LEARNING SIMPLIFIED

SRP Group of Companies

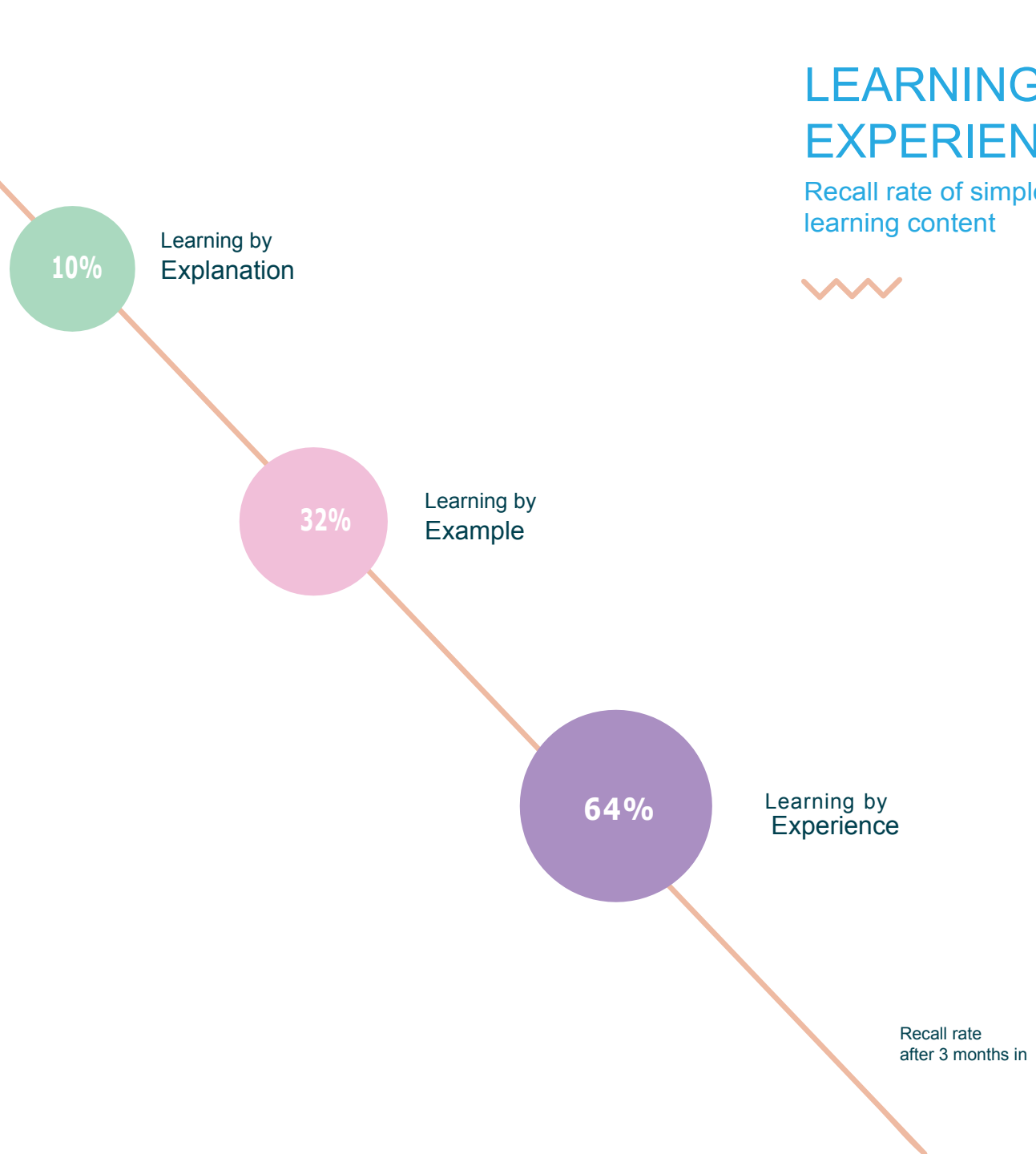
PROBLEM IN THE

CURRENT EDUCATION SYSTEM

Our education system unlike elsewhere in the world focuses more on bookish, rote based learning and focuses less on hands-on, application oriented, experiential learning.

LEARNING EXPERIENCE

Recall rate of simple learning content



PRIMARY OBJECTIVE

IS TO MAKE LEARNING MORE :

Enjoyable
Relevant Globally
Employable
Autonomous (self-learning)

OUR SOLUTION

WE HAVE SOLUTIONS FOR ALL AGE GROUPS

School
(11-15 years)

Jr. College / Diploma / M. Sc
(16 – 19years)

University / College (Engineering)
(20 – 24 years)

TIE UPS WITH GLOBAL & PROVEN BRANDS

PHYWE excellence in science
https://www.phywe.com/en/

LN LUCAS-NÜLLE
https://www.lucas-nuelle.com

BOSCH
https://www.boschrexroth.com/en/

KUKA
https://www.kuka.com/en-in/services/kuka-college

01

SCHOOL

OUR SOLUTION FOR
A MODERN CLASSROOM

All our solutions are designed for Children so Safety is the primary criteria and also nurture the following skills:

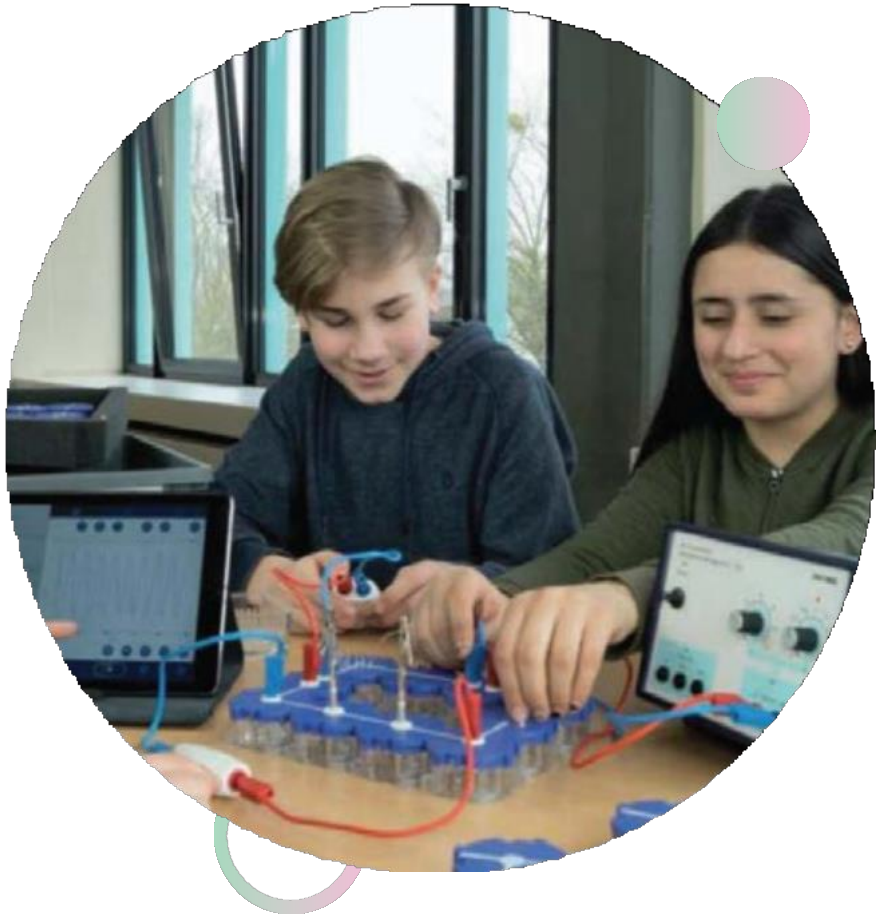
Critical Thinking
Team work and Sense of Collaboration
Communication Skills
Problem Identification and Troubleshooting

1450 EXPERIMENTS

FOR ALL TOPICS IN THE CURRICULUM

NATURAL SCIENCE

Overview
Light, Air and Earth
Optics
Senses
Current and Magnets
Motion
Water
Heat



PHYSICS

Curriculum and Overview
Mechanics
Acoustics
Heat
Renewable Energy
Electricity
Optics
Radioactivitiy
Modern Physics

CHEMISTRY

Curriculum and Overview
General Chemistry
Inorganic Chemistry
Environmental Chemistry
Organic Chemistry
Physical Chemistry
Molecular Models

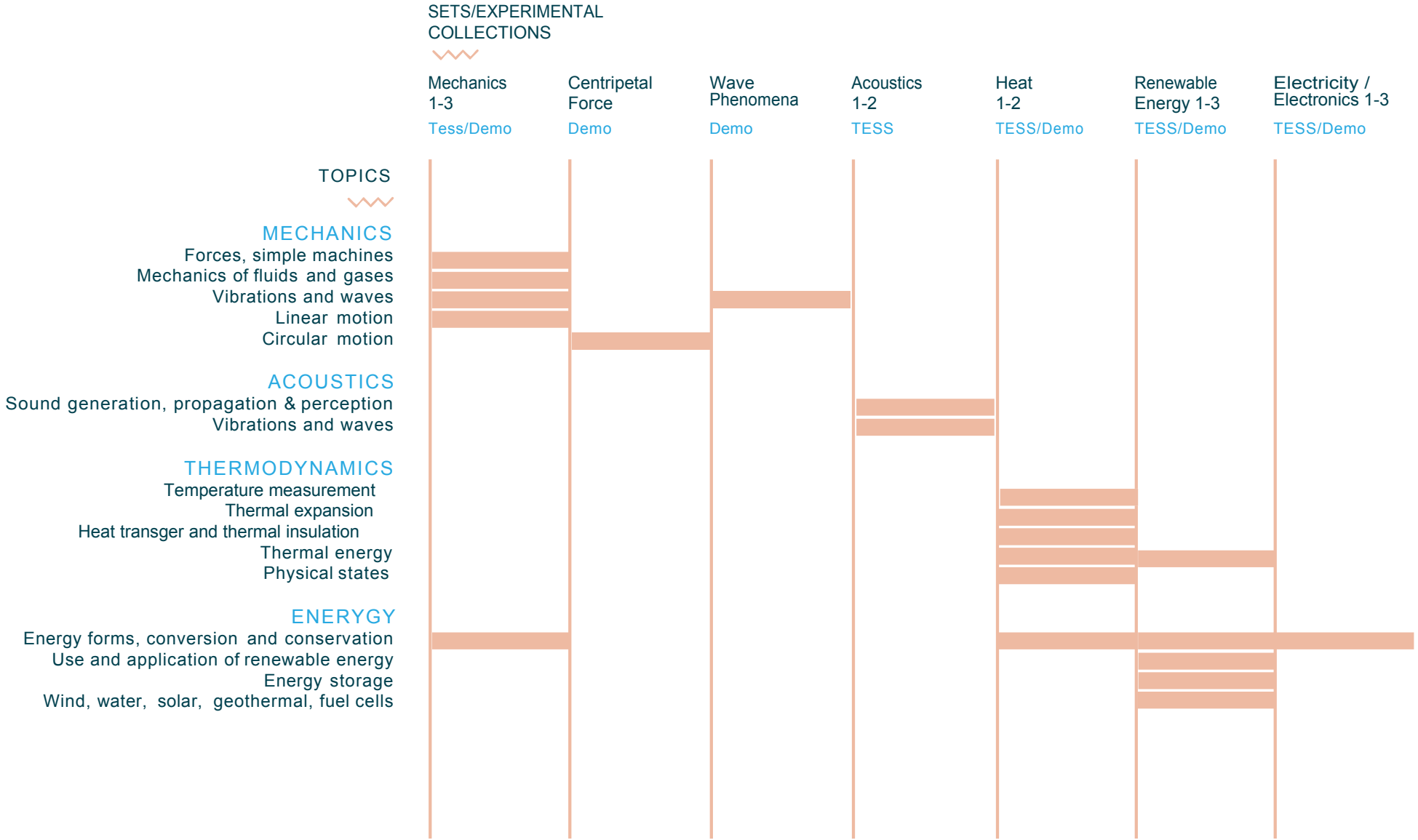
BIOLOGY

Curriculum and Overview
Microscopy
General Biology
Behaviour
Ecology
Human Physiology
Photosynthesis
Genetics
Nervous System
Biotechnology

DETAILED COVERAGE

OF EACH TOPIC WITH HANDS ON EXPERIMENTS

Sample representation of the Physics curriculum



RICH IN EXPERIMENTS

100% of Curriculum topics covered by experimental teaching possibilities

PHYSICS

18 Sets
350 experiments

CHEMISTRY

06 Sets
160 experiments

BIOLOGY

05 Sets
120 experiments

STEM

08 Sets
110 experiments

TEACHER'S DEMONSTRATION SETS

850 EXPERIMENTS

Boards for vertical installation of experiments

Clearly visible adjustment of equipment

Easy set up, minimum preparation time

Demo PHYWE

PHYWE COBRA 4

PROFESSIONAL MEASUREMENT ACQUISITION FOR ALL APPLICATIONS IN ONE SYSTEM:

Cordless with the Wireless/USB Link interface and the measureApp - Perfect for tablets

The Mobile-Link 2 interface as a hand-held device or demonstration device

The Xpert-Link interface with measureLAB works perfect with PCs, Laptops and mobile devices

Over 25 sensors for physics, chemistry, biology, STEM and applied science, which are compatible with all interfaces

COBRA 4 SENSOR FAMILY

SOFTWARE

measureLAB | PHYWE

108 experiments

measureAPP | PHYWE

80 experiments

TOTAL
188 EXPERIMENTS

SAMPLE LABS

STS (Secondary Technical School) Baynonah, UAE
IAT (Institute of Applied Techncology) Al Ain, Al Kharier, UAE ATHS (Applied Technology High School) Al Ain, Al Aqabia, UAE
Wittumschule, Germany
Anne-Frank-Schule, Germany
Gymnasium Grünwald, Germany
Saaleschule für (H)alle, Germany
Integrierte Gesamtschule Rülzheim, Germany
Rudolph-Brandes-Gymnasium im Schulzentrum Lohfeld, Germany

02

Jr. COLLEGE

PHYSICS

Mechanics

Measurement Technique
Motion in one dimension
Motion in two and three dimension
Rotational motion
Static equilibrium and elasticity
Gravity
Mechanics of Fluids and Gases

Oscillations and Mechanical Waves, Acoustics

Oscillatory Motion
Wave Motion
Sound Waves

Thermodynamics

Temperature and the Kinetic Theory of Gases
Heat, Work, and the First Law of Thermodynamics
Heat Engines, Entropgy and the Second Law of Thermodynamics
Thermal Properties and Processes

Electricity and Magnetism

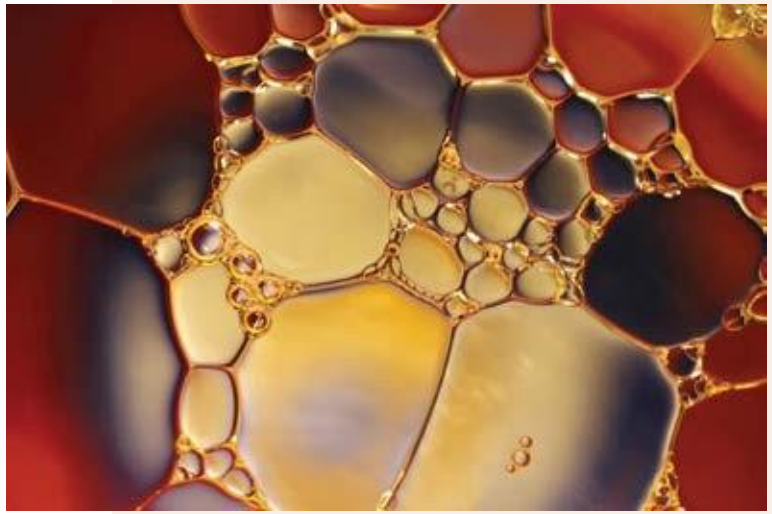
Electric Charge and Electric Field
Capacitance, Dielectrics, Electric, Energy, Storage
Electric Current and resistance
Direct - Current Circuits
Magnetic Field and Magnetic Forces
Sources of Magnetic Field
Electromagnetic, Induction and Faraday's Law
Inductance, Electromagnetic Oscillations, AC circuits
Maxwell's Equations, Magnetism, Electromagnetic Waves

Light and Optics

Nature and Propagation of Light
Geometric Optics
Diffraction and Interference
Polarisation
Applied Optics - Photonics

Modern Physics

Quantum Physics
Atomic Physics
Molecule and Solid State Physics
Nano Physics
Nuclear Physics - Radioactivity
X - ray Physics



CHEMISTRY

Preparatory Course

General Chemistry
Inorganic Chemistry
Acids, Bases, Salts
Organic Chemistry
Chemistry of Polymers
Food Chemistry

Analytical Chemistry

Titration
Electrogravimetry
Chromatography

General Chemistry

Equilibria
Molar Mass
Acids and Bases
Solutions and Mixtures
Redox Reactions
Stoichiometry

Soectroscopy

X-ray Fluorecence analysis
Nuclear Magnetic Resonance
Photometry and Photochemistry

Physical Chemistry

Gas Laws
Kinetic Theory
Viscocity
Thermochemisry / Calorimetry
chemical Kinetics
Electro Chemistry
Phase Equilibirum
Atomic Structure and Properties

Inorganic Chemistry

Chemistry of Metals
Coordination Chemistry
Organometallic chemistry
Solid-state chemistry & Cristallography
Literature

Organic Chemistry

Organic Synthesis
Distillation, Purification

Industrial Chemistry

Gases
Salts
Disposal, Enviornment Proctection
Petrochemistry
Metallurgy

Biochemistry & Biotechnology

Biochemistry
Biotechnology
Literature

Demonstration Equipment

Demonstration sets & corresponding experiments
Models and measuring devices
Furniture

BIOLOGY

Microscopy / Cell Biology

- Cell Components
- Seed Plants
- Investigating Invertebrates
- Other Animals under the Microscope
- Other Plants and Fungi
- Literature

Ecology and Enviornment

- Water
- Air
- Soil
- Sets
- Literatur

Behavioural Biology

Plant Physiology / Botany

- Photosynthesis
- Water Balance
- Mineral Balance
- Growth and Development
- Literature

Animal Phyisology

Human Physiology

- Heart and Circulatory System
- Musculature
- Hearing Sense
- Visual Sense
- Other Senses
- Respiration
- Literature and Sets

Biochemistry

Microbiology

Neurobiology

- Basics
- Nerve Cell - Functions, Interactions and Networks
- Stimuli Transmission

Biotechnology

Modern Imaging Methods

- X-ray Imaging
- Magnetic Resonance Imaging
- Ultrasonic Imaging
- Nano Imaging
- Literature

APPLIED SCIENCE ENGINEERING

Applied Mechanics

Statics
Dynamics
Fluriddynamics and Aerodynamics

Materials Science

Mechanical Properties
Magnetic Properties
Thermal and Electrical Properties X-ray Structural Analysis
X-ray Fluroescence Analysis
Nanotechnology
Metallography

Non-destructive Testing (NDT)

X-ray Investigations
Ultrasonic Testing
Other Methods of NDT

Electrical Engineering

Preparatory Courses
Properties of Electrical Devices
Properties of Electrical Circuits

Renewable Energy

Preparatoru Courses
Basic Principles
Heat
Solar Energy
Hydrogen Technology

Photonics

Basic Principles
Interfernometry
Holography
Laser

Geo Science

Water
Air
Soil

X-ray Analysis

APPLIED SCIENCE MEDICAL

Human Physiology

- Heart and Circulatory Systems
- Musculature
- Hearing Sense
- Visual Sense
- Other Senses
- Respiration and Pulmonary Diseases
- Behaviour

Nervous System

- Basics - Potentials and Transport
- Nerve Cell - Functions, Interactions and Networks
- Stimuli Transmission
- Imaging

Radiology and Ultrasonic Diagnostics

- X-ray Computed Tomography (CT) and Imaging
- Magnetic Resonance Imaging (MRI)
- Ultrasonic Imaging
- Nano Imaging
- Literature

Nuclear Medicine

- Visualisation of Radioactive Particles
- Radioative Decay
- Absorption and dosimetry

Laboratory Diagnostics

- Standars and Methods
- Clincial Chemistry
- Haematology
- Literature
- Further Basic Methods

Histology and Medical Microbiology

- Light Microscopy - Cells and Components
- Light Microscopy - Bacteria, Parasites and Fungi
- Atomic Force Microscopy
- Literature

Biochemistry

- Glycolysis
- Amino Acids
- Enzymes
- Literature

50 NOBEL PRIZE
EXPERIMENTS

PHYWE XRE 4..0 X-ray expert set & upgrade set
Stern - Geriach experiment
Diffusion Cloud Chambers
Franck-Hertz experiment
Planck's ''quantum of action''
Compton effect with the multichannel analyser X-ray fluorescene and Moseley's Law (MCA)
Hall effect in n-germanium (with teslameter)
Zeeman effect
Michelson interferometer - high resolution
Rutherford experiment
Elemtary charge and Millikan experiment
Specific charge of the electron - e/m

03

UNIVERSITY

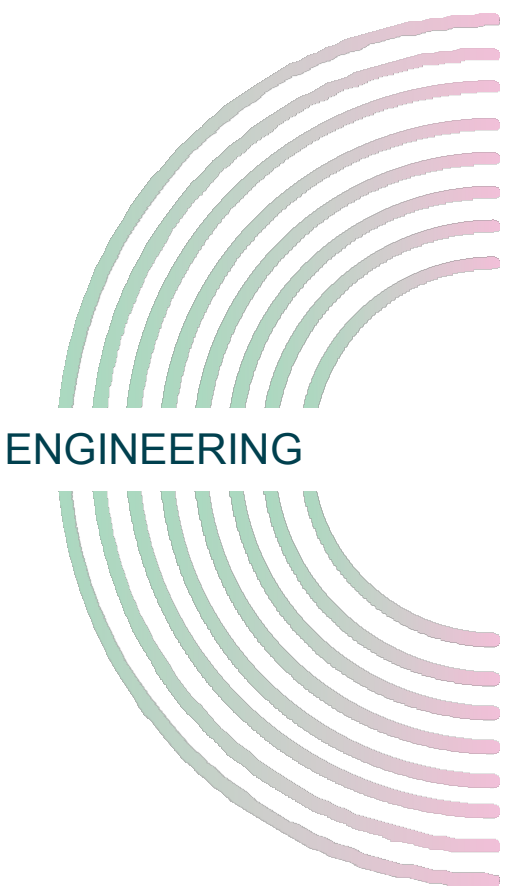
PRIMARY OBJECTIVE

IS TO MAKE
TOMORROW'S ENGINEERS :

Technology Masters
Employable
Confident
Having a successful future
Innovative

TRAINING SYSTEMS

FOR ALL ENGINEERING FIELDS



- Mechanical Engineering
- Electrical & Power Engineering
- Electronics and Telecommunication Engineering
- Mechatronics Engineering
- Automotive Engineering
- Instrumentation Engineering
- BioMedical Engineering
- Civil Engineering

- Automation Technology
- Refrigeration and Air Conditioning Technology
- Process Control and Automation
- Hydraulics & Pneumatics
- Robotics
- MicroComputers
- Smart Grid Power Systems
- Renewable Systems

STEPWISE APPROACH TO LEARNING
(pedagogy)

Systematic step wise learning
starting with the fundamentals
all the way to the application

Sample representation of a
conceptual solution
Example: Diesel Engine Technology

Start
Technical theory
& practice

01

Fundamentals

02

System comprehension

03

Practical application

Exam
College
Career entry

COMPLETE HANDS ON LEARNING EXPERIENCE

A comprehensive learning concept which includes equipment from the Basic concepts, to individual technology learning stations to a final application where all the individual technologies are integrated in a real world system

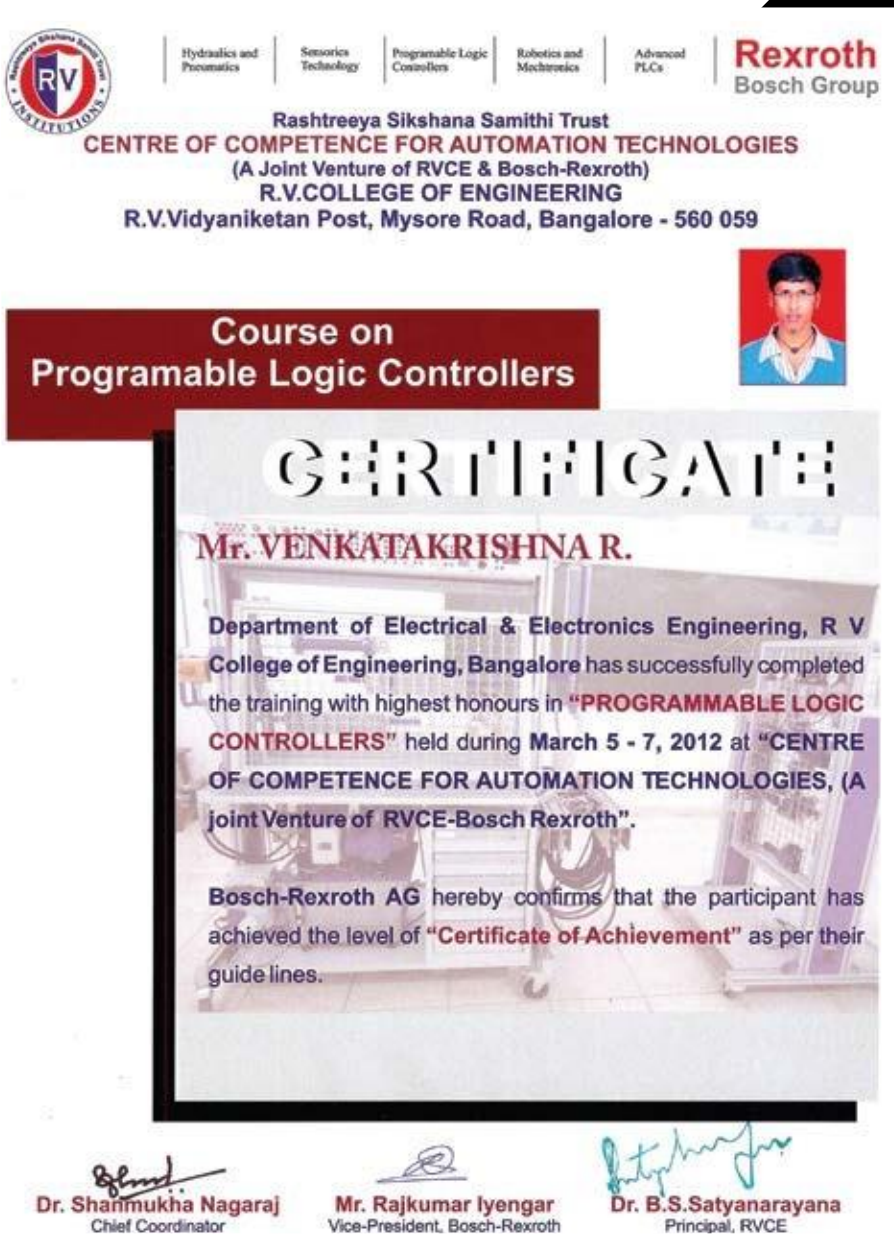
Parallel training with the Blended Learning concept (UniTrain-I, LAB Soft)

Classroom Manager

Training on a actual car

Different technologies taught here.
1. Engine Management
2. Lighting Management
3. Communication Protocol
4. Brakes, Airbags,

INDUSTRY RELEVANT CERTIFICATION



Hydraulics and Pneumatics | Sensorics Technology | Programmable Logic Controllers | Robotics and Mechtronics | Advanced PLCs | Rexroth Bosch Group

Rashtreeya Sikshana Samithi Trust
CENTRE OF COMPETENCE FOR AUTOMATION TECHNOLOGIES
(A Joint Venture of RVCE & Bosch-Rexroth)
R.V.COLLEGE OF ENGINEERING
R.V.Vidyaniketan Post, Mysore Road, Bangalore - 560 059

Course on
Programable Logic Controllers

CERTIFICATE

Mr. VENKATAKRISHNA R.

Department of Electrical & Electronics Engineering, R V College of Engineering, Bangalore has successfully completed the training with highest honours in "PROGRAMMABLE LOGIC CONTROLLERS" held during March 5 - 7, 2012 at "CENTRE OF COMPETENCE FOR AUTOMATION TECHNOLOGIES, (A joint Venture of RVCE-Bosch Rexroth".

Bosch-Rexroth AG hereby confirms that the participant has achieved the level of "Certificate of Achievement" as per their guide lines.

Dr. Shanmukha Nagaraj
Chief Coordinator

Mr. Rajkumar Iyengar
Vice-President, Bosch-Rexroth

Dr. B.S.Satyanarayana
Principal, RVCE

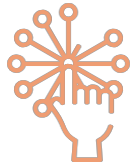
VOCANTO

E-LEARNING PLATFORM

TRAINING METHODS
AND TECHNOLOGIES

Class room Training

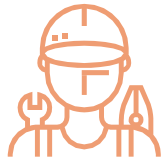
E - Learning



Virtual classroom

Train the Trainers

Animations and Simulation Software

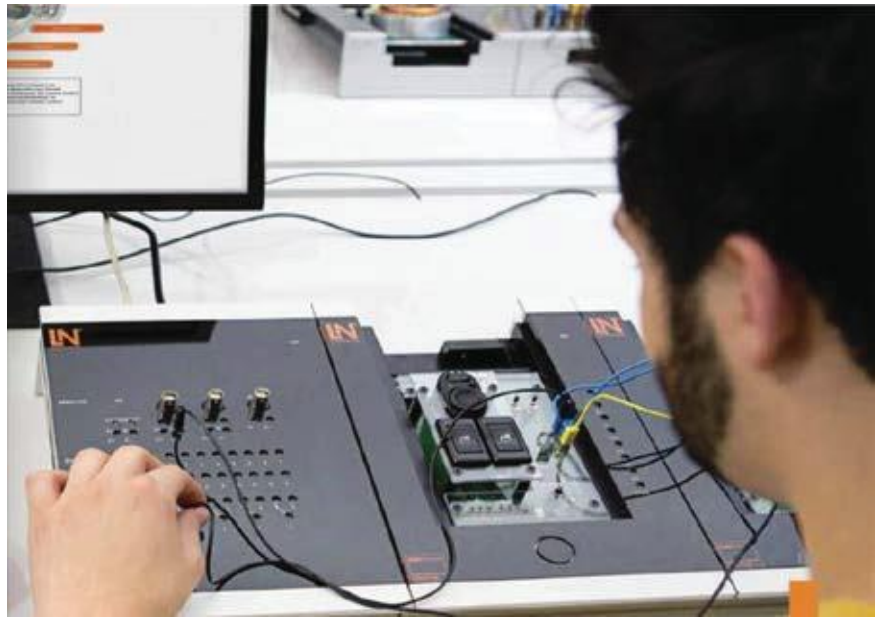


Hands on Training

Interactive Test

TRAINING SYSTEM

FOR BASIC FUNDAMENTALS



BASICS

Basic equipment
Essential suppliments
Optional measurement equipment

APPLICATIONS

Power electronics
Electrical power engineering
Electric machines
Communication technology
Measurement technology
Microcomputer technology
Automation technology
Automotive technology
Automatic control technology

FUNDAMENTALS

Electrical engineering
Electronics
Electronic circuit design
Digital technology

Power electronics

Self-commutated power converters single-phase/3-phase

Line-commutated power converters single-phase/3-phase

Frequency converter drives

Active power factor correction PFC

Automatic control technology

Practical introduction to closed-loop control

Analysis of control loops

Controller design & optimisation

WINFACT software, numeric and Fuzzy control
Servo motor technology

TRAINING SYSTEMS

FOR ALL ENGINEERING FIELDS

Hydraulics

Pneumatics

Mechatronics

Robotics

INDUSTRY 4.0,
DRIVES & CONTROLS

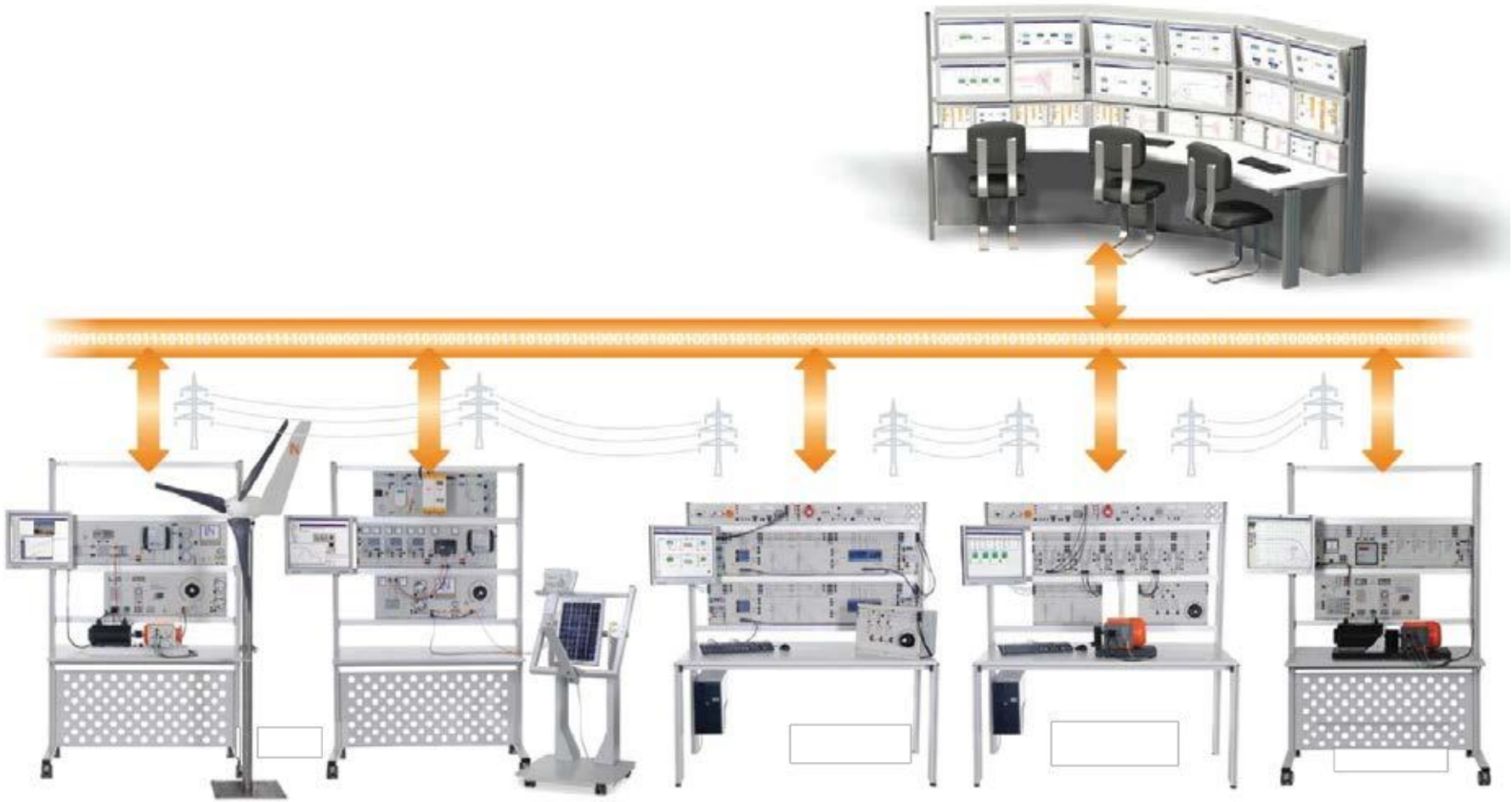
Industry 4.0

PLC with Simulators

CNC Controls

SMART GRID POWER

Fundamentals of Power Engineering
Power Generation
Renewable power generation
Transformers
Power Transmissions
Power Distribution
Power Management
Smart Grid



Video:
https://www.youtube.com/watch?v=BaXV5SQ7Y7s

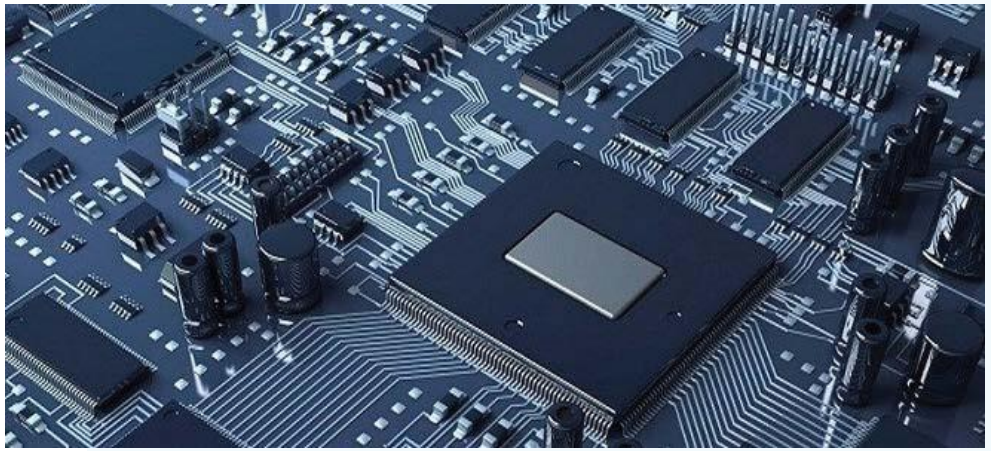
ELECTRICAL ENGINEERING

Electrical Machines

Power Electronics and
Didactically Designed Drives

Model-Based Development of
Drives with Matlab® / Simulink®

Industrial Drives



MECHATRONICS

Industrial Mechatronics system
Automation Technology
Computer Integrated
Manufacturing (CIM)
Control Technology
Microcontrollers and PLC
Industrial Automation
Industrial Robotics
Power Electronics & Industrial Drives
Digital Signal Processing
Sensors & Transducers
Advance Control System
Automotive Electronics
Automobile Engineering

ELECTRONICS & TELECOMMUNICATION

Electromagnetic Field Theory
Electrical Network Analysis
Principals of Communication
Engineering
Instrumentation
Control Technology
Antenna & Wave Propagation
Fundamentals of Microwave
Engineering
Digital Signal Processing
Digital Communication
Advance Microcontroller & Embedded System
Wireless Communication Technology
Optical Fiber Communication
Microwave Integrated Circuits
Industrial Sensors
Industrial Electronics (Elective)
Power Electronics
Mechatronics
Automation Technology
Advanced Microwave Engineering
Radar Technology
Industrial Robotics / Robotics

CHEMICAL

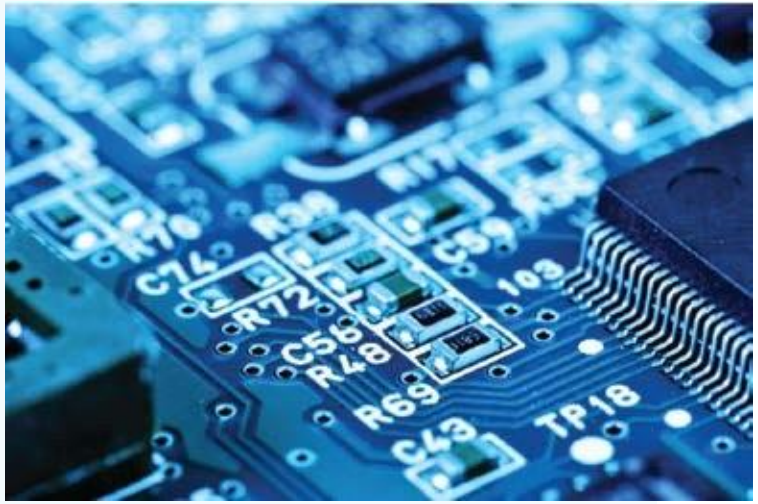
Process Control Technology
Safety Technology
Sensor Technology
Instrumentation Lab

ROBOTICS

Manual robot operating procedure
Programming movements
Robot coordinate systems
Velocity and acceleration
Singularities and symmetries
Digital inputs and outputs
Typical programming patterns
Programming structures
Concluding experiment

MECHANICAL

Manufacturing Process
Industrial Electronics
Mechatronics
Control Technology
Refrigeration and Air Conditioning
Hydraulics / Electrohydraulics
Safety Technology
Non Conventional Energy Sources
Automobile Engineering
Robotics



COMPUTER

Microcontroller Technology
Basic Electrical & Electronics
Analog & Digital Communication
Digital Signal Processing
Embedded System
Robotics

INFORMATION TECHNOLOGY ENGINEERING

Microcontroller Technology
Basic Electrical & electronics
Principal of Communication Engg.
Wireless Networking
Robotics

WIND POWER RENEWABLE ENERGY RESOURCES

Wind Power Plants
Small Wind Power Plants
Fuel Cell Technology
Advanced Fuel Cell Technology
Advanced Photovoltaics

SOLAR POWER RENEWABLE ENERGY RESOURCES

Wind Power Plants
Small Wind Power Plants
Fuel Cell Technology
Advanced Fuel Cell Technology
Advanced Photovoltaics

AUTOMOTIVE ENGINEERING

Electricity/Electronics
Sensors and Actuators
Motor Vehicle Lighting
Comfort Systems
Alternative Drives
Engine Management
Vehicle Diagnostics
Chassis and Driving Safety
Networked Systems
Practical Automotive Workshop Lab

BIO MEDICAL ENGINEERING

Human Physiology
The Nervous System
Radiology & Ultrasonic Diagnostics
Nuclear Medicine
Laboratory Diagnostics
Histology & Medical Microbiology
Biochemistry
Biomechanics
Indices

VIDEO PRESENTATIONS

Power Engineering: Smart Grid training System
http://www.youtube.com/watch?v=BaXV5SQ7Y7s

Industrial Process Automation training system- For process Industry
http://www.youtube.com/watch?v=FsIbiCqpCwU

Pneumatics & Hydraulics training system
https://www.youtube.com/watch?v=VcAYptmG3J8

Robotics
https://youtu.be/Bu1Gy-0gGGE

CUSTOMERS WHO USE OUR EQUIPMENT

PROJECTS : Daimler India Vocational Training Center - Chennai India

PROJECTS : Dr. Mahalingam College of Engineering Technology - Coimbatore, India

PROJECTS : Toyota, Germany

PROJECTS : State college power engineering Hamburg, Germany

Services

Systems for training in power electronics and drive technology
Systems for training in power engineering and SMART GRID technology

Key Facts

Complete outfitting for the drive technology laboratory
Complete outfitting for the power engineering technology laboratory

Customer's Benefits

Acquisition of problem solving skills
Close interaction between theory and practice
Investigation & monitoring of multiple aspects of individual tasks during work with the equipment

PROJECTS : Indonesia

Projects

Politeknik Negeri Sriwijaya Palembang
Lhokseumawe State Polytechnic
Politeknik Negeri Makassar
Syiah Kuala University (Unsyiah)

Key Facts

Complete outfitting for the power engineering technology laboratory

Customer's Benefits

Acquisition of problem solving skills
Close interaction between theory and practice
Investigation & monitoring of multiple aspects of individual tasks during work with the equipment

ESTABLISHED CENTRES

Centers

VTU, Mysore.
GTU, Gujarat
DDU, Nadiad
JNTU, Hyderabad
CET, Trivandrum
Periyar Maniammai University, Thanjavoor
SRM University, Chennai
CV Raman College of Engineering, Bhubaneshwar
NMIMs University, Mumbai
NMIMs University, Shirpur
Manipal University, Manipal
SJBIT, Bangalore
MCET, Pollachi
UPES, Dehradun
Dayananda Sagar University, Bengaluru
Banasthali University, Banasthali
Ganpat University
NITK, Surathkal (Upcoming)

BVB College of Engineering
AKGEC, Gaziabad
SJCE Mysore
PDA college of Engineering
BLD college of Engineering.
MCE college of Engineering
SJCIT college of Engineering
MITE college of Engineering
RV College of Engineering
BVV Sangha Bagalkot
DKT Maharashtra
PSN college of Engineering
MCET college of Engineering
Bapatla College of Engineering.
GTTC Bangalore.
Marwari College of Engineering
SDM College of Engineering
GPTC, Kalmassery
VIT, Vellore
Manipal University, Jaipur

“IF YOU THINK EDUCATION IS EXPENSIVE, TRY IGNORANCE”

Derek Bok, 1971, President of Harvard University

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academy.mumbai@srpgroup.co.in