Centre for Invention Innovation Incubation & Training (CIIIT)

(A Joint Initiative of Tata Technologies Ltd. & GCOE Chandrapur)

SCHEDULE FOR CIIIT: 12 WEEKS OFFLINE INTERNSHIP (PHYSICAL)

Online Applications are invited for 12-weeks – Offline Training / Internship in following domains organised by

Centre for Invention Innovation Incubation & Training (CIIIT), GCOE Chandrapur

(25th July - 14th October 2022)

Sr. No	Course title	SME (Name)	Timings (Monday to Friday)	Evening Batch Timings (Monday to Friday)	Maximum Batch Size
1	• ENGINEERING DESIGN AND DRAWING (IDI).	**Mr. Jiwan Kale**	**8 AM TO 10 AM**	**4 PM TO 6 PM**	**29**
2	• AUTOMOBILE SYSTEMS ENGINEERING (VE&BM).	**Mr. Shubham Sharma**	**8 AM TO 10 AM**	**4 PM TO 6 PM**	**10**
3	• PRODUCT LIFECYCLE MANAGEMENT (PLM)	**Mr. Gururaj Kalashetti**	**8 AM TO 10 AM**	**4 PM TO 6 PM**	**20**
4	• AUTONOMOUS, CONNECTED AND ELECTRIC VEHICLES (ACE).	**Mr. Atul Bihure**	**8 AM TO 10 AM**	**4 PM TO 6 PM**	**10**
5	• INTERNET OF THINGS AND MECHATRONICS (MIOT).	**Mr. Ashutosh Pimparkar**	**8 AM TO 10 AM**	**4 PM TO 6 PM**	**15**
6	• AUTOMATION IN MANUFACTURING (MES)	**Mr. Ritesh Kubade**	**8 AM TO 10 AM**	**4 PM TO 6 PM**	**10**
7	• ROBOTICS & DIGITAL MANUFACTURING (DM).	**Mr. Raviteja V.**	**8 AM TO 10 AM**	**4 PM TO 6 PM**	**10**
8	• ADVANCE MANUFACTURING ENGINEERING (AME).	**Mr. Arun Kohli / Mr. Ashok Kalashetti**	**8 AM TO 10 AM**	**4 PM TO 6 PM**	**15**

Common Information, Terms & Conditions:

- **Duration** of Training/Internship: **(25th July - 14th October 2022) (**12 Weeks)
  (02 Hrs per day, Mon. to Fri)
- **Eligibility condition:** II-, III- & IV-year B.E. / B.Tech. Or Second/Final year Diploma in Engineering & Technology.UG/PG students from Engineering & Technology/ Research scholars. **Students shall complete their two doses of COVID vaccination (Vaccination certificate is mandatory).**
- **Fees: Rs. 3000/-** per course (online payment on institute website: www.gcoec.ac.in, then click, payment Gateway -- online payment (SBI collect) - CIIIT Course fee - (Note: Write 0, in place of Course code, Processing Fee, Other Fee)
- **Trainers: Experts / Sr. Consultants from Tata Technologies Ltd.**
- **Registration:** Click the below link, submit the details and upload payment receipt.
  https://forms.gle/TUgw4whU6f3QVPA97
  Last Date of Registration: 22/07/2022
- **For Course Contents and other Details visit: www.gcoec.ac.in**
- Certificate shall be awarded to participants after successful completion of training.
- Batch size: Maximum students per batch: refer table on Page 1, (A particular course will commence only if minimum no of students are registered for that course).
- CIIIT authority reserves the right to change batch commencement date, timings and batch size.
- Admissions will be confirmed on first cum first basis
- All COVID -19 protocols should be followed by the candidates
- Accommodation is not available

OFFLINETRAINING/INTERNSHIP COURSES (12 weeks)

(Offline Training/Internship for Engineering and other discipline students)

Course (1):Engineering Design and Drawing (IDI)

Sr. No.	Week	Course Content
1	Week 1	Innovation Design and Incubation:
2		What is Design Thinking?
3		Brainstorming and IDEA Generation
4		Divergence and Convergence of Design Thinking Process
5		Field Work Research
6		Concept Generation
7	Week 2	Concept Selection and Concept Testing
8	Week 3-5	Introduction to Design Tools - CAD (CREO)
9	Week 6 - Week 8	Concept Creation and 3D Modelling
10	Week 9	Detailed Part Design & Engineering
11		Design for Assembly and Design for Manufacturing
12		DFMEA
13	Week 10	Kinematic Analysis
14		Sheet Metal Design
15	Week 11	Reverse Engineering
16		Overview of Design Validation
17	Week 12	Product Drawing Creation, GD&T
18		Bill of Material
19		Case Studies, Mini Project and Exams

Course (2): Automobile Systems Engineering (ASE)

Sr. No.	Week	Course Content
1	Week-1	Introduction and Function Familiar with VAVE Tear Down Benchmarking
2		Industrial Heavy Duty Machinery
3		Commercial Vehicle and system working
4		Vehicle Architecture
5	Week-2	HVAC
6	Week-3	Fuel System
7	Week-4	Power Train System
8	Week-5	Wheel and Suspension System
9	Week-6	Front & Rear Axle

10	Week-7	Vehicle Braking System
11	Week-8	Engine , Engine mounts and Transmission Mounts
12	Week-9	Vehicle Master Assemble, Assemble and child Part Approach
13	Week-10	Passenger Vehicle BIW Benchmarking
14	Week-11	Commercial Vehicle Frame Benchmarking
15	Week -12	Ideation approach and outcome Finalization for Patent
16		Final Assignment
17		Minor Project
18		Test

Course (3): Product Lifecycle Management (PLM)

Sr. No.	Week	Course Content
1	Week 1	Concepts of Product Lifecycle Management
2		PLM in Product development process and PLM benefits
3		PLM Architecture
4	Week 2	Need of Architecture
5		Logical and Physical Architecture
6		3-TIER Architecture
7	Week 3	Introduction to Design Tools (CREO)
	Week 4	
	Week 5	
8	Week 6	Concept Creation and 3D Modelling
	Week 7	
9	Week 8	Detail Design, Drawing, Drafting, GD&T and Engineering
10		Design for Assembly and Design for Manufacturing
11		DFMEA
12	Week 9	Windchill Features and Functions
13		PDM Integration with CAD
14		BOM Management
15	Week 10	Windchill tool and Features
16		PLM prospects, future, Goals and PLM footprints
17	Week 11	Case Studies and Final Assignment
18	Week 12	Minor Project
19		Test

Course (4): Autonomous, Connected and Electric Vehicles (ACE)

Sr. No.	Week	Course Content
1	Week 1-4	Introduction to Automated, Connected and Electric Vehicles
2		Electric vehicle Architecture, Important components of EV
3	Week 5-8	Sizing of components, Battery Management System
4		Connected and Autonomous Vehicle Technology
5	Week 9-10	Sensor Technology for Advanced Driver Assistance Systems
6		Overview of Wireless Technology
7		Wireless Networking and Applications to Vehicle Autonomy
8		Connected Car Technology
9	Week 11	Vehicle Prognostics Technology
10		Autonomous Vehicles, Autonomous Vehicle Hardware and Software
11	Week 12	Standards and Regulations in Autonomous Vehicle Technologies
12		Virtual Test Drive
13		Case Studies and Final Assignment
14		Minor Project and Test

Course (5): Internet of Things and Mechatronics (MIOT)

Sr. No.	Week	Course Content
1	Week 1-2	Introduction to Mechatronics
2		Mechatronics components and systems
3	Week 3-4	Block Diagram Representation
4		Data Acquisition & Microcontroller System
5	Week 5-6	Modelling and Analysis of Mechatronics System
6		Introduction to IoT (Internet of Things)
7	Week 7-8	Electronics for the Internet of Things
8		Software for the Internet of Things
9	Week 9-10	Sensors and Peripherals
10		IOT Applications
11	Week 11	Advancements
12		Case Study
13	Week 12	Final Assignment
14		Minor Project
15		Test

Course (6): Automation In Manufacturing (MES)

Sr. No.	Week	Course Content
1	Week 1-2	Introduction to MES, Objective MES, Benefits
2		Discrete, Continuous and Batch Manufacturing
3		Manufacturing Organisation Structure
4		Key MES functionality, Integration of Business Layer, Integration of Shop floor system
5	Week 3-4	MES Components and Systems Introduction
6		Automation & Process Control, Purpose of Industrial Automation, Computer based Industrial Control & Automation
7		Basics of Control System PLC and HMI for MES
8		Programmable logic controllers, its types & applications - PLC Programming
9		SCADA - What is SCADA, Various Software, SCADA Design, HMI
10		Sensors and Actuators - Such as Limit Switch, Proximity Sensor
7	Week 5-6	Integration of PLC,Conveyor Belt, Sensors.
8		Pick To Light System - Overview and Working
9		MES Software
10		Core Functionalities of MES Software
11		MES Reports - Why these reports are important
12		MES Case Studies - For different Industries
13		MES Example Bicycle - Assembly
TAL ROBOT		
14	Week 7	Basics of Industrial Robotics
15		Various applications in industry
16	Week 8	Safety for Robot
17		Product Description
18	Week 9	Transport and Installation
19		Operation of ROBOT : TAL BRABO Programming
20	Week 10	Robot practical basic command use in program
21		Robot practical logical command use in program
22	Week 11	Robot practical pick and place program
23		Robot practical voice and image processing program
24	Week 12	Maintenance of Robots in Industry
25		Case Study for pick and place application
26		Final Assignment, Minor Project and Test

Course (7): Robotics &Digital Manufacturing (DM)

Sr. No.	Week	Course Content
1	Week 1	Introduction to Robotics -Part 1
2	Week 2	Introduction to Robotics -Part 2
3	Week 3	Robot Operation -Demonstrations
4	Week 4	Robot Programming-Part 1
5	Week 5	Robot Programming-Part 2
6	Week 6	Robot Programming-Demonstration
7	Week 7	Introduction to Digital Manufacturing and Robotic Simulation Part -1
8	Week 8	Introduction to Digital Manufacturing and Robotic Simulation Part -2
9	Week 9	Introduction to Digital Manufacturing and Robotic Simulation Part -3
10	Week 10	Introduction to Digital Manufacturing and Robotic Simulation Part -4
11	Week 11	Introduction to Digital Manufacturing and Robotic Simulation Part -5
12	Week 12	Final Assignment, Minor Project and Test

Course (8): Advance Manufacturing Engineering (AME)

Sr. No.	Week	Course Content
1	Week 1	Introduction to Industry 4.0.
2		Introduction to Industrial Robotics.
3	Week 2	Introduction to Programming of Robots. Applications of Robots.
4		CNC Basics, VMC and HMC Architecture, CNC Lathe Architecture.
5	Week 3	CNC Programming (Manual Part Programming).
6	Week 4	Computer Aided Machining
7	Week 5	Advance CNC Machining - Milling
8	Week 6	Advance CNC Machining - Lathe
9	Week 7	Advance CNC Machining - 4 & 5 Axis Milling
10		Basics of Digital Manufacturing
11	Week 8	Additive Manufacturing
12	Week 9	Reverse Engineering
13	Week 10	Laser Cutting
14	Week 11	Case Studies
15	Week 12	Final Assignment, Minor Project and Test

For more Details, Contact:
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(For registration and course schedule matters).
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