

CENTER FOR INVENTION, INNOVATION, INCUBATION & TRAINING (CIIT)
GOVERNMENT COLLEGE OF ENGINEERING CHANDRAPUR
APRIL – 2021 BATCH: 3

Sr. No.	Course Name	Intake Capacity	Course Code
1	Design Engineering (Innovation Design and Incubation) (IDI)	15	CIIT-001
2	Product Verification Analysis (PVA)	10	CIIT-002
3	Product lifecycle Management (PLM)	10	CIIT-003
4	Value Engineering and Benchmarking (VEBM)	10	CIIT-004
5	Mechatronics and IoT (MIoT)	10	CIIT-006
6	Digital Manufacturing (DM)	10	CIIT-007
7	Manufacturing Execution System (MES)	10	CIIT-008
8	Advance Manufacturing (AM)	10	CIIT-009

Course Fee Structure

Engineering Students: - 3750/- INR
 Working professionals: -7250/- INR

Each Course Duration

3 Months – (2 Hours per Day- Mon to Fri)

Contact

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Table-II: FEES STRUCTURE IN DETAIL

Sr. No.	Admission Type	Condition	Admission Criteria	Course Fee (each Course, in INR)
1	<p>Candidates completed M.E./M.Tech. /B.E./B.Tech. / Diploma in Engineering & Technology Or Pursuing B.E./B.Tech. 3rd / 4th year or Final Year Diploma in engineering & technology Or Candidates pursuing M.E., M.Tech. Or Candidate pursuing PhD.</p>	<p>Students completed ME/M.Tech./ B.E./B.Tech./Diploma must submit self-attested copy of Leaving certificate and students Pursuing ME/ M.Tech./ B.E./ B.Tech. or diploma must submit College Bonafide certificate from their respective college for enrolments.</p>	<p>Student Admission Criteria</p>	<p align="center">Rs. 3,500/- + Rs. 250/-(stationary, admission , exam fees) Total – Rs. 3750/-</p>
2	<p>Industry Sponsor / Working Professional</p>	<p>Letter from respective Organisation</p>	<p>Industry Engagement</p>	<p align="center">7,000/- + Rs. 250/-(stationary, admission , exam fees) Total – Rs. 7250/-</p>

COURSE CONTENT IN BRIEF

1. IDI:

- **Innovation and Design Thinking**
- **Concept Generation**
- **Introduction to Design Tools - CAD (CREO 6.0)**
- **Concept Creation and 3D Modelling**
- **Detail Design & Engineering**
- **Design for Assembly and Design for Manufacturing**
- **DFMEA**

2. PVA:

- **Introduction to Product**
- **Intro to Product Design Development and Product Research**
- **Basics of Strength of Material**
- **Introduction to Finite Element Analysis (FEA)**
- **Introduction to FEA Softwares - MSC NASTRAN and MSC PATRAN**
- **Linear / Normal Modes analysis / Modal Analysis (Free-Free Run)**
- **Buckling Analysis**
- **Linear Static / Non Linear Static Analysis: Material Geometry and Contact Non Linearity**

3. PLM:

- **Concepts of Product Lifecycle Management**
- **Concept Generation**
- **PLM in Product development process**
- **PLM Architecture**
- **Logical and Physical Architecture**
- **3-TIER Architecture**
- **Introduction to CAD Tools (CREO 6.0)**
- **Detail Design & Engineering**
- **Introduction to PLM Tool (PTC WindChill)**
- **Windchill Features and Functions**
- **PDM Integration with CAD**
- **BOM Management**
- **Windchill tool and Features**

4. VEBM:

- **Introduction and Function Familiar with VAVE Tear Down Benchmarking Concept Generation**
- **Industrial Heavy Duty Machinery**
- **Commercial Vehicle and System working**
- **Vehicle Architecture**
- **Vehicle Systems**
- **Passenger Vehicle BIW Benchmarking**
- **Commercial Vehicle Frame Benchmarking**

5. MES:

- **Introduction to MES, Objective MES, Benefits**
- **Discrete, Continuous & Batch Manufacturing**
- **Manufacturing Organization Structure**
- **Key MES functionality, Integration of Business Layer, Integration of Shop floor system**
- **MES Components and Systems Introduction**
- **Automation & Process Control, Purpose of Industrial Automation**
- **Basics of Control System PLC and HMI for MES**
- **Programmable logic controllers, its types & applications - PLC Programming**
- **SCADA - What is SCADA, Various Softwares, SCADA Design, HMI**
- **Sensors and Actuators - Such as Limit Switch, Proximity Sensor**
- **Integration of PLC, Conveyor Belt, Sensors.**
- **Pick to Light System - Overview and Working**
- **MES Software**
- **Core Functionalities of MES Software**

6. MIoT:

- **Fundamentals of Electric and Electronics**
- **Introduction to Mechatronics**
- **Basics of Electronics and Components**
- **Communication Protocols**
- **Various Micro Processors, Controllers**

- **Introduction to various Sensors**
- **IoT Application using Mobile App**
- **Application Building for various fields (Agro, Auto HOME /Manu.)**
- **Cloud Concepts**
- **Introduction to PTC ThingWorx (IoT Software)**
- **Hardware Integration**

7. Digital Manufacturing:

- **Basics of Industrial Robotics**
- **Various application in industries**
- **Safety for Robot**
- **Product Description and Specifications: ROBOTS**
- **Transport and Installation**
- **Operation of ROBOT: ROBOT Programming**
- **Robot practical Basic command used in program**
- **Robot practical Logical command used in program**
- **Robot practical Welding and Forming program**
- **Maintenance of Robots in Industry**

8. Advance Manufacturing:

- **Introduction to Various Manufacturing Processes**
- **Introduction to Advance Manufacturing Processes**
- **CNC Machines for Machining**
- **Introduction to 3D Printing Technology**
- **LASER cutting and engraving Machine**
- **Hydraulic PRESS Machine**
- **VMC Machine**
- **Milling Machine Operations**
- **Pipe Bending Machine**

ADMISSION PROCEDURE

The Fee structure will be applicable as per TABLE II. The tentative start date of Physical classroom sessions will be in the first week of April 2021.

Applicants need to pay only **INR 1000/-** at the time of Registration. Rest of the fees can be paid at within one week of Course start date.

PAYMENTS LINK FOR REGISTRATION:

www.gcoec.ac.in --> Online Payment (SBI Collect) --> CIIT Course fee (INR 1000/- Only at the time of Registration)

Google Form Link for Admission:

<https://forms.gle/67suQ9MofubyvxPAA>

(Attach the Payment receipt (INR 1000/-) at the time of google Form submission)