reservation exists as per Govt. of India Rules. Age Relaxation for SC/ST category candidates exist as per Govt. of India Rules.

APPROVAL & RECOGNISATION

- Diploma in Tool, Die & Mould Making (DTDM) is approved by AICTE, New Delhi, and recognised by the State Board of Technical Education and Training, Govt. of Telangana as equivalent to Diploma in Mechanical Engineering (DME).
- Diploma in Electronics and Communication Engineering (DECE) is approved by AICTE, New Delhi, and recognised by the State Board of Technical Education and Training, Govt. of Telangana as equivalent to Diploma in Electronics & Communication Engineering (DECE).
- Diploma in Automation & Robotics Engineering (DARE) is approved by AICTE, New Delhi, and recognised by the State Board of Technical Education and Training, Govt. of Telangana as equivalent to equivalent to Diploma in Electronics & Communication Engineering (DECE).
- Diploma in Production Engineering (DPE) is approved by AICTE, New Delhi, and recognised by the State Board of Technical Education and Training, Govt. Telangana as equivalent to Diploma in Mechanical Engineering (DME).

DETAILS OF FEES & PAYMENT

S. No.	Item/Fees	Amount
1	Registration Fee	₹1, 000/-
2	Course Fee Per Semester	₹ 22,000 /-
3	Caution Deposit	₹1, 000/-

Course fee of every semester from 2nd semester onwards should be paid within 30 working days from the date of commencement of semester.

COUNSELLING

Intimation of Date of Counseling

The date of counselling will intimated to the qualifying candidates through SMS/E Mail and notification through our website.

Documents Required at the Time of Counselling for Admission

- Original certificates of qualifying examination i.e., SSC/10th
- Transfer Certificate
- Date of Birth Certificate
- Bonafide Certificate
- Integrated Caste Certificate (If applicable)
- Latest Income Certificate
- Aadhar Card
- Three passport size colour photograph with name tag and one stamp size photo.
- Certificate of physical fitness from any Assistant Civil Surgeon. The Institute reserves right to send the candidate for further Medical examination, if necessary.

The original certificates once submitted will be scrutinised and returned back after verification by DC-MSME. Therefore candidates are advised to take sufficient number of photo copies to keep with them before submitting the originals to CITD at the time of counselling.

POST ADMISSION INFORMATION & GUIDELINES

1. Medium of instruction – **English**
2. Working hours 09:45 a.m. to 05:30 p.m. with Sunday as weekly holiday. (Weekly holidays & working hours are liable to change.)
3. Student shall be allowed to appear for the end examinations if he/she possesses **minimum 75%** attendance only. It shall be the responsibility of trainees, parents/guardian of the trainee to maintain the minimum percentage of attendance prescribed by the Institute. Institute shall not have any obligation /liability in this regard. No request for permission for waiver of minimum prescribed percentage of attendance will be entertained.
4. The following distribution is made for calculating the total marks at the end of the semester.

	Theory	Practical
For DTDM		
Sessional Marks	40%	40%
Semester Exam	60%	60%
TOTAL	100%	100%
For DPE, DECE & DARE		
Sessional Marks	20%	40%
Semester Exam	80%	60%
TOTAL	100%	100%

Standard of Passing and Award of Class

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

DTDM			
i	***75%*** *and above*	-	*First Division with Distinction*
ii	***60%***	-	*First Division*
iii	***50%***	-	*Second Division*
iv	***50%***	-	*Minimum marks for Pass in each subject (Theory & Practicals in sessional and semester exam)*
DECE, DARE & DPE			
i	***75%*** *and above*	-	*First Class with Distinction*
ii	***60%***	-	*First Class*
iii	***50%***	-	*Second Class*
iv	***35%***	-	*Minimum marks for pass in Theory subjects **28** marks / **80** marks in end exam and overall **35** marks*
v	***50%***	-	*Minimum marks for Pass in Practicals in end exam and in total marks*

Minimum requirement for award of Diploma

A pass in all subjects as mentioned in the table above.

5. **Safety Goggles, Vernier & Micrometer :** Every Diploma trainee must purchase at his / her own cost one Safety Goggles, One Vernier 0-150mm and one micrometer 0-25 mm, and bring for practicals and for tests as applicable.
6. **Hostel:** Limited hostel facility is available.
7. **Uniforms:** All Diploma trainees are required to get the uniforms as prescribed by the Institute, stitched at their own cost and attend the training in uniform and with safety shoes every day. All trainees have to get safety shoes, safety goggles and wear during practical training.
8. No travelling allowance or any other allowance will be paid for attending entrance exam, joining the course or on termination thereof.
9. Final year trainees are exposed to campus interviews, by intending industries**.** However, the Institute does not guarantee any employment or absorption.
10. The trainees shall not cause any damage or loss to the property of the Institute, failing which they are liable to bear the loss.
11. 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.
12. The trainees are expected to complete the assignments as per schedule of training programs.
13. 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 / malpractice during the examinations will be viewed seriously.
14. The trainees are not permitted to join for any other part-time course without the permission of the Institute.
15. 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.
16. The Institute reserves the right to fill – up any vacant seat from among the candidates present at the time of counselling as per the merit, subject to payment of requisite fee.
17. 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.
18. 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.
19. The trainees have to follow the rules and regulations made by the Institute pertaining to any departments, examinations, hostels, discipline etc.
20. 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.
21. Trainees shall arrange at their cost, all stationary, drawing and other instruments and books prescribed for the course.
22. 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.

23. The trainees should give an undertaking to abide by the rules & regulations of the training.
24. 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.
25. Jurisdiction: All matters concerning the admissions and conducting the course shall be subject to Hyderabad Jurisdiction only.

Important Dates

- ***Commencement of Online/ Offline Application*** : ***01-03-2024 (Friday), from 11:00 AM***
- ***Closing of Online/ Offline Application*** : ***20-05-2024 (Monday) till 05:00 PM***
- ***Date of Entrance Exam (Tentative)*** : ***26-05-2024 (Sunday)***
- ***Centre for Entrance Examination*** : ***Hyderabad***

Contact Details:
Admission Desk at Diploma Block
Phone No.- 9502405170, 040-29561795
E-Mail:- training@citdindia.org, Website: www.citdindia.org

SEMESTER WISE SYLLABUS OF EACH DIPLOMA COURSE

DTDM – 4 YEARS (8 SEMESTERS)

Sub.Code	Name of Subject
101	English Communication - I
102	Applied Mathematics - I
103	Applied Physics - I
104	Applied Chemistry- I
105	Applied Mechanics - I
106	Work Shop Technology - I
107	Engineering Metrology - I
108	Engineering Drawing - I
P109	Physics Lab - I
P110	Chemistry Lab - I
P111	Engineering Metrology Lab - I
P112	Engineering Drawing – I (Practice)
P113	Workshop Practice (Bench, Turning)
201	English Communication - II
202	Applied Mathematics - II
203	Applied Physics - II
204	Applied Chemistry- II
205	Applied Mechanics - II
206	Strength of Material - I
207	Workshop Technology - II
208	Engineering Drawing - II
P209	Engineering Metrology Lab - II
P210	Engineering Drawing - II (Practice)
P211	Workshop Practice (Milling, Grinding)
301	Applied Mathematics - III
302	Strength of Material - II
303	Material Science
304	Computer Application & Hardware Tech - I
305	CADD(AutoCAD/MDT) - I
306	Work Shop Technology - III
307	Advanced M/C Tool Technology
308	Design of Jigs & Fixtures - I
309	Design of Press Tools - I
310	Design of Moulds - I
311	Design of Cutting Tools - I

P312	Computer Application & Hardware Tech-I (Practice) - I
P313	CADD (Auto-CAD/MDT) - I (Practice)
P314	Design of Jigs & Fixtures - I (Practice)
P315	Design of Press Tools - I (Practice)
P316	Design of Moulds - I (Practice)
P317	Design of Cutting Tools - I (Practice)
P318	W/S Practice EDM, Press Tools/ J& F (Practice)
401	CADD (AutoCAD/MDT) - II
402	C.N.C. Technology - I
403	C.N.C Programming - I
404	Tool Room M/C Maintenance
405	Design of Jigs & Fixtures - II
406	Design of Press Tools - II
407	Design of Moulds - II
408	Design of Cutting Tools - II
409	Material Technology - I
410	Heat Treatment/Surface Treatment - I
P411	CADD Auto CAD - II (Practice)
P412	C.N.C. Programming - I (Practice)
P413	Tool Room M/C Maintenance (Practice)
P414	Design Practice Jigs & Fixtures - II
P415	Design Practice Press Tools - II
P416	Design Practice Moulds - II
P417	Design Practice Cutting Tools - II
P418	Heat Treatment/Surface Treatment - I (Practice)
P419	W/S Practice EDM Press Tools/J&F/Production
501	Quality System - I
502	Electrical/Electronics Tech - I
503	Hydraulics & PneUmatics - I
504	C.N.C. Technology - II
505	C.N.C. Programming - II
506	Design of Moulds - III
507	Design of Die Casting Dies - I
508	Design of Forging Dies - I
509	Material Technology - II
510	Heat Treatment/Surface Treatment - II
P511	Electrical/Electronics Lab- I (Practice)
P512	Hydraulics & Pneumatics - I (Practice)
P513	C.N.C. Programming - II Practice)
P514	Design practice Moulds - III (Practice)

P515	Design Practice Die Casting Dies - I
P516	Design Practice Forging Dies - I
P517	C.N.C. Machining - I (Practice)
P518	Heat Treatment/Surface Treatment - II (Practice)
P519	W/S Practice Moulds, Press Tools/Production
601	Quality System - II
602	Electrical/Electronics Tech - II
603	Hydraulics & Pneumatics - II
604	Entrepreneurship Development
605	Sociology
606	Thermal Engineering & Renewable Energy Sources
607	CAM(MTS & Master Cam)
608	Production Planning & Estimation & Costing
609	Industrial Engg/Management
610	Emerging Technology
611	Design of Die Casting Dies - II
612	Design of Forging Dies - II
P613	Electrical Electronics Lab - II (Practice)
P614	Hydraulics& Pneumatics - II (Practice)
P615	Computer Application & Hardware(Practice) - II
P616	CAM (MTS& Master Cam)(Practice)
P617	Design of Die Casting Dies – II (Practice)
P618	Design of Forging Dies – II (Practice)
P619	CNC Machining – II (Practice)
P620	W/S Practice Moulds, Production
701	Quality of work Done
702	Sense of Responsibility
703	Project Work Progress
704	Seminar Presentations
801	Quality of work Done
802	Sense of Responsibility
803	Project Work Progress
804	Viva Voce

DECE – 3 YEARS (6 SEMESTERS)

Sub.Code	Name of Subject
EC101	English - I
EC102	Engineering Mathematics - I
EC103	Engineering Physics – I
EC104	Engineering Chemistry & Environmental Studies - I
EC105	Basic Electronics - I
EC106	Basic Electrical Engineering
EC107	Engineering Drawing - I
EC108	Basic Electronics Workshop Practice
EC109	Physics Lab - I
EC 110	Chemistry Lab - I
EC111	Computer Fundamentals Lab - I
EC201	English - II
EC202	Engineering Mathematics - II
EC203	Engineering Physics - II
EC204	Engineering Chemistry & Environmental Studies - II
EC205	Basic Electronics - II
EC206	Electrical Technology
EC207	Engineering Drawing - II
EC208	Basic Electronics Lab
EC209	Physics Lab - II
EC210	Chemistry Lab - II
EC211	Computer Fundamentals Lab - II
EC301	Engineering Mathematics - III
EC302	Electronic Devices & Circuits
EC303	Network Analysis
EC304	Analogue Communication
EC305	Digital Electronics
EC306	Electronic Measuring Instruments
EC307	Electronics Devices & Circuits Lab
EC308	Communication Skills & Life Skills Lab
EC309	Digital Electronics & ECAD Tool Lab
EC310	Analogue Communication Lab

EC401	Engineering Mathematics - IV
EC402	Linear Integrated Circuits
EC403	Advanced Communication Systems
EC404	Digital Communication
EC405	Microcontroller Programming
EC406	Programming In C
EC407	Linear Integrated Circuits Lab
EC408	Digital Communication Lab
EC409	Microcontroller Programming Lab
EC410	Programming In C Lab
EC501	Industrial Management & Entrepreneurship
EC502	Industrial Electronics
EC503	Consumer Electronics
EC504	Data Communication & Computer Networking
EC505	Microcontroller Interfacing & Applications
EC506	Mobile & Optical Fibre Communications
EC507	Industrial Electronics Lab
EC508	Data Communication & Hardware Lab
EC509	Microcontroller Applications Lab
EC510	Project Work
EC601	PLC & SCADA
EC602	Advanced Microcontroller
EC603	Digital Circuit Design Through Verilog HDL
EC604	Managerial Economics & Financial Analysis
EC605	Electronic Product Design & Quality Assurance
EC606	PLC & SCADA Lab
EC607	Advanced Microcontroller Lab
EC608	Verilog HDL Programming Lab
EC609	MAT Lab
EC610	Field Practice

DARE – 3 YEARS (6 SEMESTERS)

Sub.Code	Name of Subject
AR101	English - I
AR102	Engineering Mathematics - I
AR103	Engineering Physics - I
AR104	Engineering Chemistry & Environmental Studies - I
AR105	Basic Electronics - I
AR106	Basic Electrical Engineering
AR107	Engineering Drawing - I
AR108	Basic Electronics Workshop Practice
AR109	Physics Lab - I
AR110	Chemistry Lab - I
AR111	Computer Fundamentals Lab - I
AR201	English - II
AR202	Engineering Mathematics - II
AR203	Engineering Physics - II
AR204	Engineering Chemistry & Environmental Studies - II
AR205	Basic Electronics - II
AR206	Electrical Technology
AR207	Engineering Drawing - II
AR208	Basic Electronics Lab
AR209	Physics Lab - II
AR210	Chemistry Lab - II
AR211	Computer Fundamentals Lab - II
AR301	Engineering Mathematics - III
AR302	Electronic Devices & Circuits
AR303	Mechanisation Analysis & Synthesis of Linkages
AR304	Industrial Pneumatics
AR305	Digital Electronics
AR306	Electronic Measuring Instruments
AR307	Electronics Devices & Circuits Lab
AR308	Communication Skills & Life Skills
AR309	Digital Electronics Lab
AR310	Industrial Pneumatics Lab
AR401	Engineering Mathematics - IV
AR402	Linear Integrated Circuits
AR403	Industrial Hydraulics
AR404	Analog & Digital Communication
AR405	Microcontroller
AR406	Programming In C

AR407	Linear Integrated Circuits Lab
AR408	Analog & Digital Communication Lab
AR409	Microcontroller Lab
AR410	Industrial Hydraulics Lab
AR501	Industrial Management & Entrepreneurship
AR502	Industrial Electronics
AR503	Consumer Electronics
AR504	PLC
AR505	Microcontroller Interfacing & Applications
AR506	Network Analysis
AR507	Robotic / PLC Lab
AR508	Industrial Electronics Lab
AR509	Microcontroller & Network Analysis Lab
AR510	Project Work
AR601	Industrial Automation & Robotics
AR602	Computer Hardware & Networking
AR603	CAD/CAM
AR604	Managerial Economics and Financial Analysis
AR605	Electrical Technology
AR606	Computer Hardware & Networking Lab
AR607	CAD / CAM Lab
AR608	Industrial Automation Lab
AR609	MAT Lab
AR610	Field Practice

DPE – 3 YEARS (6 SEMESTERS)

Sub.Code	Name of Subject
PE101	English - I
PE102	Engineering Mathematics - I
PE103	Engineering Physics - I
PE104	Engineering Chemistry & Environmental Studies - I
PE105	Engineering Mechanics - I
PE106	Workshop Technology - I
PE107	Engineering Drawing Practice - I
PE108	Basic Workshop Practice - I
PE109	Physics Lab - I
PE110	Chemistry Lab - I
PE111	Computer Fundamentals Lab Practice - I
PE201	English - II
PE202	Engineering Mathematics - II
PE203	Engineering Physics - II
PE204	Engineering Chemistry & Environmental Studies - II
PE205	Engineering Mechanics - II
PE206	Workshop Technology - II
PE207	Engineering Drawing Practice - II
PE208	Basic Workshop Practice - II
PE209	Physics Lab - II
PE210	Chemistry Lab - II
PE211	Computer Fundamentals Lab Practice - II
PE301	Engineering Mathematics - III
PE302	Strength of Material
PE303	Fluid Mechanics
PE304	Engineering Materials
PE305	Production Technology - I
PE306	Machine Drawing Practice
PE307	Fluid Mechanics Lab
PE308	Communication & Life Skills Lab
PE309	Manufacturing and Fabrication Engg. Lab
PE310	CAD Lab
PE401	Engineering Mathematics - IV
PE402	Basic Electrical Engineering
PE403	Basic Thermodynamics
PE404	Design of Machine Elements - I
PE405	Production Technology - II

PE406	Production Drawing
PE407	CNC Programming
PE408	Metrology Lab
PE409	Manufacturing & Fabrication Engg Lab - II
PE410	Programming In C
PE501	Industrial Management & Entrepreneurship
PE502	Industrial Engg. & Estimating & Costing
PE503	Hydraulics and Pneumatic Systems
PE504	Design of Machine Elements - II
PE505	CAD/CAM
PE506	Refrigeration & Air Conditioning
PE507	CAD 3D / CAM Lab Practice
PE508	Hydraulics & Pneumatics Lab Practice
PE509	Manufacturing and Servicing & Maintenance Lab Practice
PE510	Project Work
PE601	Press Tools
PE602	Machine Tool
PE603	Engineering Metrology
PE604	Measurement &
PE605	Automobile Engineering
PE606	Project Management
PE607	CAM Lab
PE608	Metrology lab
PE609	CNC Machining Lab
PE610	Field Practice