

# COLLABORATE TO EQUIP



## SHRI RAMDEOBABA COLLEGE OF ENGINEERING AND MANAGEMENT, NAGPUR

Ramdeo Tekdi, Gittikhadan, Katol Road,  
Nagpur - 440 013 (M.S.) India



<http://www.rk nec.edu>



(91)-(712) - 2580011  
9607980531 / 2 / 3 / 4 / 5 / 6

Print Tech, Ngp. M.9373104407



SHRI RAMDEOBABA  
COLLEGE OF ENGINEERING  
AND MANAGEMENT, NAGPUR - 440 013



## ABOUT RCOEM

Shri Ramdeobaba College of Engineering and Management (RCOEM) was founded in 1984 by Shri Ramdeobaba Sarvajanic Samiti, a registered charitable trust, in Nagpur, India. The institute is known for its ethical values instilled with sense of commitment and responsibility. The college has earned good name and is ranked amongst top colleges in India for Engineering and Management education. Today, RCOEM is one of the most sought after institutes in Central India.



### Faculty

- 300+ Faculty
- 120+ Ph.D. faculties
- 1700+ Research Papers Published



### Ranking and Accreditation

- NAAC Accredited A
- NBA Accredited
- NIRF 100-150 in the year 2018



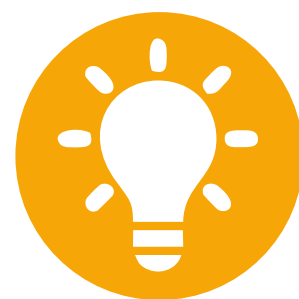
### National and International Collaborations

- 11 MoU's with reputed universities of USA, UK, Australia and France
- 35 MoU's with Government Organizations and Industries



### Proud Heritage

- Achieving Excellence
- Consistently Prolific Placement
- Connected and Contributing Alumni



### Vibrant Industry Institute Interaction (III) and Research & Development (R&D) cell



### 80 State of Art Labs with Research and Training Facility

## INDUSTRY INSTITUTE COLLABORATION

RCOEM has always emphasized on strong industry institute relationship. The institute encourages its faculty and students to interact with industry in all possible ways with the spirit of deriving mutual benefit. The major modes of interaction are listed below:

- Professional consultancy by the faculty to industries.
- Industrial testing by faculty & technicians at site or in laboratory.
- Participation of industry professionals in curriculum design, delivery and assessment.
- Joint research programmes and field studies by faculty and people from industries.
- Industry exposure to students and faculty through industry visits, summer internship, practical training and industry projects.
- Visits of industry executives and practising engineers to the Institute for seeing research work and laboratories, discussions and delivering lectures on industrial practices, trends and experiences.
- Memorandum of Understanding between the Institute and industries to bring the two sides emotionally and strategically closer.
- Human resource development programmes by the faculty for practicing engineers.
- Workshops, conferences and symposium with joint participation of the faculty and the industries.
- Professorial Chairs sponsored by industries at the Institute.
- R&D Laboratories, Center of Excellence sponsored by industries at RCOEM.
- Scholarships/fellowships instituted by industries at RCOEM for students.

**Contact Person :** Dean III

✉ [iii@rknec.edu](mailto:iii@rknec.edu)





## WHY RCOEM AS CONSULTING PARTNER



RCOEM is "HOST INSTITUTE" by Ministry of Micro, Small and Medium Enterprises, Government of India, under Scheme "Support for Entrepreneurial and Managerial Development of SMEs through Incubators" and ASPIRE : A Scheme Promoting Innovation, Rural Industry & Entrepreneurship in the region.

RCOEM Technology Business Incubators Foundation, Section 8 company has been incorporated by college to give momentum to innovation, entrepreneurship and incubation support activities. It is a flagship initiative of the institute, intended to build a strong ecosystem for nurturing innovation and startups in the region that will drive sustainable economic growth and generate employment opportunities.

RCOEM RGSTC-TIFAC-MSME Internship Scheme :  
3 years Successful Execution of Technology Information Forecasting, and Assessment Council (TIFAC)-Rajiv Gandhi Science and Technology Commission (RGSTC)-MSME Internship Scheme in Nagpur region. Established a platform for the 50 MSME industries to access R&D and technical support, leveraging the knowledge and obtained workable solutions.

- Registered Lean Manufacturing Consultant with Quality Council India (QCI)
- MOU with MGIRI (Mahatma Gandhi Institute for Rural Industrialization), Maharogi Seva Samiti (Anandwan) for development and commercialization of low cost technologies for rural / agro industrialization.

Knowledge Management Partner Institution (KMPI) of Consultancy Development Centre (CDC), Government of India.



- ### PSU's
- Maharashtra State Police Housing & Welfare Corporation Ltd.
  - Manganese Ore India Limited (MOIL)
  - Bharat Petroleum Corporation Ltd. (BPCL)
  - Western Coalfields Ltd. (WCL)
  - Atomic Mineral Directorate Govt. of India
  - Ordnance Factory Institute of Learning, Ambazari, Nagpur (OFIL)
  - Maharashtra State Road Transport Corporation (MSRTC)
  - Maharashtra State Electricity Distribution Company (MSEDCL)
  - Power Grid Corporation of India Ltd.
  - Orange City Waters (OCW)
  - Mahagams, Government of India, Ministry of Defense, Dept. Of Ex-servicemen Welfare, New Delhi
  - Indian Air Force
  - AG Office
  - National Academy of Defense Production
  - Mineral Exploration Corporation Ltd.

- ### MSME's
- Navaratna Industries
  - Waghmare Food Products, Pvt. Ltd., Nagpur
  - Gadre Motors
  - DMIMS Wardha
  - Dhawad & Associate
  - Aarti Infra-Projects Pvt. Ltd.
  - Vidarbha Irrigation Development Corporation
  - Gimatex Industries Hum Aspen Wellness Pvt. Ltd.
  - BVB Nagpur
  - DRA Consultant Heat Treat Well Pvt. Ltd.
  - Savita Auto Industries
  - Aaakar Industries Pvt. Ltd.
  - VS Autotech Pvt. Ltd.
  - Spacewood Office Furnitures
  - Khosla Castings, Dhruv Trensnet Pvt. Ltd., Nagpur
  - Signtronics Pune

- ### Private Organizations
- Aaditya Infrastructure, Nagpur
  - Vidharbha Premier Corporation Housing Society
  - Mahindra and Mahindra
  - Hindalco Industries Ltd.
  - Indo Rama Synthetics Ltd.
  - J. K. Paper Mills
  - Aditya Birla Group
  - TAL Manufacturing Solutions Ltd.
  - Ispat Industries
  - MANAS Agro Industries Infrastructure limited

## OUR ESTEEMED CLIENTS

Management Development Program (MDP), Consultancies and Training

## OUR AREAS OF EXPERTISE

### ENGINEERING

#### CIVIL ENGINEERING

**CONCRETE TECHNOLOGY**  
**Tests/Consultancy :**  
 Test on Cement, Aggregate, Bricks & AAC Blocks, Concrete Non Destructive Tests, Mix design.

**TRANSPORTATION ENGINEERING**  
**Tests/Consultancy:**  
 Material test including sub grade, Bitumen, Aggregates, Road Safety Audit.

**INDUSTRY AUTOMATION :**  
 Motor drives, Data acquisition, HMI design, PLC & SCADA systems, IoT support

#### ELECTRONICS ENGINEERING

**ENVIRONMENTAL & WATER RESOURCES ENGINEERING**  
**Tests / Consultancy :**  
 Water and waste water tests like pH, DO, Conductivity of water and waste water and various chemical properties of water, Water auditing, Design of water distribution systems.

**SURVEY**  
 Surveying and Estimation Work using Total Station and Hand Held GPS.

**ELECTRONIC SYSTEM DESIGN:**  
 Analog/Digital circuit design, PCB design, Microcontroller based system design, Communication systems, GPS tracking solutions, DC-DC convertors, Power supply design, Battery charger

**VISION BASED SYSTEMS :**  
 Signal processing, Image processing, Smart Computing

**GEOTECHNICAL ENGINEERING**  
**Tests/Consultancy:**  
 Index Property Tests (Liquid Limit, Plastic Limit , Sieve Analysis, Moisture Content etc), Compaction and Consolidation Tests , Shear strength test, Permeability test, Field Tests, Determination of bearing capacity etc.

**STRUCTURAL ENGINEERING**  
**Tests/Consultancy:**  
 Tests on materials including tension test, bending test, torsion test, Structural Designing & Proof checking.

**ANTENNA DESIGN & 3D PRINTING**  
**Sensor design and development**

#### ELECTRICAL ENGINEERING

**Electrical System Design:**  
 Design of Electrical Substation up to 33KV, BOQ Preparation

**Reactive Power Solutions**  
 Design of Automatic Power Factor Controller Panels, Power Quality Parameter Evaluation, Harmonics Analysis.

**Industrial Automation**  
 Design/Development of customized automation systems, Parameter Logging, MODBUS/Serial communication based system.

**High Voltage Testing**  
 Testing/Determination of Electrical Parameters of Transformer Oil, Solid Insulation, High Voltage Testing of Electrical Equipments & Insulation, Testing the dielectric Properties of Gases/Gas Mixtures

**Power Electronics Controller Design**  
 Design and development of Power electronics controller.



#### INDUSTRIAL ENGINEERING

Productivity and Optimization  
 Quality and Reliability

Work Systems Design  
 Product Design and Development  
 Plants Simulation, Process improvement, ISO 9000 & 14000

**Mechanical System Design**  
 Design of Mechanical Systems like, gear box, power transmission systems, pressure vessels, customized and application specific machines are designed, fabricated and tested before technology dissemination

#### IT AND ITES

**IMAGE PROCESSING**  
**Tests / Consultancy :**  
 Projects based on Image and video processing using latest tools and techniques

**DATA ANALYTICS**  
**Data Warehousing and Mining :**  
 Different Warehousing Schemas, Various Data Mining algorithms and Applications.

Statistical Analysis and Hypothesis Testing in Data Analytics.

#### MECHANICAL ENGINEERING

**Finite Element Analysis**  
 Finite Element Analysis of structural, thermal and fluid flow systems to the level of national international standards are undertaken

#### ANDROID APPLICATION DEVELOPMENT:

Sqlite databases, Layout, intent, content Provider, Animation, Sensors and the application development.

**ARTIFICIAL INTELLIGENCE**  
**Tests / Consultancy :**  
 Development of various robotic platforms

**MACHINE LEARNING**  
**Tests / Consultancy :**  
 Human Computer Interaction, Predictive Techniques

**CLOUD COMPUTING : AWS (Amazon Web Services) :**  
 IAM, Sr for storage purpose, various services EC2, Virtual Machine Creation, Virtual private networks, VPC, Cloud Trail/Watch

**INFRASTRUCTURE SERVICES**  
**Linux Fundamentals :**  
 Installation of Linux Operating System, various tools and techniques commonly used by End users and Linux system Administrators, insights of configuration of different Infrastructure Services like FTP, Mail and DNS.

#### MANAGEMENT

Productivity Studies

Brand Equity Management

Competency Mapping

Plant Engineering

Diagnostic Surveys

Working Capital Management

Project Financing & Assessment

HR Audit & Surveys

Website Development

Online and offline Assessment Module

Software Expertise

Wireless Sensor Networks

## OUR DEPARTMENTS

### CIVIL ENGINEERING

The Civil Engineering Department offers testing and consultancy services in the field of :

- Geotechnical Engineering
- Water and Waste water Engineering,
- Concrete and Non-destructive Testing
- Transportation Engineering,
- Quantity Surveying and Costing
- Structural Engineering
- Survey

#### Softwares Available :

- AutoCAD 2016
- STAAD Pro v8i
- PRIMAVERA V6.0
- Ansys
- SAP
- Bentley Bundle (Water Gems)
- ArcGIS

#### Major Equipment Available :

Digital Universal Testing Machine (UTM), Micro Processor Based Compression Testing Machine, Ultrasonic flow meter, Ultrasonic Pulse Velocity meter, Benkelman beam test setup, Total Station, Hand held GPS, SPT setup, Pressure meter for SBC of soil, Tri-axial shear test setup, Direct Shear test setup, Abrasion Testing machine, CBR test setup, Spectrophotometer, water quality analyzer etc.

**Contact Person :** Head (Civil Engineering Department)

✉ hodcivil@rknec.edu



### COMPUTER SCIENCE, IT & MCA

The Computer Science & Engineering, Information Technology and Computer Application Department offers testing and consultancy services in the field of :

- Natural Language Processing
- Artificial Intelligence
- Machine Learning
- Image Processing
- Data Science

#### Softwares Available :

- MATLAB
- Netsim
- Java
- Python
- Visual Studio 6.0 education + Additional 5 user License
- Rational Rose Suite Enterprise

#### Major Equipment Available :

**AIX Server, HPE 380 Gen 9 Server :** Intel XE non S-2620V4/64 GB/4\* 1TB server 2 U 2T 2.1GHz/ 8 Core, **Fire Bird VI Robotic Research Platform**

**Contact Person :** Head (Computer Science & Engineering Department)

✉ hodcs@rknec.edu

Head (Information Technology Department)

✉ hodit@rknec.edu

Head (Computer Application Department)

✉ hodmca@rknec.edu



## ELECTRICAL ENGINEERING

Offers testing and consultancy services in the field of :

- Electrical System Design up to 33kV level
- Reactive Power Compensation Solutions
- Industrial Automation
- Energy Bill analysis
- High Voltage Testing
- Power Electronics controller design

### Softwares Available :

- PSIM
- ETAP
- MATLAB
- DSA Tools



### Major Equipment Available :

Power Quality Analyzer (HIOKI), Impulse Generator, Oil Test Kit, High Voltage AC and DC Test Set, Inclined Plane Tracking Test Equipment, Relay Test Kit, Digital Storage Oscilloscope (200MHz) with Current and High voltage Probes, Mixed Domain Oscilloscope (MDO), Solar PV array Analyzer, Battery Capacity Tester.

**Contact Person :** Head (Electrical Engineering Department)  
✉ hodelectrical@rknec.edu



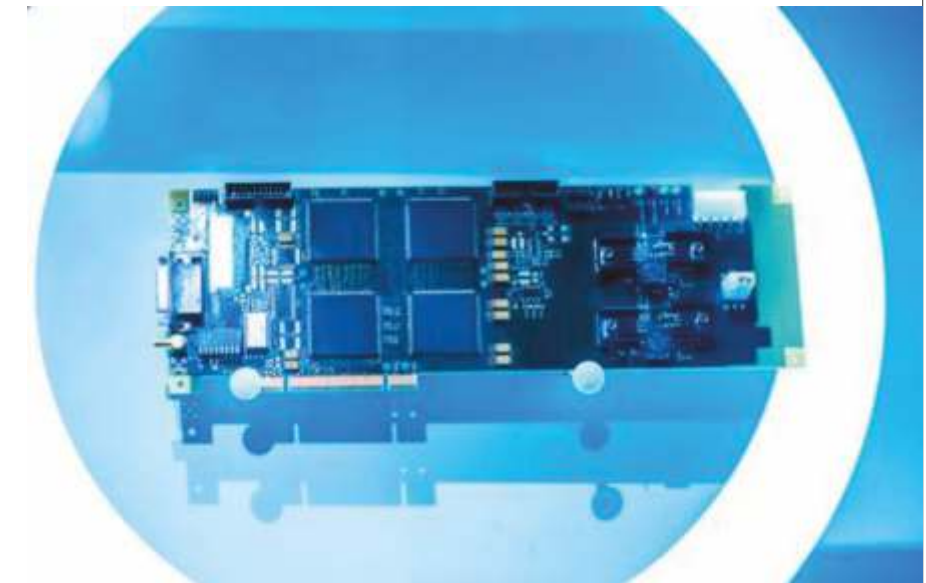
## ELECTRONICS ENGINEERING

Department of Electronics Engineering, Electronics Communication and Electronic Design and Technology offers testing and consultancy services in the field of:

- PLC, SCADA training
- Electronics system design
- Industry automation
- Sensor Design
- PCB prototyping
- Antenna Design
- 3D printing Services

### Softwares Available :

- Mentor graphics CAD tool for IC design
- COMSOL Multi-physics
- Matlab
- XILINX Vivado
- Orcad Suite
- Xilinx ISE
- Tanner Tool
- HFSS antenna Design
- NIELVISII+



### Major Equipment Available :

- DSO 4 channel, 200MHz, 1.4 Hz
- Spectrum analyzer, 1GHz, 3 GHz
- Logic analyzer cum pattern generator 48 channel, 100mhz
- Arbitrary function generator
- LCR meter
- 3D Printer, rapid PCB prototyping set up

**Contact Person :** Head (Electronics Engineering Department)  
✉ hodelectronics@rknec.edu  
Head (Electronics Communication Engineering Department)  
✉ hodec@rknec.edu  
Head (Electronics Design Technology Department)  
✉ hodedt@rknec.edu

## INDUSTRIAL ENGINEERING

**Industrial Engineering** provides us the way of thinking about continual all round improvement. It develops a mindset of progress for every real life situation.

It deals with the optimization of complex processes, systems, or organizations. Industrial engineers work to eliminate waste of time, money, materials and other non value adding resources.

Industrial engineering is concerned with the development, improvement, and implementation of integrated systems of man, machine and materials.

### In what way it can benefit your organization ?

- Productivity Improvement
- Increased ability to do more with less.
- Lean Thinking
- Improving Work Safety.
- Customer Satisfaction through quality improvement.
- Design and Development of Work systems by using principles of ergonomics.
- Resource Optimization
- Increased profitability.
- Standardization.

### Services provided by us:

- Work Study
- Facilities and Layout Planning
- Work Systems Design
- Industrial Safety
- Product Design and Development
- Lean Manufacturing
- Total Quality Management / Six Sigma
- ISO and BIS
- Systems Reliability and Maintenance
- Productivity Improvement
- Quality Cost

### Infrastructure Facilities Available:

#### Major Equipment

- Fully equipped workshop for all kind of fabrication work.
- Spirometer.
- Sound Level Measurement Apparatus.
- Illumination Measurement (Dark Room)
- Anthropometric Measurement Kit.
- Motion Camera for Work Study.
- Treadmill Test.
- Body Fat Measurement.
- Blood Pressure & Heart Rate Measurement.
- Vibration Signature Monitoring.
- CNC Machine.
- Electric Discharge Machine (EDM).

#### Softwares Available :

- SIMUL 8 • MINITAB
- SIMIO • TECHNOMATIX
- SPSS • MDAT

**Contact Person :** Head (Industrial Engineering Department)  
✉ hodindustrial@rknec.edu

## MECHANICAL ENGINEERING

The Mechanical Engineering

Department offers consultancy services in the field of :

- Mechanical System Design
- Elevator selection & installation
- Finite Element Analysis
- EOT Crane Design
- Additive manufacturing & 3-D Printing
- Solar Energy Applications
- Machine Condition Monitoring, diagnostic & vibration signature Analysis
- Design of orthopedic & dental implants
- Design of hydraulic & pneumatic systems
- Mechanical Roll Over Protection devices
- Material Testing
- Precision Manufacturing

#### Softwares :

- AutoCAD 2016
- Creo
- Solid Modeling Software
- ANSYS 14.5
- MS Project
- PRIMAVERA
- SIMUL-8

**Contact Person :** Head (Mechanical Engineering Department)  
✉ hodmechanical@rknec.edu



#### Major Equipment Available :

Stratagem make Julia dual 3-D Printer, CNC Machine, Izod-Charpy impact testing machine, HMT Machines



## MANAGEMENT TECHNOLOGY

### About DMT

Department of Management Technology is the youngest department of RCOEM but has been making progress steadily towards achieving its mission that of providing education of highest standards. DMT, as it is known, has 27 faculty members drawn from different specializations like Marketing, Finance, Human Resources, Operations and Data Analytics. This creates a balanced blend of expertise that can be useful to you in eliminating your pain points and reinstating your desired business productivity.

### Why DMT as your Consulting Service Partner

DMT aligns the consulting engagements to your business requirements and fulfills them in a professional manner. In line with its vision, through consulting assignments, DMT envisages two areas of engagement:

1. Provision of solutions to industries and companies in the areas which are their pain points, and also through provision of end-to-end business solutions to help companies realize their true vision and growth.
2. Provision of training to the industries based on their requirement and helping them in their skill development programmes.

### The DMT Advantage

By appointing us as your service partner, you get the expertise of our people, who draw on their field experiences and exposure to diverse organizations, to enhance your business productivity. The faculty members have a diverse background and come from fields like Manufacturing, Telecommunications, Finance (CAs, ICWAs, MS Finance), and Sales.

### The Tangibles

- Cost Savings through Process Improvements.
- Assistance in Project appraisals and financial audits.
- Convergence of Primary data and secondary data to help you with predictive analytics.
- Effective feedbacks through diagnostic surveys and identification of areas of improvements.



### The Process

- Clearly defined deliverables
- Time Bound Solutions
- Regular Feedbacks
- Redefining the Deliverables if required as the work progresses
- Post Engagement Services



Contact Person : Head (Management Technology Department)

✉ [hodmba@rknec.edu](mailto:hodmba@rknec.edu)