

25 years of excellence in Technical Education...

Shri Ramdeobaba Kamla Nehru Engineering College, Nagpur



Industry Institute Interaction Cell



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About RKNEC

Nagpur, the Orange City of India is one of the most progressive cities of Maharashtra and the biggest city of Central India. The region has some of the investments coming from reputed companies such as Boing India, Mahindra & Mahindra, Indorama, Ispat Industries, Persistent Systems and many more. Shri Ramdeobaba Kamla Nehru Engineering College (SRKNEC) as it is known was founded in 1984 and is located in the heart of Nagpur City. Considered to be one of the best institutions in the country, the college offers 10 UG level programmes and 6 Post graduate programmes as in M.Tech, MBA and MCA. SRKNEC has been rated as one of the top 50 institutions in the country in the league of IITs and NITs. As a self-financed private engineering college, it has been ranked 20th in India and 2nd in Maharashtra (Outlook Magazine, June 28th 2010 Issue).

The faculty members of SRKNEC are rich in experience with 15 Doctorates and over 100 Post Graduates. The teachers have contributed their knowledge in the form of patents and also in various Journals and conferences in the form of research papers and articles. Some of the faculty members have also carried industrial researches and valued consultancy work for Industry as mentioned in the attached department inserts.

Research and Development

SRKNEC being a twenty five year old institution has developed a vibrant III Cell with majority of the projects being channelized through it. The III cell lays a strong emphasis on research based education wherein the skills of the teacher as well as the students are honed as a direct result of these industry based activities. The III cell aims to further augment the interaction with industry to create opportunity for every faculty member to work in a project allotted so as to put his knowledge to application. With this aim, all those faculty members who are doctorates or are pursuing doctoral research have been identified as the potential Project Associates. All those faculty members who have experience in implementing projects are the Project Leads who help the project associates in gaining hands-on experience in planning of research projects and implementation.



The research and development field spans various technological domains like Database Technologies to Marketing and Export based projects in Management. The Project leads have worked in technologies such as Structural Design, Graphics, System Integration, Industrial Automation, VLSI, RF Designs, Environmental Monitoring and Controls, Value Engineering, Ergonomics, TQM, Marketing, HR and Finance.

The Labs

To concur on the vision, the institution has developed some research laboratories at a collective cost of 15 crores offering state of the art instruments and equipments well suited for industrial use. Following labs are made available for industrial use:

- ◆ VLSI
- ◆ PCB
- ◆ DSP
- ◆ Project
- ◆ Concrete Technology
- ◆ Fluid Mechanics
- ◆ CAD/CAM
- ◆ Psychology

Centre for Excellence

We also vie for a Centre of Excellence wherein we can offer our infrastructure like building spaces and labs for technology development. In this centre, the company can setup their labs and delegate appropriate number of employees at the control level who will work jointly with our Research Scholars for evolving appropriate newer technologies.

. This symbiotic relationship will help the company reduce their infrastructural expenditure as well as the expenditure of training the Human Resources. In return the institution gets associated with a highly organized research activity wherein its faculty gets associated.

This brochure in your hand is the first step in effecting the revered vision.....

Appeal

RKNEC has established itself as a place for quality engineering education with all round development of students and emphasis on building high moral character. This has been made possible because of vision of our chairman Shri Banwarilal Purohit shaped effectively by competent leadership provided by Shri Govindlal Agarwal since the inception of the college. After acquiring the status of being most sought after college for engineering education we now aim at making our presence felt in business/corporate world and envisage acquiring the status of most sought after place for solutions to Industrial problems.

We hope to build a long lasting relationship with you for a symbiotic growth.

The details of what we are and our capacity to provide the solutions to industrial problems both engineering and management is furnished herewith.

Basic Sciences: Chemistry

This group concentrates on providing solutions to the industry in the field of Testing of Petroleum Products, Waste Water analysis, Air Quality Monitoring and Soil Analysis.

Thrust areas identified:

- Testing of Petroleum Products as per IS Standards
- Waste Water Analysis as per IS Standards
- Ambient Air Quality Monitoring
- Development of Pollution Control Methods
- Cement Analysis
- Soil Analysis
- Selected Metal Analysis

Some Valued Clients:

- Tata Projects Ltd.
- MSEB
- MOIL
- CMRI Regional Centre
- Seagram Distilleries Ltd.
- Dinshaw's Dairy Food Ltd.

Available Instrument, Testing Equipments & Facilities:

- Spectrophotometer
- High Precision Weighing Balance (Metler)
- Colorimeter
- Heating Oven
- Redwood Viscometers
- Pensky – Martin's and Able's Closed Cup Flash Point Apparatus
- Cleveland Open Cup Flash Point Apparatus
- Cloud and Pour Point Apparatus

For any queries & further Details Contact:

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agnihotripw@rknec.edu

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Basic Sciences: Physics

This group carries out development of programmes on Modeling and Simulations for Engineering students using Mathematics. These simulations are based on their syllabus. The group is also involved in research on numerical computing, curve fitting and luminescence.

Projects Handled and Training Imparted:

- Various Synthesis Procedures for Phosphor Preparation
- Writing Patent/ Project reports
- Handling Spectrophotometer Hitachi F-7000 for recording excitation and emission graphs

Thrust areas identified:

(1) Luminescence

- Synthesizing high quality industrial phosphors for their specific needs
- Carrying out photoluminescence analysis of industrial phosphors
- Setting up research lab
- materials synthesis and characterization

(2) Mathematical Modelling

- Development of notebooks as study material in courses taught by the Department in variety of areas including Applied Physics, Electromagnetic Fields, Fields and Radiating Systems, Engineering Mathematics, and Chemistry
- Development of Class Demonstration material
- Preparation of material for web for making available study material, animations and test paper generation
- Modeling and simulation using mathematica

Available Labs, Instruments & Testing facilities:

- High temperature furnace (up to=1000°C),
- Mettler Balance AB 205-S,
- Ocean Optics Spectrometer USB-2000,
- Spectrophotometer Hitachi F-7000 which can scan the luminous sample in the wavelength range from 200 nm to 700nm.

For any queries & further details contact:

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Civil & Structural Engineering

This group concentrates on providing consultancy and training to the industry in the field of Concrete Technology, Environmental Engineering, Structural Engineering and Infrastructure Management.

Projects & Training Imparted:

- Design of Bridges & Water Tanks
- Performance Evaluation of Irrigation Projects
- Design of water and sewer system
- Water Auditing & Benchmarking of Irrigation Projects

Thrust areas identified:

- Concrete Technology
- Building Material - Testing
- Estimating
- Irrigation Projects
- Structural Design and Analysis

Some Valued Clients:

- BPCL
- WCL

Available Labs & Testing facilities:

- Concrete Technology Lab
- Geotechnical Engineering Lab
- Environmental Engineering Lab
- Strength of Material Lab
- Fluid Mechanics Lab

Available Instruments, Tools & Softwares:

- Electronic Triaxial Test Apparatus
- Direct Shear Test Apparatus
- UTM, CTM, Plate Load Test Apparatus
- CBR, Pressure Meter
- STAAD.pro, Ansys

For any queries & further Details Contact:

- Dr. N. V. Deshpande 9960180795
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Computer Science Engineering & Information Technology

This group concentrates on providing consultancy and training to the industry in the field of Databases, Testing and Image Processing etc.

Projects & Training Imparted:

- R&D in Database Technologies
- R&D in Image Processing
- BITSAT Online Examination Centre
- OCP Certification
- Rational Suite Training
- Software Testing Training
- R&D in Networking

Thrust areas identified:

- Data Warehousing & Mining
- Human Computer Interfaces
- Data Analysis
- Software Quality Management
- Software Testing
- Online Examination Conduction

Some Valued Clients:

- BITS Pilani
- Global Logic Pvt. Ltd.
- Infocepts Pvt. Ltd.
- Infospectrum India Pvt. Ltd.
- Persistent Systems Ltd.

Available Softwares, Instrument and Testing Facilities:

- IBM / AIX OS
- Oracle Products
- Siebel
- Rational Suite
- Oracle Prometric Centre

For any queries & further Details Contact:

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Electrical Engineering

This group concentrates on providing consultancy and training to the industry in the field of Energy Audit, Electrical Drives and Industrial Automations.

Projects & Training Imparted:

- Measurement of all electrical parameters using data logger.
- Calibration of Ac/Dc Measuring Instruments
- Cable Testing
- Determination of On-Site Operating Efficiency of Induction Motors.
- Renewable & Non-Conventional Fuel Based Power Generation.
- Development of Low Voltage DC-DC Converter and Current to Voltage Signal Conditioner for Control Cards.

Thrust areas identified:

- Power Electronics Based Drives for Speed Control of AC & DC Motors.
- Development of Sine Wave (50 Hz) Inverter Using Power Electronics Converter.
- Development of Electronic Interfacing Control Card for Process Control Industries.
- Energy Auditing
- Power Quality Improvement
- Software Simulation of Controller Design

For any queries & further Details Contact:

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Electronics Engineering

This group concentrates on providing consultancy and training to the industry in the field of Industrial Automation, Circuit Design, VLSI, Metrology, Radio Frequency.

Projects & Training Imparted:

(1) Industrial Automation & Circuits

- Process Industry Automation
- Testing of Microwave Circuits
- PCB Design & Fabrication
- Design and Implementation of Interface Cards

(2) Metrology and VLSI

- Electronic Product Design
- Integration of Digital Electronic Circuits into IC Environment
- RF Antenna Design

(3) Signal Processing

- Signal Processing CAD Tools
- System Level Modeling DSP Base

Thrust areas identified:

- Very Large Scale Integrations
- Digital Signal Processing
- Circuit Design
- Metrology & Testing
- Industrial Automation
- Radio Frequency Identification

Some Valued Clients:

- SECL Bilaspur
- Hindalco

Available Labs & Testing facilities:

- Very Large Scale Integration Lab
- PCB Lab
- Embedded Systems Lab
- UHF & Microwave Lab
- DSP Lab
- Electronic Design Automation Lab
- Communications Engineering Lab
- Microprocessor Based System Design Lab

Available Instruments, Tools & Softwares:

- Synopsis EDA Tool
- FPGA Advantage[Front end VLSI Designer]
- Tanner [Backend]
- Xilinx / Altera Design Platform
- ARM/ AVR/PIC development Platform & Software / Keil Cross Compiler
- MATLAB/ Lab view Development
- Spectrum Analyzer/ DSO / Pattern Generator / Logic Analyzer
- CDMA Trainer Antenna Kit
- Microwave Test Branches

For any queries & further Details Contact:

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Mechanical – Industrial Engineering & Management

This group concentrates on providing solutions to the industry for engineering as well as management problems and expert training in the fields of Total Quality Management, Ergonomics & Value Engineering and Psychological Testing.

Projects & Training Imparted:

(1) TQM

- Reliability Centered Maintenance
- Failure Mode Analysis
- Statistical Process Control
- Taguchi Techniques
- Software Quality Assurance & CMMI Process Implementation
- ISO 9001:2008, ISO 14000 & OSHAS 18001

(2) Ergonomics & Value Engineering

- Productivity Improvement
- Safety Management / Safety Engineering

(3) General Management

- Psychological Assessment
- Balanced Scorecard
- Workshop on HR
- Finance for Non – Finance & Tally
- Corporate Social Responsibility
- Exports

Thrust areas identified:

- Thermodynamics & Energy
- Quality & Reliability Engineering
- Product & Component Design
- Ergonomics & Value Engineering
- Tool Design
- Consumer Behavior
- Simulation & Modeling of Manufacturing Systems
- Brand Management & Effectiveness
- Training Need Analysis and Competency Mapping
- Cost Control Analysis
- Export Documentation and Pricing
- Financial Management

Some Valued Clients:

- MSME, WCL, Powergrid Corp.
- Mahindra & Mahindra Ltd., Ultratech Cement
- Thermax India, Midland Diesel

Patrons

- Shri Banwarilal Purohit – Chairman, SRKNEC, Nagpur
- Shri Govindlal Agrawal – Secretary, SRKNEC, Nagpur

Advisors

- Dr. S.T. Deshmukh – Director, SRKNEC, Nagpur
- Prof. Q.H. Jeevaji – Director(MBA), SRKNEC, Nagpur
- Dr. V.S. Deshpande – Principal, SRKNEC, Nagpur

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