RCOEM
Shri Ramdeobaba College of Engineering and Management, Nagpur

Review of CIIIT Activities

(6 Dec. 2021)

TATA
TATA TECHNOLOGIES

RCOEM TBI Foundation
Contagiously Innovative

CENTER FOR INVENTION INNOVATION INCUBATION AND TRAINING

IMAGINE ALGORITHMS CREATE 4.0 INDUSTRY PROGRAMMING INFORMATION METHODS SOLVING SYSTEM REALIZE EXPRESS ACHIEVE

CENTER FOR INVENTION INNOVATION INCUBATION & TRAINING
CIIIT

(a) Trainings for RCOEM and outside students

(b) Industry interaction consultancy research and development initiatives

(c) One year Planning at CIIIT

Dr. Vishal Shukla
Professor In-charge
RCOEM-TATA-CIIIT

Shri Ramdeobaba College of Engineering and Management, Nagpur

RCOEM TECHNOLOGY BUSINESS INCUBATORS FOUNDATION

RCOEM - TATA TECHNOLOGIES - CIIIT

CENTER FOR INVENTION, INNOVATION, INCUBATION AND TRAINING

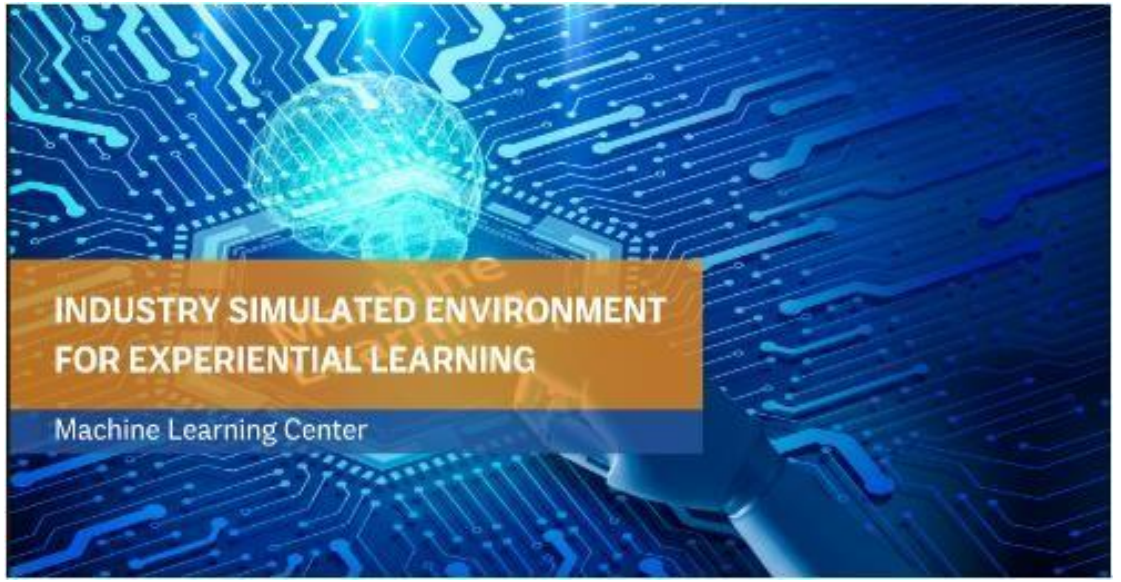
INDEX :

Objectives of CIIIT:

1. Promote Invention, Innovation and Incubation under the mentorship of industry experts
2. Strengthen Government's Vision & Mission of innovation entrepreneurship and skill development
3. Enable Industry- Academia partnerships to impart future skills
4. Leverages advanced competency centers and expertise of Industry Subject Matter Experts (SMEs) for training students, industry professionals and unemployed youth with industry relevant skills and competencies .

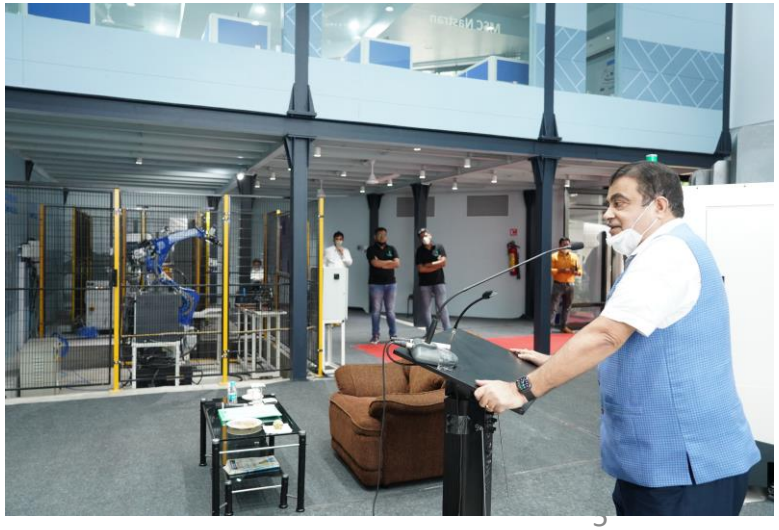
COMPETENCY CENTRES

- Innovation Design and Incubation
- Integrated Adv. Manufacturing
- Machine Learning & IoT



Inaugural Function

16th August at the auspicious hands of Hon'ble Minister for Road Transport & Highways, and MSME Shri. Nitinji Gadkari



Technical Facilities (Machines & Hardware)

VMC, Industrial Robotics & Automation

Vertical Machining Center

Ace Manufacturing Systems Ltd. (AMS 430 V), X-44, Y-300, Z-400 mm, Spindle BT-40, 5.5 kW, Accuracy-10 Micron, Fanuc CNC, 20 Tool ATC

Pick and Place Robot

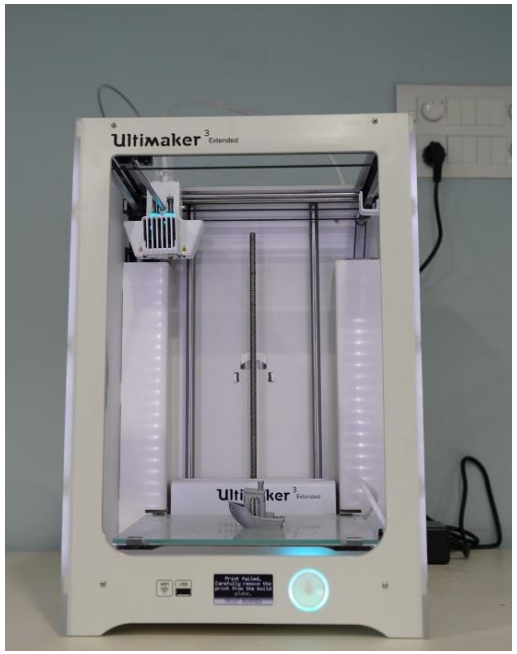
5 Axis Articulated Arm, BRABO by TAL, 10 kg payload, Max. reach 750 mm, Light-Sound-Touch sensors, Pneumatic vacuum gripper, 5 kW,

ARC Welding robot

6 Axis, Yaskawa AR-1440, 12 kg payload, 1.5 kVA, Horizontal reach-1440, Vertical reach -2511 mm, 0.2 mm repeatability, Controller-YRC1000, Extended Usage-Arc welding

Technical Facilities (Machines & Hardware)

Additive Manufacturing , Manufacturing Execution System and Reverse Engineering



3D Printer

Ultimaker 3 Extended, Fusion Filament Fabrication, dual extrusion, Nozzle dia- 0.4 mm, Filament dia- 2.85 mm

3D- Scanner

EinScan SE, Auto scan, Turntable, Accuracy 0.1 mm, Scan speed less than 8 sec, Max Obj size – 20X20X20 cm

Manufacturing Execution System

Conveyor 12 m with Allen Bradley PLC, Hooter & Andon Scheme, Pick to light sensors-Racks-Cables, Factory Magix Software, Bar code Printer & scanner, 6 Workstations

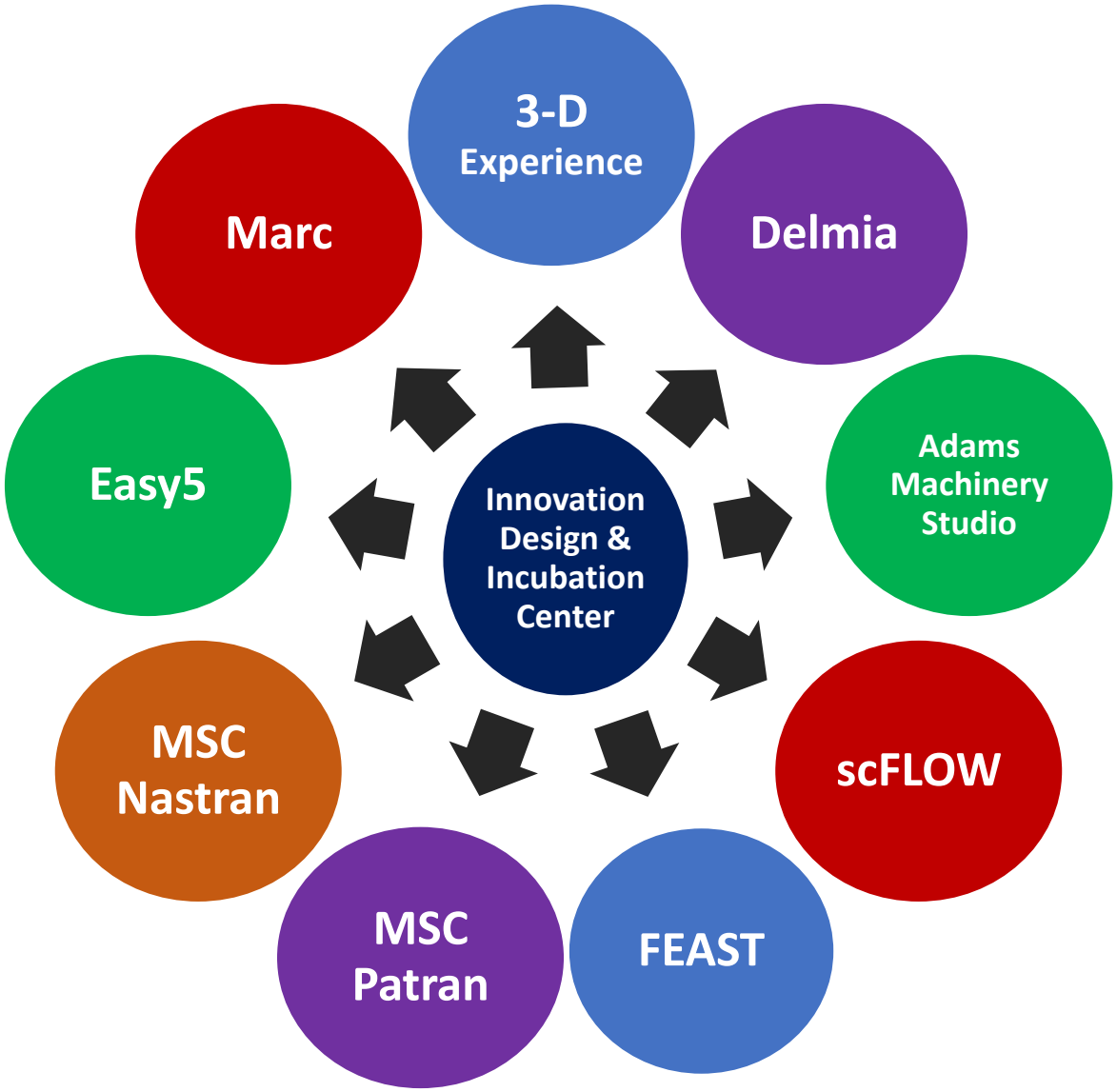
Technical Facilities (Advanced professional Softwares)

Marc - Nonlinear FEA solution for static, dynamic and Transient loading

Easy 5- Simulate control systems, hydraulics, pneumatics, gaseous flow, thermal, electrical, mechanical, refrigeration etc

Nastran – Multidisciplinary structural analysis

Patran - Pre/post-processing FEA, Solid modeling, meshing, analysis and post-processing. Solvers including MSC Nastran, Marc, Abaqus, LS-DYNA, ANSYS



3-D Experience- Business innovation, operational excellence, Product design and experience

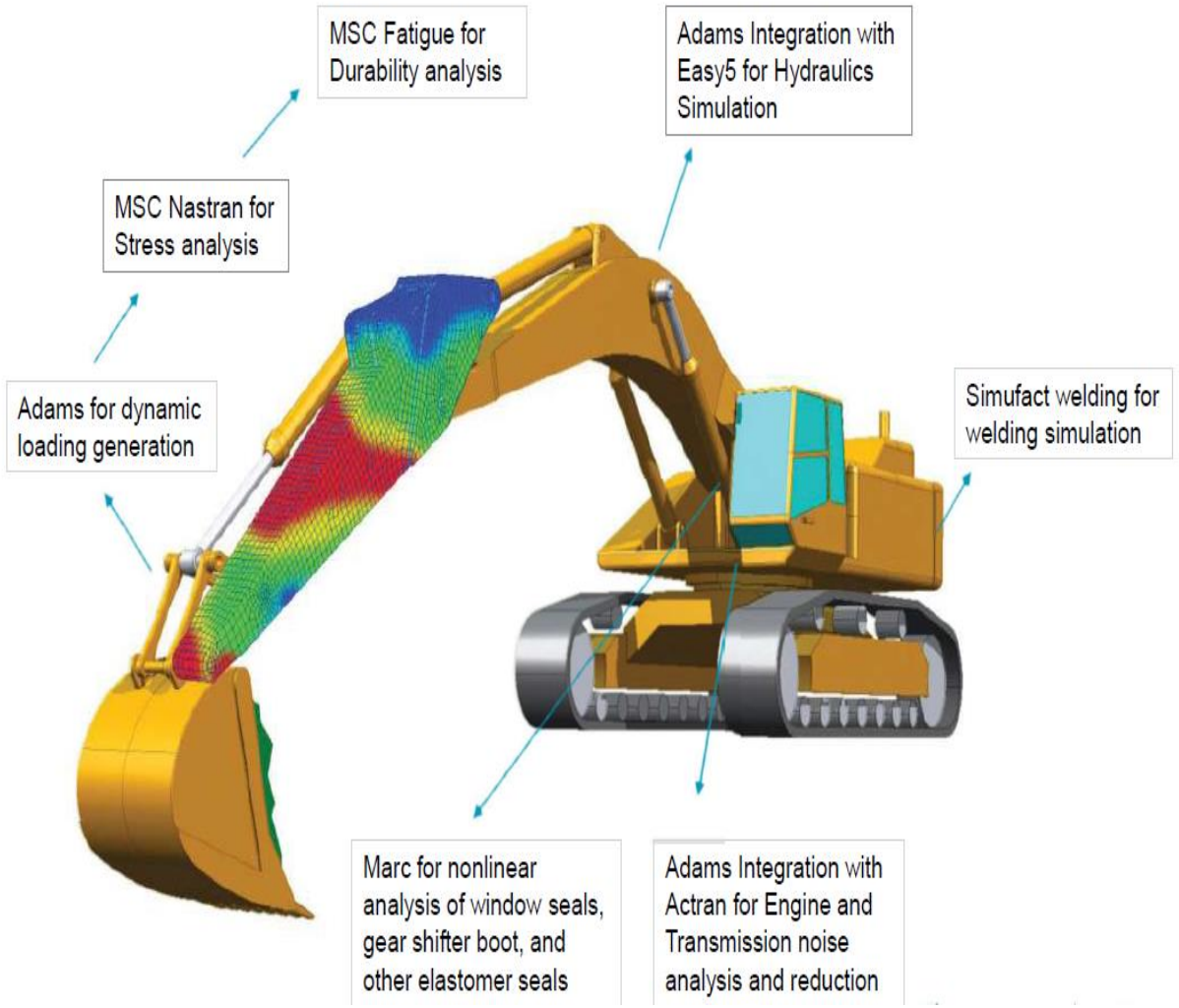
Delmia- Helps industries and services to Collaborate, Model, Optimize, and Perform their operations.

Adams- Multibody Dynamics Simulation Solution, Analyzing Moving parts, loads, force distribution

ScFlow- New Generation CFD software with Multiphysics and General-Purpose Capabilities

FEAST-Structural FEA, Developed by Vikram Sarabhai Space Centre (VSSC)/ISRO. Solve launch vehicle & satellite structural engineering

Technical Facilities (competency domains)



- Computer Aided Design (CAD)
- Computer Aided Manufacturing (CAM)
- Computer Aided Engineering (CAE)
- Finite Element Analysis (FEA)
- Computational Fluid Dynamics (CFD)
- Multi Body Dynamics (MBD)

Recent Prominent Visitors at CIIIT

S No	NAME	INDUSTRIAY
1	Mr Sachin Maske	Fourwayz Distributors Pvt.Ltd
2	Mr Jitendra Bhakne	Govigyan Anusandhan Kendra Saunsar
3	Mr Rohit Shende	Ashta Tech Automation Pvt.Ltd
4	Dr Rajni Kant	Ballarpur
5	Mr Vinod Tambi	Xcellon
6	Mr Sumeetb Gattewar	Pye Technologies India
7	Mr Rajesh Ganorkar	Spannkraft Hadro system
8	Mr Sandeep Darwekar	President CIEA
9	Mr Arvind Dabhade	DSO C,RLY
10	Dr. Ravindra Aher	MIA
11	Mr Rohit Shende	Ashtatek
12	Mr Nitin Rathi	Solar Explosive Economic
13	Mr Group Captain Nitin Moonat	IAF
14	Dr. Sudhir Akojwar	Principal GCOE Chandrapur
15	Dr. Washimkar	HOD ME GCOE Chandrapur

Recent Prominent Visitors at CIIIT

S No	NAME	INDUSTRY
16	Shailesh Kamlakar Awale	From HCL technolgiess
17	Raziq.Saudagar	From HCL technolgiess
18	Dr Lakhe & Mr Naveed Ansari	Shreyas Quality Management services
19	Dr. Ritesh Singh	Koradi Thermal Power Station
20	DICCI Team visit	
21	Kaiwalya Harkare	Govt poly Pune Tycathon model
22	Ms. Yadav & Chiklit Mishra	CA CIIIT Auditors
23	SBJIT team	for Incubation center
24	Prasanna Deshpande & Manish Kumar	TTL
25	Teachers' Team	from Bachcharaj High school
26	Director MSME & Mr. Parlewar +local msme team	Ministry of MSME

Recent Prominent Visitors at CIIIT:

Recent Prominent Visitors at CIIIT:

Director IIM, Nagpur

Team from
Spankraft

Mr. Arvind Dabhade DSO Central Railway Nagpur

RKNEC Alumni, 1995 Batch

Dr. Sudhir Akojwar, Pricipal GCOE Chandrapur

Mr. Ranjit Singh Chairman Vidarbha zone, CII (24 Spet 2021)

Summary of completed Trainings for Faculty & PG students

Sr. No.	Name of the Training	Dates	Time & Duration	Industry Person/Trainer	No of participants
1	CIIIT Courses Awareness	29/09/2020	4 pm to 6 pm (2 hours)	Dr. Ishtiaq khan, TATA Technologies	21
2	Industrial Robotics	1/10/2020	4 pm to 6 pm (2 hours)	Dr. Ishtiaq khan, TATA Technologies	36
3	VMC Part programming	3/10/2020	10 am to 1 pm (3 Hours)	Santosh Chedge, AMS Acemicromatic	11
4	Catia V6	15 octo -3 Nov 2020	2.30 - 5.30 pm (28 Hours)	Mr. Anil Dhole (SME, TATA Technologies Ltd)	11
5	Additive Mfg. & Reverse Engg. (3-D Printing & 3-D Scanning)	4-6 Nov 2020	2.30 -6 pm (11 hours)	Mr. Anil Dhole (SME, TATA Technologies Ltd)	17
6	Internet of Things (IoT)	9-11 Nov 2020	2.30 – 6 pm (3.30 hours)	Mr. Anil Dhole (SME, TATA Technologies Ltd)	12

Summary of completed Trainings for Faculty & PG students

Sr. No.	Name of the Training	Dates	Time & Duration	Industry Person/Trainer	No of participants
7	Industry 4.0 Insights through RCOEM CIIIT	11/12/2021	4 pm - 5.30 pm (1.30 hours)	Dr. Ishtiaq Khan, TATA Technologies	30
8	Industry 4.0 Insights through RCOEM CIIIT	06/01/2021	4 pm - 5.30 pm (1.30 hours)	Mr. P. V. Kaulgud, TATA Technologies	25
9	Design Thinking	4-8 Jan 2021	11 am – 1.30 pm (12.30 hours)	Mr. Anil Dhole (SME, TATA Technologies Ltd)	29
10	MSC Adams	11 -22 Jan 2021	2.30 pm to 4.30 pm (8 hours0	Mr Jahir Khatib, MSC Software	7
11	Manufacturing Execution System (MES)	28-29 Jan 2021	2.30 pm to 4.30 pm (4 hours)	Mr. Anil Dhole (SME, TATA Technologies Ltd)	7
12	Arc welding Robo	27/01/2021	2.30 pm to 4.30 pm (2 hours)	Mr. Anil Dhole (SME, TATA Technologies Ltd)	7

Summary of completed Trainings for Faculty & PG students

Sr. No.	Name of the Training	Dates	Time & Duration	Industry Person/Trainer	No of participants
13	Industry 4.0 Insights through RCOEM CIIIT	18/02/2021	4 pm - 5.30 pm (1.30 hours)	Mr. P. V. Kaulgud, TATA Technologies	20
14	i-GET-it online learning platform	18/06/2021	11.30 am - 12.30 pm (1 Hour)	Mr. Anil Dhole (SME, TATA Technologies Ltd)	9
15	VMC operations & Programming	23 & 24 June -2021	Full days (14 Hours)	Mr. Sachin Koli, AMS Acemicromatic	16
16	Yaskawa Arc Welding Robot	29 & 30 June 2021	Full days (14 Hours)	Mr Shiv Krishna, Yaskawa	15
17	Internet of Things (Raspberry pi & Arduino)	1, 2 & 3 July 2021	Full days (21 Hours)	Shreyash Gajlekar, TATA Technologies	17
18	Machine Learning	21-22 Sep 2021	Full days (14 Hours)	Mr. Anil Dhole (SME, TATA Technologies Ltd)	27

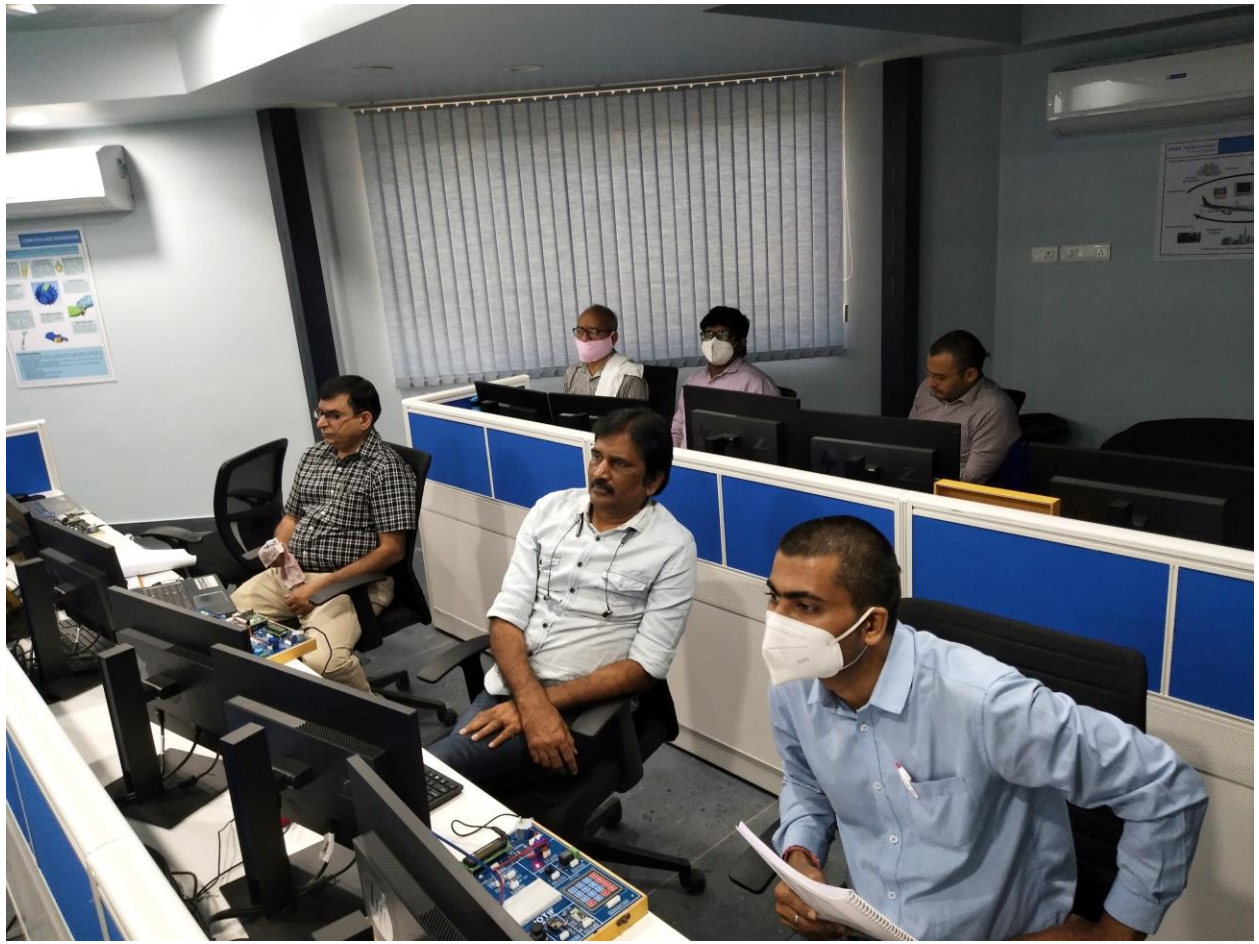
Glimpses of Faculty Training

Catia V6 PLM: 15 Octo to 3 Nov 2020

Additive Manufacturing/3-D Printing: 4 to 6 Nov 2020

Glimpses of Faculty Training

Reverse Engineering/3-D Scanning: 4 to 6 Nov 2020



Internet of Things: 9 to 11 Nov 2020

Glimpses of Faculty Training

Design Thinking: 4-8 Jan 2021

Awareness workshops Industry personnel in association with MIA & VIA

Trainings offered at RCOEM-TATA-CIIIT

Sr. No	Name of Certificate Course	Batch Size	Duration	Eligibility	Fees for Students	Fees for Industry Professionals
1	3-D Scanning & Reverse Engineering	10	1 Month	ITI/Diploma/BE/ME or Pursuing similar technical course	Rs. 2,500	Rs. 5,000
2	3-D Printing & Additive Manufacturing	10	1 Month	ITI/Diploma/BE/ME or Pursuing similar technical course	Rs. 2,500	Rs. 5,000
3	CNC Programming & VMC Operations	10	1 Month	ITI/Diploma/BE/ME or Pursuing similar technical course	Rs. 2,500	Rs. 5,000
4	Industrial Robot operator (Yaskawa Arc welding)	10	1 Month	ITI/Diploma/BE/ME or Pursuing similar technical course	Rs. 2,500	Rs. 5,000
5	Solid modeling Catia V6	15	1 Month	ITI/Diploma/BE/ME or Pursuing similar technical course	Rs. 2,500	Rs. 5,000
6	Mechatronics & Internet of Things (IoT) Engineering	10	1 Month	ITI/Diploma/BE/ME or Pursuing similar technical course	Rs. 2,500	Rs. 5,000
7	Manufacturing Execution System Engineering / operator	10	1 Month	ITI/Diploma/BE/ME or Pursuing similar technical course	Rs. 3,000	Rs. 6,000
8	Finite Element Analysis (MSC Nastran)	10	1 Month	ITI/Diploma/BE/ME or Pursuing similar technical course	Rs. 3,000	Rs. 6,000

General admission requirements for Trainings at RCOEM-TATA-CIIIT

Sr. No	Admission Type	Admission Criteria	Condition
1	Student Admission	i) Student must be pursuing BE/B.Tech. 3rd/4th year in Engineering & Technology for related courses ii) Student must be pursuing Diploma/ITI in respective branch	Student shall produce Bonafide certificate from his/her Institution where enrolled
2	Open Admission	The candidate must possess Degree/Diploma/ITI certificate in Engineering & Technology	The candidate must submit ME-M.Tech/BE-B.Tech /Diploma/ITI completion certificate
3	Sponsor Admission	Industry sponsor candidate/Faculty sponsored from other Institutions	Letter from respective organization

Diploma in Industry 4.0 will be awarded for completing min 6 of the above courses at RCOEM-TATA-CIIIT

Intake, duration & Fees structure for Trainings at RCOEM-TATA-CIIIT

Sr. No.	Name of the course	Intake	CIIIT Course Code
1	3-D Scanning & Reverse Engineering	10	CIIIT-01
2	3-D Printing & Additive Manufacturing	10	CIIIT-02
3	CNC Programming & VMC Operations	10	CIIIT-03
4	Industrial Robot operator (Yaskawa Arc welding)	10	CIIIT-04
5	Solid modeling Catia V6	15	CIIIT-05
6	Mechatronics & Internet of Things (IoT) Engineering	10	CIIIT-06
7	Manufacturing Execution System Engineering/operator*	10	CIIIT-07
8	**Finite Element Analysis (MSC Nastran) ***	**10**	CIIIT-08

Fees structure for courses 1 to 6:

Engineering Students: - INR 2500/ INR 3000*

Working professionals: - INR 5000/ INR 6000*

Each Course Duration

1 Month – (2 Hours per Day- Mon to Fri)

PAYMENTS LINK FOR REGISTRATION:

Google Form Link for Admission:

https://forms.gle/4k7bFiGFeH9vg8WD8

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

Advanced certificate courses at RCOEM-TATA-CIIIT

Diploma Courses (6+ months)	Advanced Certificate Courses (upto 3 months)
• **Product Design and Validation** **Design Thinking for Start Ups, Catia V6 and PLM, Virtual Verification and Analysis, Product Design and Development** • **Integrated Advanced Manufacturing** **Additive Manufacturing, Digital Manufacturing, Industrial Robotics, Advanced Manufacturing** • **Manufacturing Execution System & IoT** **Design Thinking, Manufacturing Execution System, Industrial Robotics, IoT** • **Advanced Product Design Engineering & Manufacturing** **Design Thinking for Start Ups, Catia V6 and PLM, Virtual Verification and Analysis, Product Design and Development, Additive Manufacturing, Digital Manufacturing, Industrial Robotics, Advanced Manufacturing, Manufacturing Execution System, IoT**	• Catia V6 and PLM • Virtual Verification and Analysis • Product Design and Development • Additive Manufacturing • Digital Manufacturing • Industrial Robotics • Advanced Manufacturing • Manufacturing Execution System • Internet of Things (IOT) & ML

ADVANCED COURSES OFFERED at RCOEM-TATA-CIIIT
Contact:
Mr. Saahil - (+91) 7776862607
Mr. Mayur - (+91) 7498689548
Dr. Vishal Shukla (+91) 9822277318
Email ID: ciiit@rknec.edu

RCOEM-TATA-CIIIT
Ramdeo Tekdi, Gittikhadan, Katol Road,
Nagpur - 440 013 (M.S.) (India)
http://www.rknec.edu/RCOEM-TATA-CIIT.aspx# Email: ciiit@rknec.edu
Course registration link: https://forms.gle/4k7bFiGFeH9vg8WD8

COURSE CONTENTS

CIIIT-01: 3-D Scanning & Reverse Engineering

- Introduction to Reverse Engineering
- Geometry Acquisition Hardware & Software
- 3D Scanner and Data Processing
- Inspection Software
- Hands-on on Reverse Engineering Software
- live Scan technology **EinScan- 3D Scanner**
- real-time data capture with 3D scanner
- Scanning / Inspection software. **EinScan- 3D**
- 3D Scanning (Laser and White / Blue Light)
- Scanned Data to 3D Model, clean up tools
- Convert raw 3D scan data into high quality models
- 3D Inspection & Drag and drop Report generation

CIIIT-02: 3-D Printing & Additive Manufacturing

- Intro to Product Design Development
- Introduction to 3D Printing Technology
- Geometric/solid modeling
- Facet generation and File types Obj, Stl, Prt etc
- Slicing softwares, Cura
- Part orientations and Slicing considerations
- Slicing parameter settings
- 3-D Printing materials PLA, ABS, TPU, Wood,
- 3-D Printing Tolerances
- G code files and FDM 3-D printing
- Ultimaker FFF-3-D printing
- Post processing

CIIIT-03: CNC Programming & VMC Operations

- Introduction to Various Manufacturing Processes
- Introduction to Advance Manufacturing Processes
- CNC Programming and Milling operations
- CNC Programming and Turning operations
- G-Codes & M-Codes for Milling & Turning
- CNC Programming for Drilling operations
- Fanuc Interface and operating panel
- ATC operations & Work-offset
- Operating facemill & endmill cutters
- Subprogram and canned cycle
- Manufacturing simulation

COURSE CONTENTS

CIIIT-04: Industrial Robot operator (Yaskawa Arc welding)

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

CIIIT-05: Solid modeling Catia V6

- Innovation and Design Thinking
- Concept Generation
- Introduction to Design Tools - CAD (CATIA v6)
- Concept Creation and 3D Modelling
- Detail Design & Engineering
- Introduction to GUI & Getting Started with CATIA
- Sketcher Workbench Pad, Shaft, pocket & RP
- Drawing Shapes, Modifying sketch and constraints
- Part Design Workbench Practice example
- Sketch based and dress-up features, Holes & Fillet
- Transformation features, Practice example

Design for Assembly and Design for Manufacturing

CIIIT-06: Mechatronics & Internet of Things (IoT) Engineering

- Fundamentals of Electronics and Mechatronics
- Basics of Electronics and Components
- Communication Protocols
- Various Micro Processors, Controllers
- Introduction to various Sensors
- IoT Application Arduino IDE
- IoT Applications to fields and implementation
- Cloud Concepts – Firebase
- Introduction Raspberry Pi Hardware Integration

COURSE CONTENTS

CIIIT-07: Manufacturing Execution System Engineering/operator

- Introduction to MES, Objective MES, Benefits
- Discrete, Continuous & Batch Manufacturing
- Manufacturing Organization Structure
- MES functionality, Integration of Business Layer
- Integration of Shop floor system
- MES Components and Systems Introduction
- Automation & Process Control, Automation Purpose
- Basics of Control System PLC and HMI for MES
- PLC types, applications & programming
- SCADA Softwares and Design, HMI
- Sensors and Actuators - Limit Switch, Prox. Sensor
- Integration of PLC, Conveyor Belt, Sensors.
- Pick to Light System - Overview and Working
- MES Software and Core Functionalities

CIIIT-08: Finite Element Analysis (MSC Nastran)

- Basics of Strength of Material
- Introduction to Geometric Model & FE Model
- Introduction to Finite Element Analysis (FEA)
- Introduction to MSC NASTRAN and PATRAN
- Linear static structural analysis
- Modal Analysis (Free-Free Run)
- Buckling Analysis
- Non-Linear Static Analysis
- Material Geometry and Contact Non-Linearity

RCOEM-TATA-CIIIT Training Courses completed (16 Aug - 14 Octo), Certificates distributed

Sr. No	Course Code	Title of the course	Name of the Students enrolled for the course	Duration	College Name	Course Coordinator
1	CIIIT-02	3-D Printing & Additive Manufacturing	Akshay Kolhe	16 August-15 Sept 2021	Nagpur Institute of Technology	Dr. Vishal Shukla
2	CIIIT-03	CNC Programming & VMC Operations	Pragati Gajbhiye	28 August – 27 Sept. 221	Nagpur Institute of Technology	Dr. A. D. Urade & Dr. P. S. Deole
3	CIIIT-05	Solid modeling Catia V6	Om Kailaswar	15 Sept. – 14 Octo. 2021	RCOEM	Mr. Sumit Ramteke
4			Divesh Kothari			
5						

Research & Consultancy projects Completed

Sr. No.	Title of the Project	Industry/ Organization	Services offered by CIIIT & Products developed Manufactured and Delivered	Duration	Payments Received	Members involved
1	Design & Development and 3-D printing of molds and hand press machines	Swanand Go-Vidnyan Kendra Nagpur	5 Types of molds like Designer Diya, Padma kund, Shree Yantra molds	March 2021- Octo 2021	**27,000**	Mr. Anil Dhole, Mr. Harsh Sharma
			12 No. of hand press machines	April 2021- Aug. 2021	**51,000**	Dr. Vishal Shukla
2	Thin polymer objects	Local Industry	3-D printing of thin polymer containers	July 2021	--	Dr. Vishal Shukla
3	Tycathon shortlisted project	Government polytechnic, Pune	3-D Printing of project shortlisted in Tyacathon 21	March 2021	--	Dr. Vishal Shukla

A MoU is signed with SGVAK

महाराष्ट्र MAHARASHTRA ◐ 2018 ◐

NAGPUR TREASURY
DT 508906
22 FEB 2019
Stamp Head Clerk

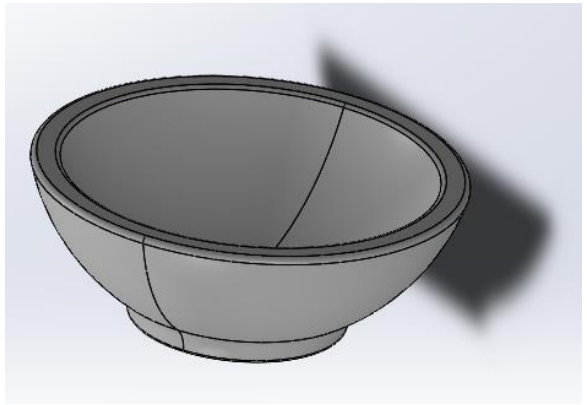
Memorandum of Understanding

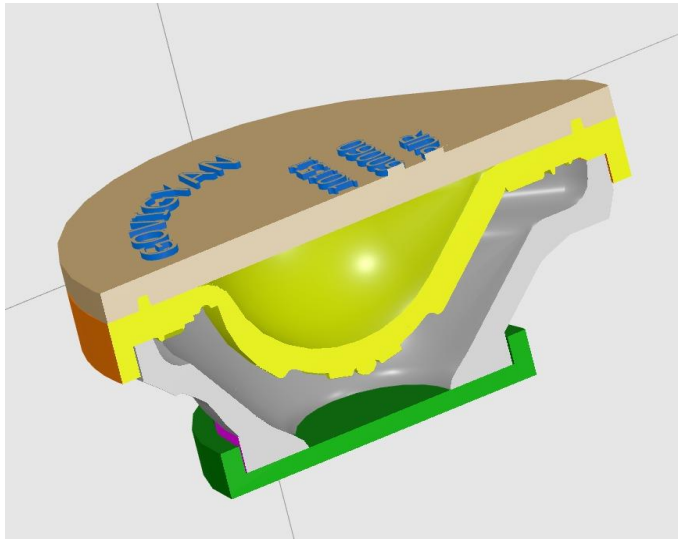
This Memorandum of Understanding (MOU) is signed between SHRI RAMDEOBABA COLLEGE OF ENGINEERING AND MANAGEMENT, Nagpur (hereafter referred to as "RCOEM") and SWANAND GO VIGYAN ANUSANDHAN KENDRA which is an NGO located in Nagpur & having works at Saunsar Dis-Chhindwara that promote and provide training on Go-Vigyan (cow dung) related products and supply molds & premix for the same; on *27/02/2021* with following points agreed by both the organizations.

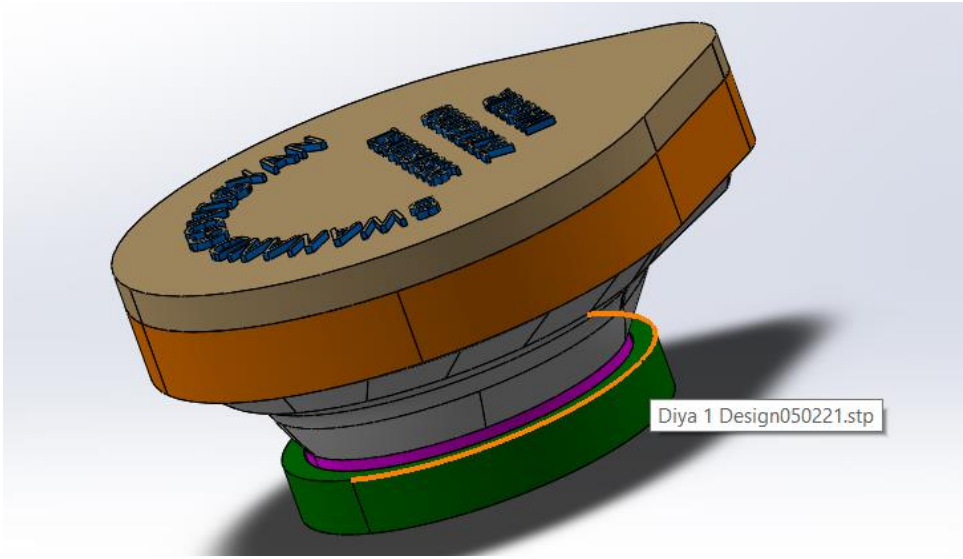
1. Both the parties will be involved in Innovation & Incubation that will help in providing Livelihood to the Community
2. Both the parties will be involved in New product Development, Technology Development & Commercialization.
3. Both the parties will be involved Skill Development, Capacity building for self-employment opportunities for the Community.
4. Both the parties shall be actively involved in identifying skill development / up gradation requirement of students / staff / faculty and subsequently organizing related training programmes /workshops /seminars.
5. Both the parties shall be actively involved in organizing workshop/seminars/conferences on technical topics as well as on contemporary issues of social importance.
6. Both the parties shall be actively involved in preparation and subsequent submission of joint research proposals to various funding agencies like DST, AICTE etc., and the funds will be managed and utilized as per the mutually agreed schedule and conditions.

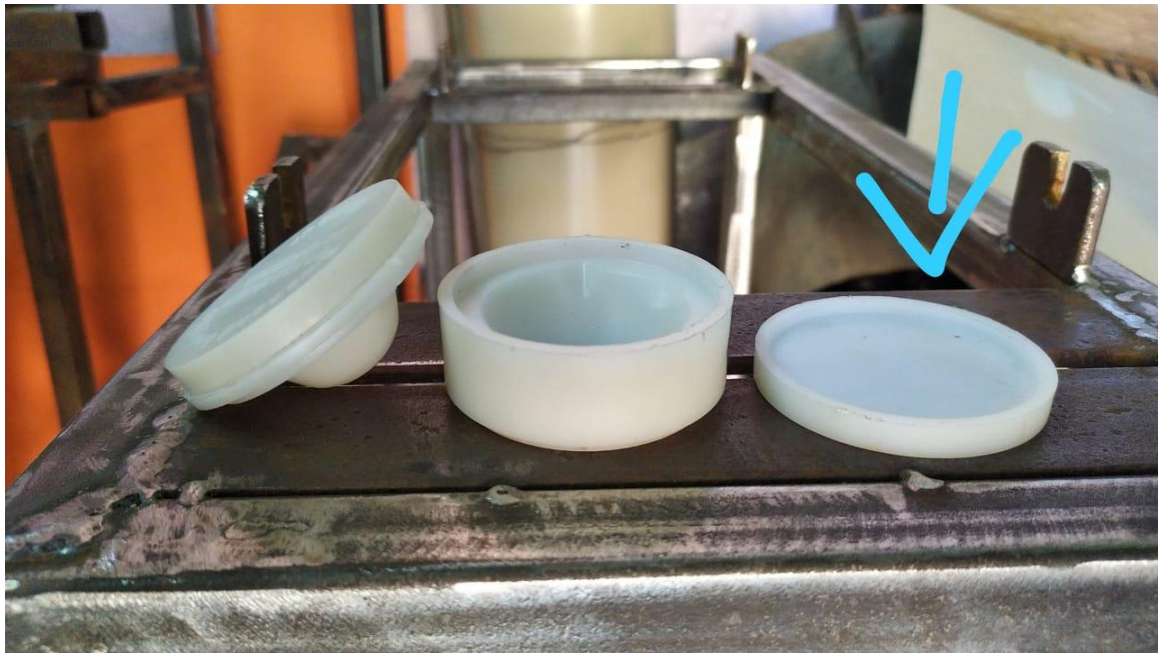
1/2

Molds designed and 3-D printed for SGVAK









Portable hand press designed and manufactured for SGVAK

Assembled portable hand press machine

12 No of portable hand press machines handed over to SGVAK on 12 April 2021

Project Inquiry from external agency – Tycathon product (Completed)

Date:23 February 2021

To
The faculty In-charge
RCOEM-TATA CIIIT
Center for Invention Innovation
Incubation and Training
Nagpur-440013

Sub: Request to 3-D print the my innovative toy for Toycathon

Respected Sir,

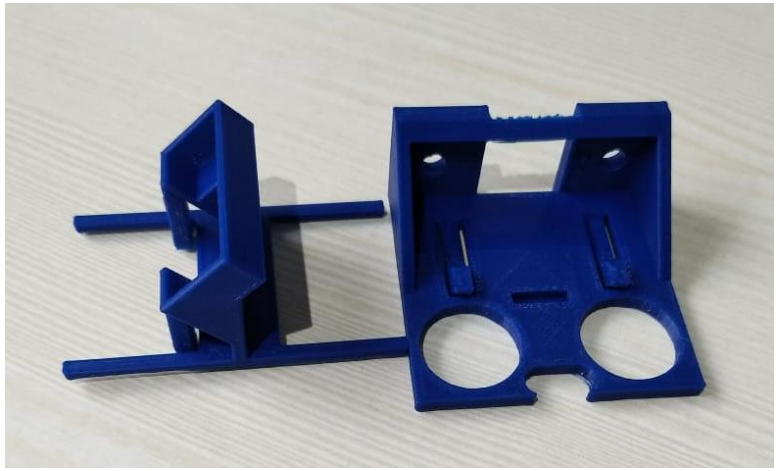
I am pleased to share that recently my Idea for an innovative toy for Toycathon organised by the ministry of education is selected for the final round. And now, I just want to give the finishing touches to my innovative toy for blind children.
It would be very helpful, if I get your valuable support for 3-D printing of my design. The toy product will definitely be great entertainment for our blind children of India.
I request you give me permission for using your Ultimaker extended 3-D printer in available in Innovation Design competency center to print 2 parts in PLA material.
I assure to acknowledge RCOEM-TATA CIIIT in my report and presentations related to the innovative toy.

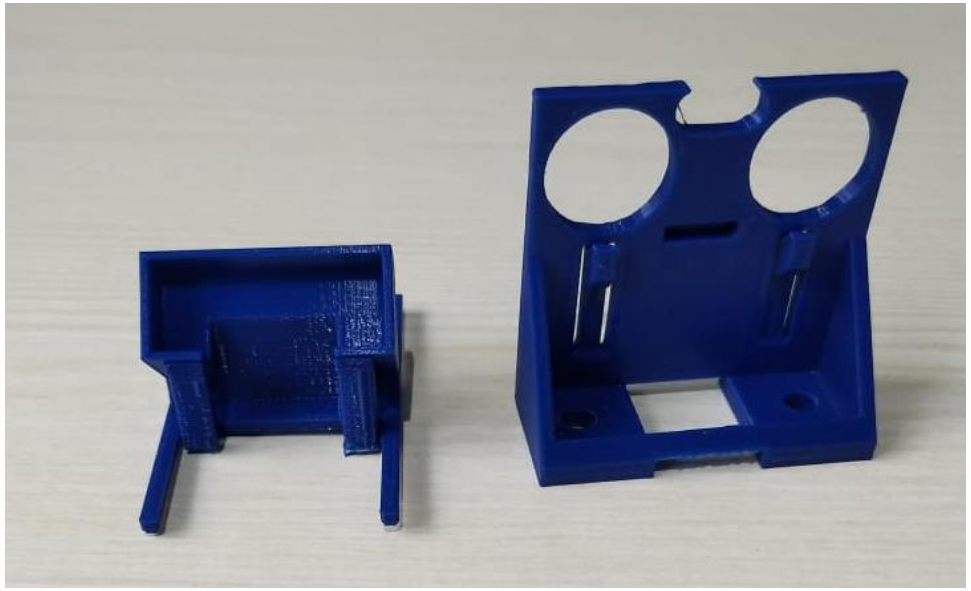
Yours faithfully

Kaiwalya Harkare (Student)
Final year Mechanical Engg
Government Polytechnic Pune
Mobile: 7620125586
Email: kaiwalyaharkare@gmail.com

Forwarded by
Prof.

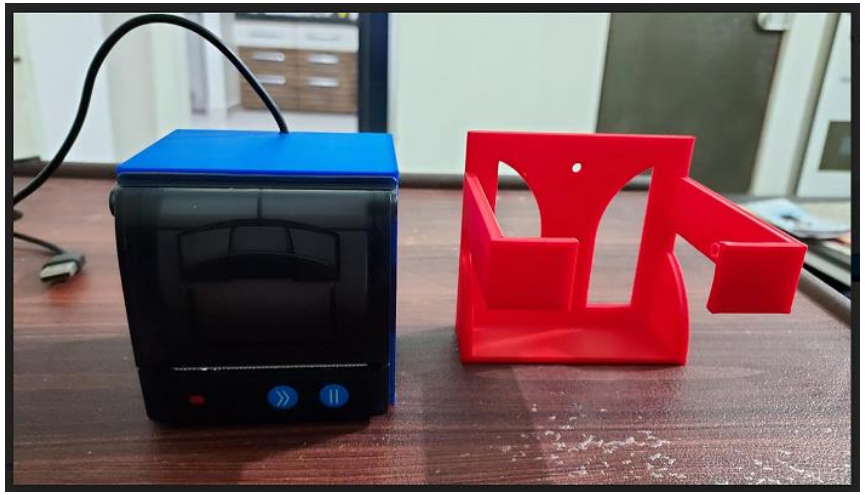
Government Polytechnic Pune

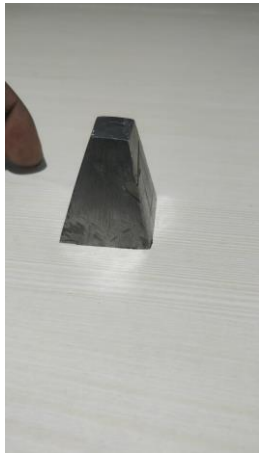


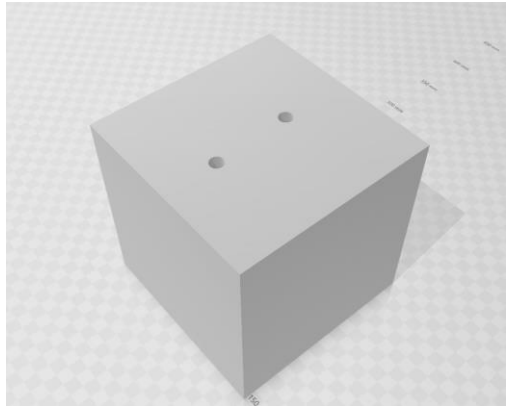


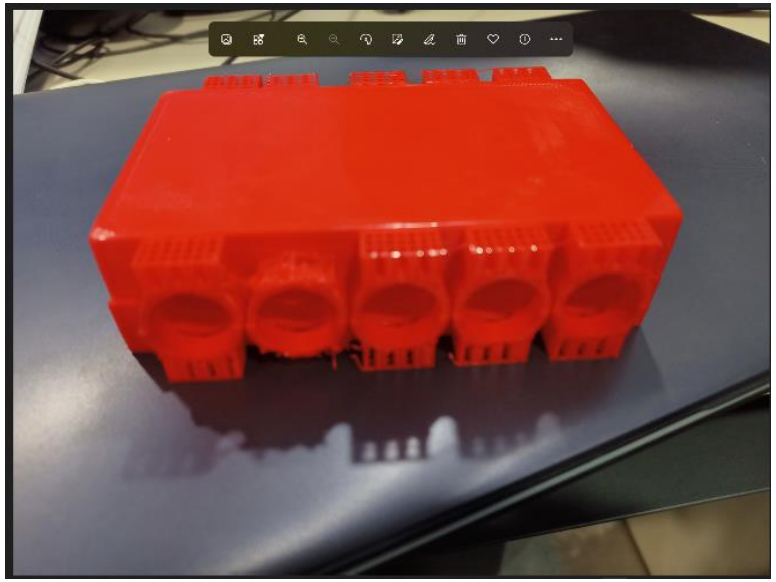
Projects completed for various departments of RCOEM –

a) Metal tools for testing of concrete – Dr. R. N. Khapre (Completed)
b) 4 petals of heart valved model --- Dr. Anju Gupta (Completed)
c) Small cubical part with 2 vents --- Dr. Jayu Kalambe (completed)
d) Battery container – Dr. M. M. Gupta (completed)
e) A casing for an alumnus enrolled at incubation center



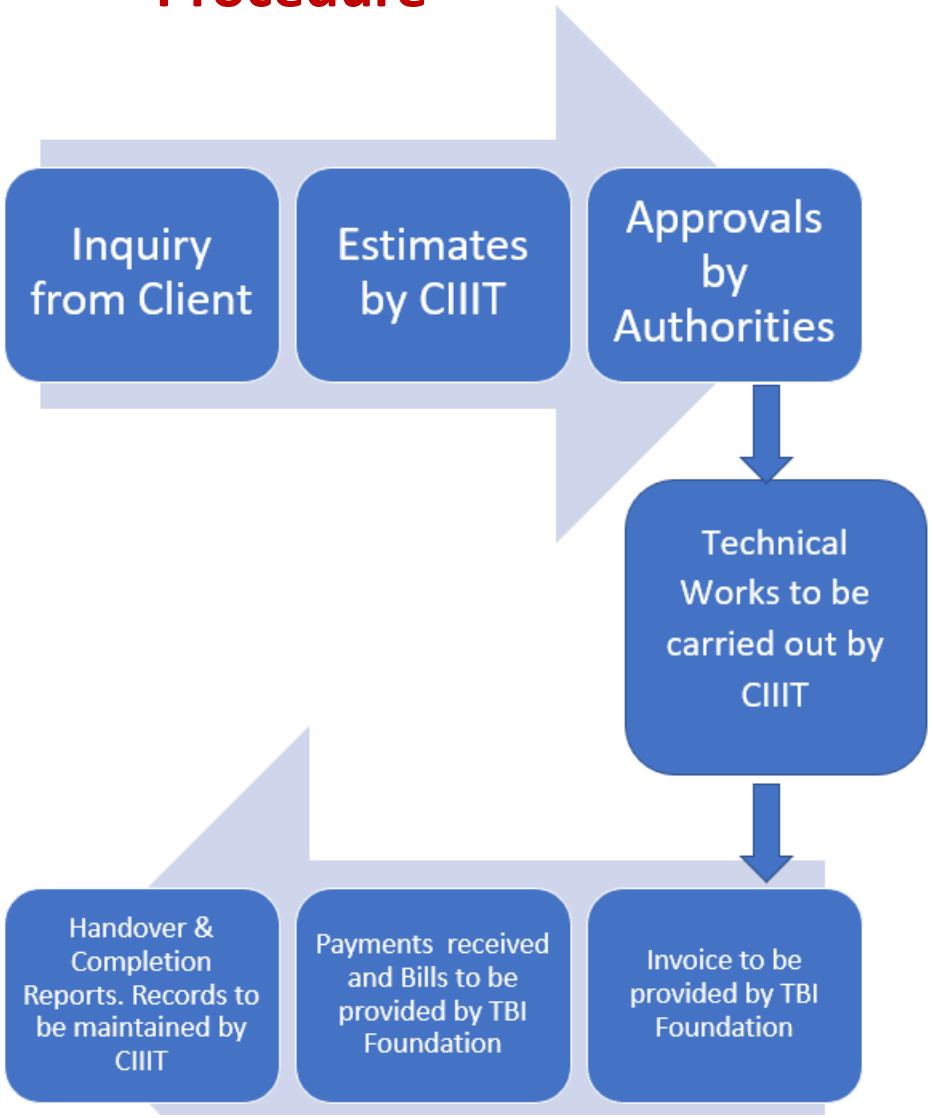






Procedure and forms for In-House Consultancy projects

Procedure



Form for In-House Consultancy projects

Inquiry-Estimates and Approvals

To be filled by the inquirer
Inquiry:
Name (Invoice will be generated in this Name)-
Designation-
Address-
Email-
Phone-
Title of the Project-
Nature of the Work expected –
Details provided (GAD etc)-
Sign-
Date-

Estimates to be provided by CIIIT-
With reference to your inquiry for

_____

At CIIIT, please find the estimates as below.

Sr. No	Item Description	Material	Weight/Length/Time	Remarks

As per existing norms and policies for material & operating cost etc., amount of Rs. _____ is to be paid to the TBI foundation account with following details.

Name of Account –
Name of the Bank –
Branch
Account No.-
IFSC-

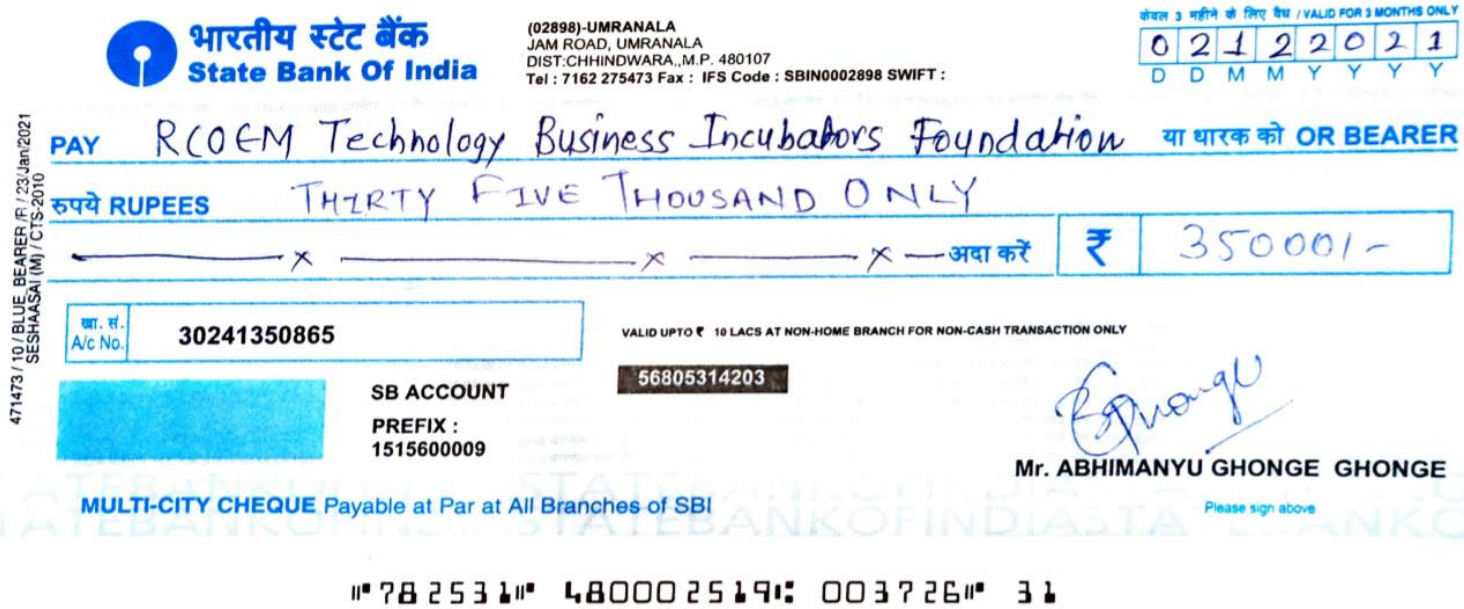
RCOEM – TATA – CIIIT, Nagpur

(In-House 3D Printing Project Summary)

Sr.No.	Name	Project Title	Start Date	Completion Date
1	Pranjali Tete (Ph.D. Scholar)	5 Cell Cabinet	1/12/2021	3/12/2021
2	Piyush Chhawsaria (RCOEM TBI Foundation Incubator)	Customized Printer Cabinet and Wall mount	2/12/2021	4/12/2021
3	Sangeeta Palekar (Faculty)	Design of Flow Cell	24/08/2021	25/08/2021

Extended utilization of CIIIT facilities

Sr. No	Activity	Industry	Expected operating charges	Duration	
1	Extended utilization of VMC	3-D Wallesly	Rs. 35,000 per month + CAM charges	3 months (Dec-21 to Feb 2021)	



Research Projects Completed at CIIIT, IPR Published –Patent 1

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202121022976 A

(19) INDIA

(22) Date of filing of Application :24/05/2021

(43) Publication Date : 03/09/2021

(54) Title of the invention : A DEVICE FOR GENERATING PROFILE ON PIPES

(51) International classification	:B24B0021000000, F24F0013020000, B24B0021180000, B21D0005120000, F16L0055180000
(31) Priority Document No	:NA
(32) Priority Date	:NA
(33) Name of priority country	:NA
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

(71)**Name of Applicant :**
1)Shri Ramdeobaba College of Engineering and Management
Address of Applicant :Shri Ramdeobaba College of Engineering and Management Katol Road, Gittikhadan, Nagpur-440013, Maharashtra, India Maharashtra India
2)HEDAOO, Animesh Tukaram
3)ALI, Syed Hamza
4)SHUKLA, Vishal.V.
5)GUPTA, Mahendra M.
(72)**Name of Inventor :**
1)HEDAOO, Animesh Tukaram
2)ALI, Syed Hamza
3)SHUKLA, Vishal.V.
4)GUPTA, Mahendra M.

(57) Abstract :
ABSTRACT A DEVICE FOR GENERATING PROFILE ON PIPES The present invention relates to a device for generating profile on pipes. The object of the proposed invention is to generate profiles at various angles on pipes of various diameters so that they can be welded easily. In present device components include frame of the machine, electric motor, pulley [106], grinding belt, pipes of various diameters, bushing [107] arrangement, table [101] with angular scale [109], advancement rod [105] mechanism for adjusting tension of the belt, holding grip [108] to hold the shaft of the pulley [106] and vertically moving bed [104]. For grinding at specific angles angular scale [109] is provided on the table [101]. The grinding belt rolls over the profile guide pipe. The profile guide pipe is mounted over smaller pulley [106], can be replaced to obtain the desired profile. Following invention is described in detail with the help of Figure 1A of sheet 1 illustrates front view of the frame.

No. of Pages : 15 No. of Claims : 4

Research Projects Completed at CIIIT, IPR Published –Patent 2

(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :24/05/2021

(21) Application No.202121022980 A
(43) Publication Date : 25/06/2021

(54) Title of the invention : A PNEUMATIC SAND RAMMER WITH VIBRATION ISOLATOR

(51) International classification	:E02D0003068000, E02D0003046000, E01C0019340000, E02D0003061000, B22C0015200000
(31) Priority Document No	:NA
(32) Priority Date	:NA
(33) Name of priority country	:NA
(86) International Application No	:NA
Filing Date	:NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number	:NA
Filing Date	:NA
(62) Divisional to Application Number	:NA
Filing Date	:NA

(71)**Name of Applicant :**
1)Shri Ramdeobaba College of Engineering and Management
Address of Applicant :Shri Ramdeobaba College of Engineering and Management Katol Road, Gittikhadan, Nagpur-440013, Maharashtra, India Maharashtra India
2)SHUKLA, Vishal V.
3)CHANDRAWANSHI, Nikhil
4)SHEIKH, Sadik
5)SINGH, Shubhanshu
6)SAWALAKHE, Pranil V.
(72)**Name of Inventor :**
1)SHUKLA, Vishal V.
2)CHANDRAWANSHI, Nikhil
3)SHEIKH, Sadik
4)SINGH, Shubhanshu
5)SAWALAKHE, Pranil V.

(57) Abstract :
ABSTRACT A PNEUMATIC SAND RAMMER WITH VIBRATION ISOLATOR The present invention relates to a pneumatic sand rammer with vibration isolator [101]. The proposed invention is used for ramming the sand uniformly around the pattern and provides reduction in strain and fatigue to sand ramming operator of a casting unit. Present rammer is handled by an operator just by moving it over the molding sand. During ramming, the operator experiences excessive vibratory forces transferred to operator™s body leading to fatigue and delay in production. Herein, the vibration isolation method is adopted to control the vibrations transmitted to the operator. Present device helps in reducing the undesirable vibrations transmitted to operator up to a great extent thus providing comfortable working conditions for the operator.

No. of Pages : 14 No. of Claims : 4

Research Projects Completed at CIIIT, IPR Published –Patent 3

(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :24/05/2021

(21) Application No.202121022981 A
(43) Publication Date : 25/06/2021

(54) Title of the invention : A DEVICE FOR MAKING FLOWER GARLAND

(51) International classification	:A41G0001040000, A47J0031400000, A47J0031360000, A01G0005040000, G11B0015675000
(31) Priority Document No	:NA
(32) Priority Date	:NA
(33) Name of priority country	:NA
(86) International Application No	:NA
Filing Date	:NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number	:NA
Filing Date	:NA
(62) Divisional to Application Number	:NA
Filing Date	:NA

(71)**Name of Applicant :**
1)Shri Ramdeobaba College of Engineering and Management
Address of Applicant :Shri Ramdeobaba College of Engineering and Management Katol Road, Gittikhadan, Nagpur-440013, Maharashtra, India Maharashtra India
2)CHAVHAN, Aditya Ajay
3)HEDAOO, Animesh Tukaram
4)ALI, Syed Hamza
5)GHUDE, Kaustubh Jitendra
6)SINGH, Ritik Raj
7)DEGWEKAR, Abhiram Sarang
8)SHUKLA, Vishal V.
9)GHUDHADE, Nitin P.
(72)**Name of Inventor :**
1)CHAVHAN, Aditya Ajay
2)HEDAOO, Animesh Tukaram
3)ALI, Syed Hamza
4)GHUDE, Kaustubh Jitendra
5)SINGH, Ritik Raj
6)DEGWEKAR, Abhiram Sarang
7)SHUKLA, Vishal V.
8)GHUDHADE, Nitin P.

(57) Abstract :
ABSTRACT A DEVICE FOR MAKING FLOWER GARLAND The present invention relates to a device for making flower garland. The object of the proposed invention is to make flower garland of flowers by giving reciprocating motion to the needle. Wherein the needle pierces the flowers in the cylinder and the ejection mechanism pushes the flowers to the thread. Two gripper mechanisms [102] are alternately use for holding the needle during both piercing and ejecting operation. The garland making machine consists of a cylindrical magazine [100] with slot for motion of pusher, spring [103] to retract the pusher, motor controlled gripper mechanism [102] and motor controlled whithworth quick return mechanism [101] for motion of needle, circular lid for opening and closing the cylinder. Two gripper mechanisms [102] are alternately used for holding the needle during both piercing and ejecting operation. Following invention is described in detail with the help of Figure 1 of sheet 1 illustrates basic diagram of proposed invention.

Ongoing Research Projects at CIIIT

1. Design development of Battery Swapping Switch
2. Mobility Robot development.
3. Multi-utility office tools products design projects. (Four different product).

Research Projects at CIIIIT (ongoing)

1. Wire Arc Additive Manufacturing utilizing Yaskawa Arc welding ROBOT (UG)
2. Development of Integrated 3-D printer & laser engraver Unit (UG)
3. Establishing procedures to Manufacture Transparent Hemispherical Dome (PMMA) (UG)

Research Projects at CIIIIT (ongoing/planned)

1. Development of an Attachment for Pick and Place ROBOT to measure coordinates of point cloud over an object
2. Developing composites of Bamboo to produce Bamboo Resin Board and bamboo embedded in glass
3. Developing Micro UATV
4. Development of device to estimate biting force of restored tooth

Trainings for RCOEM students at CIIIIT (ongoing 6 DEC to 21 Dec 2021)

Department of Mechanical Engg., RCOEM, Nagpur

RCOEM-TATA-CIIIT

Trainingc ourses for exclusively for Students of RCOEM

6 Dec to 21 Dec 2021

No registration/participation fees for RCOEM students

	First Half		Second Half	
Dates	**Slot 1**	**Slot 2**	**Slot 3**	**Slot 4**
	10 am to 11.15 am	**11.15 am to 1.30 pm**	**2 pm to 3.15 pm**	**3.15 pm to 5.30 pm**
6-Dec-21	**Additive Manufacturing /3-D Printing (VVS+Sumit Ramteke)**		**Additive Manufacturing /3-D Printing (VVS+Sumit Ramteke)**	
7-Dec-21				
8-Dec-21	**CATIA v 6 (BCB +Sumit Ramteke)**		**CATIA v 6 (AKJ +Sumit Ramteke)**	
9-Dec-21				
10-Dec-21	**VMC operations & CNC Programing (ADU + Mayur Patle)**		**VMC operations & CNC Programing (PSD + Mayur Patle)**	
11-Dec-21				
13-Dec-21	**Internet of Things (VVS + Sumit)**		**Internet of Things (EN faculty + Sumit)**	
14-Dec-21				
15-Dec-21	**Manufacturing Execution System (NPG + Mayur Patle)**		**Manufacturing Execution System (PSD + Mayur Patle)**	
16-Dec-21				
17-Dec-21	**Yaskawa Arc Welding Robot (GRN + AKJ)**		**Yaskawa Arc Welding Robot (GRN + AKJ)**	
18-Dec-21				
20-Dec-21	**MSC Adams (YMS)**		**MSC Patran, MSC Nastran (VVS)**	
21-Dec-21				

Lunch Break - 1.30 to 2 pm

Maximum batch of 20 students only (First come first serve basis)

Separate Certificates (offered by Department of Mech Engg) will be issued for each of the 2

Students can also register for seperately offered CIIIT courses of 40 hours duration (Rs 2,500/-) to get RCOEM-TATA-CIIIT certificates.

Registration for above courses will be taken through google forms by Sumit Ramteke & Sahil Somkuwar

Courses are open for all semsters of Mechanical Engg and Industrial Engg students

List of RCOEM students enrolled for ongoing Trainings at CIIIT – TOTAL 93

Sr. No	Name	Semester	Branch	Course
1	Harsh Purushottam Sharma	7th	Mechanical engineering	Finite Element Analysis (MSC nastran)
2	Mohd Anas Zafar	5	mechanical	Solid Modeling Catia V6
3	Mohd Anas Zafar	5	Mechanical	3-D Printing & Additive Manufacturing
4	KASHISH WANJARI	5th	Industrial Engineering	Manufacturing Execution System Engineering
5	Mohd Anas Zafar	5	mechanical	CNC Programming & VMC Operations
6	KASHISH WANJARI	5TH	INDUSTRIAL ENGINEERING	Industrial Robot Operator (Yaskawa Arc Welding)
7	Eshaan Casmir	5th	Mechanical	Finite Element Analysis (MSC nastran)
8	Mohd Anas Zafar	5	mechanical	Manufacturing Execution System Engineering
9	KASHISH WANJARI	5TH	INDUSTRIAL ENGINEERING	Finite Element Analysis (MSC nastran)
10	Mohd Anas Zafar	5	mechanical	Finite Element Analysis (MSC nastran)
11	Prathamesh Sanjay Varma	5th	Mechanical	Mechatronics & Internet of Things (IOT) Engineering
12	Aniket Pandurang Ghagare	5th	Mechanical Engineering	Mechatronics & Internet of Things (IOT) Engineering
13	Prathamesh Vinod Wandile	3	Mechanical	Mechatronics & Internet of Things (IOT) Engineering
14	AKSHAY ASHOK DAWARE	3rd	Mechanical	Mechatronics & Internet of Things (IOT) Engineering
15	Ojas Maywade	7th	Mechanical Engineering	Finite Element Analysis (MSC nastran)
16	Himanshu Subhash Yadav	Sixth	Industrial	CNC Programming & VMC Operations
17	Jinisha Zoting	5	Mechanical	3-D Printing & Additive Manufacturing
18	Himanshu Subhash Yadav	sixth	Industrial	Manufacturing Execution System Engineering
19	Jinisha Zoting	5	Mechanical	3-D Printing & Additive Manufacturing
20	Himanshu Subhash Yadav	Sixth	Industrial	Industrial Robot Operator (Yaskawa Arc Welding)
21	Himanshu Subhash Yadav	Sixth	Industrial	Finite Element Analysis (MSC nastran)
22	Lokesh Ramji Dwivedi	5 th	Mechanical	Mechatronics & Internet of Things (IOT) Engineering
23	vishvawardhan bais	3	mechanical	Solid Modeling Catia V6
24	Tushar Yogesh Chotai	3	Mechanical	3-D Printing & Additive Manufacturing

List of RCOEM students enrolled for ongoing Trainings at CIIIT – TOTAL 93

Sr. No	Name	Semester	Branch	Course
25	Priyansh Gupta	3rd	Mechanical	Mechatronics & Internet of Things (IOT) Engineering
26	Shrey Bharat Chachra	6	MECHANICAL	Mechatronics & Internet of Things (IOT) Engineering
27	Ram Bhute	V	Mechanical	Solid Modeling Catia V6
28	Saurabh Khanna	5th	Mechanical	Mechatronics & Internet of Things (IOT) Engineering
29	Yash Yenkeshwar	3rd	Mechanical	Mechatronics & Internet of Things (IOT) Engineering
30	Lavish Yadav	3	Mechanical	3-D Printing & Additive Manufacturing
31	ANSHUMAN PRAJAPATI	5TH	INDUSTRIAL ENGINEERING	CNC Programming & VMC Operations
32	Aaditya Chaturmohta	3rd	Civil Engineering	3-D Printing & Additive Manufacturing
33	Ram Bhute	V	Mechanical	Manufacturing Execution System Engineering
34	ANSHUMAN PRAJAPTI	5TH	INDUSTRIAL ENGINEERING	Industrial Robot Operator (Yaskawa Arc Welding)
35	ANSHUMAN PRAJAPATI	5TH	INDUSTRIAL ENGINEERING	Mechatronics & Internet of Things (IOT) Engineering
36	ANSHUMAN PRAJAPATI	5TH	INDUSTRIAL ENGINEERING	Manufacturing Execution System Engineering
37	ANSHUMAN PRAJAPATI	5th	Industrial engineering	Manufacturing Execution System Engineering
38	Anshuman Prajapati	5th	Industrial Engineering	Finite Element Analysis (MSC nastran)
39	Himanshu Pathak	6	Industrial	3-D Printing & Additive Manufacturing
40	Yashraj Rathod	5	Industrial Engineering	Industrial Robot Operator (Yaskawa Arc Welding)
41	Yashraj Rathod	5	Industrial Engineering	Manufacturing Execution System Engineering
42	Himanshu Pathak	6	Industrial	Industrial Robot Operator (Yaskawa Arc Welding)
43	Yashraj Rathod	5	Industrial Engineering	Finite Element Analysis (MSC nastran)
44	Yashraj Rathod	5	Industrial Engineering	Solid Modeling Catia V6
45	SIDDHESH ATUL ZADE	3rd	Mechanical	Mechatronics & Internet of Things (IOT) Engineering
46	Shivnarayan Mishra		Mechanical	3-D Printing & Additive Manufacturing
47	SIDDHESH ATUL ZADE	3rd	Mechanical	Manufacturing Execution System Engineering
48	SIDDHESH ATUL ZADE	3rd	Mechanical	Solid Modeling Catia V6

List of RCOEM students enrolled for ongoing Trainings at CIIIT – TOTAL 93

Sr. No	Name	Semester	Branch	Course
49	Yash Sharma	5	Industrial	3-D Printing & Additive Manufacturing
50	YASH Sharma	5	Industrial	Solid Modeling Catia V6
51	Aman Singh	V Sem	Mechnical Engineering	Solid Modeling Catia V6
52	Aman Singh	V Sem	Mechanical Engineering	Finite Element Analysis (MSC nastran)
53	Aman Singh	V Sem	Mechanical Engineering	CNC Programming & VMC Operations
54	Aman Singh	V Sem	Mechanical Engineering	Industrial Robot Operator (Yaskawa Arc Welding)
55	Amisha Karemore	V Sem	Mechanical Engineering	Solid Modeling Catia V6
56	Amisha Karemore	V Sem	Mechanical Engineering	Finite Element Analysis (MSC nastran)
57	Amisha Karemore	V Sem	Mechanical Engineering	3-D Printing & Additive Manufacturing
58	Aaryan Agrawal	Five	Mechanical	Finite Element Analysis (MSC nastran)
59	Om Ashok Sharma	5	Mechanical engineering	Solid Modeling Catia V6
60	Himanshu Trivedi	5th	Mechanical	CNC Programming & VMC Operations
61	UTKARSH THAKARE	5	INDUSTRIAL ENGINEERING	3-D Printing & Additive Manufacturing
62	Advait Narendra Khadgi	5th	Mechanical	3-D Printing & Additive Manufacturing
63	Advait Narendra Khadgi	5th	Mechanical	3-D Printing & Additive Manufacturing
64	Advait Narendra Khadgi	5th	5th	Solid Modeling Catia V6
65	Mrunal Manish Mohatkar	5	Industrial	Mechatronics & Internet of Things (IOT) Engineering
66	Surya Darnal	5th	Mechanical	Mechatronics & Internet of Things (IOT) Engineering
67	Surya Darnal	5th	Mechanical	Mechatronics & Internet of Things (IOT) Engineering
68	Om Ashok Sharma	5	Mechanical engineering	CNC Programming & VMC Operations
69	Sarvesh Kamlesh Naidu	6th	Mechanical	Mechatronics & Internet of Things (IOT) Engineering
70	Sarvesh Kamlesh Naidu	6th	Mechanical	Mechatronics & Internet of Things (IOT) Engineering
71	Saraswati gaonkar	3rd	Mechanical	Solid Modeling Catia V6
72	Surya Darnal	5th	Mechanical	Mechatronics & Internet of Things (IOT) Engineering

List of RCOEM students enrolled for ongoing Trainings at CIIIT – TOTAL 93

Sr. No	Name	Semester	Branch	Course
73	Sahil Tarekar	3rd	Mechanical	Solid Modeling Catia V6
74	Sahil Tarekar	3rd	Mechanical	Solid Modeling Catia V6
75	Ritesh Sahu	5	Mechanical	Finite Element Analysis (MSC nastran)
76	Tushar Yogesh Chotai	3	Mechanical	Solid Modeling Catia V6
77	Mayank Khandelwal	5th	Mechanical	Solid Modeling Catia V6
78	Mayank Khandelwal	5th	Mechanical	Finite Element Analysis (MSC nastran)
79	Aditya Manoj Choudhary	6th	MECHANICAL ENGINEERING	Solid Modeling Catia V6
80	Aditya Manoj Choudhary	6th	MECHANICAL ENGINEERING	Mechatronics & Internet of Things (IOT) Engineering
81	Om Ashok Sharma	6	Mechanical engineering	Mechatronics & Internet of Things (IOT) Engineering
82	Aditya Manoj Choudhary	6th	Mechanical	CNC Programming & VMC Operations
83	Om Ashok Sharma	6	Mechanical engineering	CNC Programming & VMC Operations
84	Mayank Deshpande	5th	Mechanical	Solid Modeling Catia V6
85	Mayank Deshpande	5th	Mechanical	Finite Element Analysis (MSC nastran)
86	vishvawardhan bais	3	mechanical	Industrial Robot Operator (Yaskawa Arc Welding)
87	Yash Manoj Pachisia	5th	Industrial Engineering	CNC Programming & VMC Operations
88	Omkumar G Patil	5	Industrial Engineering	CNC Programming & VMC Operations
89	Kunal Kamalkant singh	5	MEU	Solid Modeling Catia V6, Finite Element Analysis (MSC nastran)
90	Kunal Kamalkant singh	5	MEU	Solid Modeling Catia V6, Finite Element Analysis (MSC nastran)
91	Mayank Sarda	5	Industrial	Industrial Robot Operator (Yaskawa Arc Welding), Mechatronics & Internet of Things (IOT) Engineering, Manufacturing Execution System Engineering
92	Mayank Sarda	5	Industrial	Industrial Robot Operator (Yaskawa Arc Welding), Mechatronics & Internet of Things (IOT) Engineering, Manufacturing Execution System Engineering
93	Ritesh Sahu	5	Mechanical	Mechatronics & Internet of Things (IOT) Engineering, Manufacturing Execution System Engineering, Finite Element Analysis (MSC nastran)

Sample Certificates

RCOEM
Shri Ramdeobaba College of Engineering and Management, Nagpur
RCOEM TBI Foundation
Contagiously Innovative

Shri Ramdeobaba College of Engineering and Management, Nagpur

Center for Invention Innovation Incubation & Training (CIIIT)

Department of Mechanical Engineering

TATA
TATA TECHNOLOGIES
CENTER FOR INVENTION INNOVATION INCUBATION & TRAINING
CIIIT

Certificate of Participation

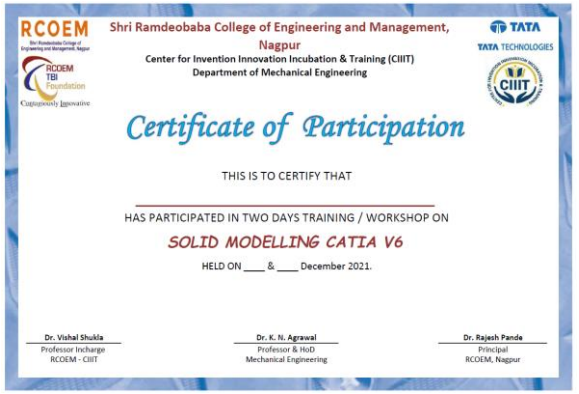
THIS IS TO CERTIFY THAT

HAS PARTICIPATED IN TWO DAYS TRAINING / WORKSHOP ON

3-D Printing & Additive Manufacturing

HELD ON ____ & ____ December 2021.

Dr. Vishal Shukla	Dr. K. N. Agrawal	Dr. Rajesh Pande
Professor Incharge	Professor & HoD	Principal
RCOEM - CIIIT	Mechanical Engineering	RCOEM, Nagpur



4. Faculty Trainings Planned for Softwares Jan-Feb 2022

Sr. No.	Course Titles (Softwares/Machines)	Proposed Dates	Proposed Timings
1	MSC Nastran/Patran/Apex Structures	10-14 Jan 2022	9-11 am
2	Delmia	9 – 14 Feb 2022	2-5 pm
3	scFlow	17-21 Jan 2022	9-11 am
4	Easy5	10-14 Jan 2022	2-5 pm
5	Marc	17-21 Jan 2022	2-5 pm
6	FEAST	16-21 Feb 2022	2-5 pm

P.S.- Above is a tentative schedule and is subjected to change as per actual availability of trainer and participants. Training Hours may be revised as needed by RCOEM, TATA Technologies & SMEs. Some courses that are not covered in the above schedule shall be planned in August 2021. Name of the Trainer shall be identified and informed by TATA technologies in due course of time.

Thank You

CIIIT Audit by external agency –

LOYA BAGRI & CO.
CHARTERED ACCOUNTANTS
****

R. S. PALIWAL	B.COM., F.C.A.
R. V. LOYA	B.COM. F.C.A
M. V. LOYA	B.COM. F.C.A D.I.S.A (ICA)
L. V. LOYA	B.COM. F.C.A
SMT. KAVITA LOYA	B.COM. F.C.A

MA-17, MIG Colony, S. A. Road,
Laxmi Nagar, Nagpur – 4 4 0 0 2 2
****

Office : 2229666, 67 & 68 (LN), 2766229(GB)
Email : loyabagri.ngp@gmail.com
Website : www.loyabagri.com

CERTIFICATE

TO WHOM-SO-EVER IT MAY CONCERN

We have verified the **Memorandum of Understanding ("MOU")** dt. 23rd October 2019, between **Shri Ramdeobaba College of Engineering & Management**, Nagpur ("RCOEM") and **Tata Technologies Limited ("TTL")** for setting up of a Center for Invention, Innovation, Incubation & Training ("CIIIT") at RCOEM.

RCOEM-TATA Technologies – CIIIT comprises of 3 competency centers as :

1. **"Innovation Design Incubation Center"** consisting of professional commercial softwares in CAD, CAM, FEA, CAE, CFD and MBD like;
   a. DS Pack (Dassault System Pack) (Qty - 1)which inclues following softwares:
      i. 3-D Experience (Dassault)
      ii. Delmia (Dassault)
   b. MSC Pack (Qty - 1) which inclues following softwares:
      i. MSC Nastran
      ii. MSC Apex Structures
      iii. MSC Apex Modeler
      iv. Patran
      v. Easy5
      vi. Marc
      vii. Adams Structures Bundle
      viii. Adams Machinery Studio
      ix. ScFLOW
2. **"Integrated Advanced Manufacturing Center"** consisting of Arc-welding Robot, Pick-n-place Robot, Vertical Machining Center (VMC), Manufacturing Execution system (MES), 3-D Printer & 3-D Scanner.
3. **"Machine Learning & IoT"** consisting of e-learning platform i-Get-it and integrated IoT controller board with ESP, Arduino nano & Raspberry Pi with multiple sensors required in research & development in applications of Home Automation, Agriculture, Health Technologies, e-mobility & Retail sectors.

Para 6 of the MOU deals with consideration for set up of CIIIT is as reproduced below:

"6. CONSIDERATION

a. The parties have ascertained that the total cost of setting up the CIIIT center at RCOEM is Rs. 21.50 crore, which is exclusive of taxes.

b. It is agreed that RCOEM will pay an amount of Rs. 3.25 crore plus taxes to TTL as a consideration for implementation of CIIIT as their share.

c. Rest TTL along with the partner companies will bear as a one-time set up grant to RCOEM in the form of discounts.

d. Payment Terms: At the time of signing MOU, RCOEM will pay 50% amount i.e. Rs. 1.625 crore. Remaining 50% plus taxes will be paid before 3rd January 2020."

(Contd...2)

LOYA BAGRI & CO.
CHARTERED ACCOUNTANTS
****

R. S. PALIWAL	B.COM., F.C.A.
R. V. LOYA	B.COM. F.C.A
M. V. LOYA	B.COM. F.C.A D.I.S.A (ICA)
L. V. LOYA	B.COM. F.C.A
SMT. KAVITA LOYA	B.COM. F.C.A

MA-17, MIG Colony, S. A. Road,
Laxmi Nagar, Nagpur – 4 4 0 0 2 2
****

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Website : www.loyabagri.com

Para 2(b) of the MOU deals with the role of TTL is as reproduced below:

"2. ROLE OF TATA TECHNOLOGIES

b Provide and arrange Hardware, Technology Tools, Equipment & Machinery with required configuration needed for running the technology solutions in the CIIIT centers. ***(BOM as per Annexure attached with the document).***"

We have verified the items mentioned in BOM (as referred in Para 2 of MOU reproduced above), which is enclosed as "Annexure A" to this Certificate, by performing physical count of such items at CIIIT, RCOEM and by tracing such items to the item inward register maintained at CIIIT, RCOEM. We have also verified the licences for the above mentioned softwares w.r.t the ownership of these licences.

Based on our verification and other information and explanations made available to us, we hereby certify that the items mentioned in the BOM annexed to the MOU have been duly received by RCOEM. We further certify that the license of softwares received are issued in the name of RCOEM.

FOR LOYA BAGRI & CO.,
Chartered Accountants,
(Firm Registration No. 105658W)

Nagpur, dated the,
15th January, 2021.

(Issued in Duplicate)

(LALIT V. LOYA)
Partner (M.No. 042153)
(UDIN : 21042153AAAAGJ7568)
LOYA BAGRI & CO.
Chartered Accountants
MA/17, MIG Colony,
S. A. Road, Laxmi Nagar,
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