



SREE VIDYANIKETHAN ENGINEERING COLLEGE

(Autonomous)

Department of Mechanical Engineering

An Expert Talk on

“RECENT POWERTRAIN TECHNOLOGY TRENDS & DEVELOPMENT THROUGH COMPUTER AIDED ENGINEERING (CAE)”

**Under Technical Education Quality Improvement Programme (TEQIP)-II
And III Cell**

(10th October 2015).

The Department of Mechanical Engineering conducted an Expert lecture on “RECENT POWERTRAIN TECHNOLOGY TRENDS & DEVELOPMENT THROUGH COMPUTER AIDED ENGINEERING (CAE)” under Technical Education Quality Improvement Program – II(IIIC). After conveying the objective and introduction to resource person Dr. Anand Gurupatham, Senior Section Manager- R&AE, powertrain Technology Development, Renault Nissan Technology & Business Center India. Participants from III & IV B. Tech (ME) & department faculty members attended the program. During the first session the expert delivered lecture on RECENT POWERTRAIN TECHNOLOGY TRENDS. The talk was continued on recent power train trends and practical scenarios in Renault Nissan Technology & Business Center India. During the second session the expert delivered lecture on DEVELOPMENT THROUGH COMPUTER AIDED ENGINEERING (CAE). Finally, participants interacted with the resource person and cleared their research hurdles in RECENT POWERTRAIN TECHNOLOGY TRENDS & DEVELOPMENT THROUGH COMPUTER AIDED ENGINEERING (CAE)” in general and Renault Nissan Technology & Business Center India in particular.



Dr. Anand Gurupatham, Senior Section Manager- R&AE, powertrain Technology Development, Renault Nissan Technology & Business Center India addressing the students.



Resource Person speaking on "RECENT POWERTRAIN TECHNOLOGY TRENDS & DEVELOPMENT THROUGH COMPUTER AIDED ENGINEERING (CAE)"



Faculty & Students listening to the lecture

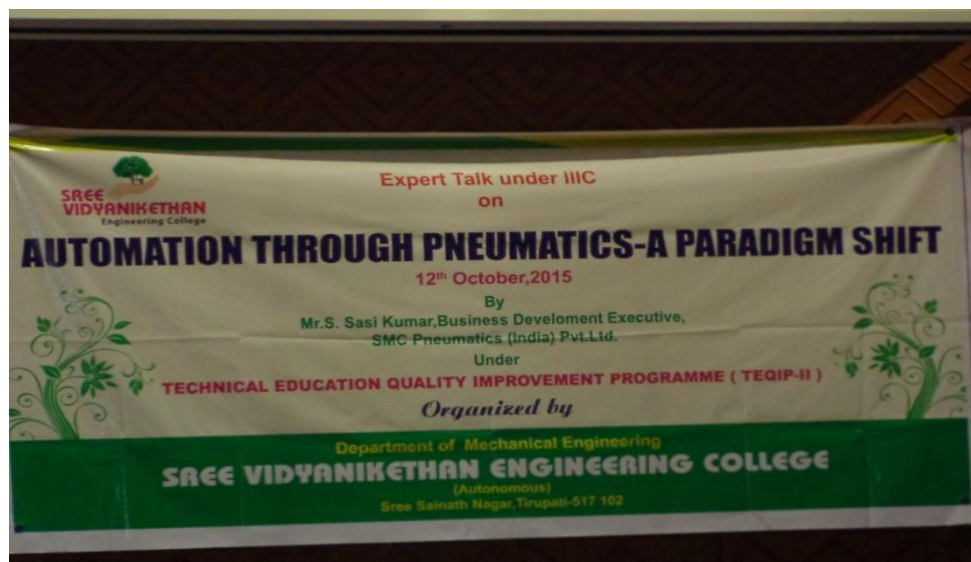


Students interacting with resource person

**An Expert Talk on
“AUTOMATION THROUGH PNEUMATICS-A
PARADIGM SHIFT”**

12th October, 2015
(Under TEQIP-II)

An expert talk was organized on “Automation through Pneumatics-a paradigm shift” by Mr.S.Sasi Kumar, Business Development Executive (Trainer) SMC Pneumatics (India) Pvt. Ltd., Chennai, Andhra Pradesh, activity sponsored by Technical Education Quality Improvement Programme (TEQIP-II) on the forenoon of 12.10.2015 by the Department of Mechanical Engineering, Sree Vidyanikethan Engineering College, and Tirupati.



Pneumatic logic is a reliable and functional control method for industrial processes. In recent years, these systems have largely been replaced by pneumatic - electronic control systems in new installations because of the smaller size, lower cost, greater precision, and more powerful features of digital controls.

The SMC Corporation is constantly developing innovative pneumatic products to ensure that they remain a first choice employer, at the forefront of their industry. Mr.S.Sasi Kumar the speaker from SMC India Pvt Ltd. Chennai, delivered lecture on "Automation through Pneumatics-a paradigm shift". He emphasized on the basics of pneumatics and its applications in the industry and also the speaker gave introduction to various pneumatic devices.



Mr.S.Sasi Kumar, SMC Pneumatics (India) Pvt. Ltd addressing the gathering along with his team members



Mr.S.Sasi Kumar, delivering the lecture on Pneumatics

His lecture created interest in students by focusing much in the theory, development and application of pneumatic technology. And, in addition, Mr.Sasi Kumar imparted an advanced technology with an informative and interesting refresh modifying pneumatic systems, Mr.Sasi Kumar also enlightened the advantages, reliability, and simplicity of design and control and safety concepts while using the advanced pneumatic devices.



Mr.Sasi Kumar addressing the doubts raised by the Dr. K. C. Varaprasad

In his lecture Mr.Sasi Kumar presented many videos related to the application of pneumatics in driving automated industries. At the end Mr.Sasi Kumar concluded his lecture by showing unique opportunity for the students to become part of a global team with local commitment to the development of automation through pneumatics and also motivated the students who are looking for new challenges in automated industries and would welcome the opportunity to grow with their reputed industry.

The students of Mechanical Engineering got enriched by the interaction with Mr.Sasi Kumar, his knowledge and experience helped them in appreciating the significance of various subjects they are studying for development of automated devices using pneumatics.

A report on 3-days international training on “BASIC PNEUMATICS”

Organized By SMC Pneumatics (India) Pvt. Ltd., TADA.

16th – 18th November, 2015

Day-1

Forenoon Session

1. Introduction to Automation and its applications in Industry
2. Types of automation
3. Introduction to Basic Pneumatics
4. Tea Break
5. Description of Air Production System
6. The Air consuming System
7. Compressed Air theory
8. Units (Non-Metric Units)
9. Properties of gases
 - Isothermal Changes(Boyles Law)
 - Standard Volume
 - Air Humidity
 - Relative Humidity
 - Pressure and Flow
10. Air Compression and distribution
11. Reciprocating and Rotary Compressors

Afternoon Session

1. Air Treatment
 - Micro filters
 - Sub-Micro Filters
 - Filter selection
2. Air quality
 - Filtering Levels
3. Pressure regulation
 - Standard Regulator
 - Pilot Operated Regulator
 - Filter Regulator
 - Characteristics

4. Tea Break
5. Directional Valves
 - Valve function
 - Valve Type
 - Valve Operation
 - Valve Mounting
 - Valve sizing

Day-2

Forenoon Session

1. Introduction to Actuators
2. Linear Cylinders
3. Spherical Cylinder Options
4. Cylinder sizing
5. Air flow and Consumption
6. Tea Break
7. Rotary Actuators
8. Rack and Pinion Type
9. Vane type Rotary Actuators
10. Special actuators
11. Hollow rod cylinders
12. Rotating cylinders
13. Air chuck (Gripper)

Afternoon Session

1. Symbols used in Pneumatics
2. Introduction to basic circuits
 - Basic rules
 - Rest position
3. Circuit Layout
4. Nomenclature
5. Sample diagrams
6. Tea Break
7. Hands-on-Training on simple circuits

Day-3

Forenoon Session

1. Basic circuits
2. Elementary functions
3. Time functions
4. Cylinder Control
5. Manual Control
6. Tea Break
7. Direct operation and Speed control
8. Control from two points: OR Function(AND) interlock circuit

Afternoon Session

1. Hands-on-Training
2. Tea Break
3. Hands-on-Training
4. Exam on Basic Pneumatic



Trainer demonstrating the Pneumatic kit



Trainer demonstrating the process of automated material handling system

SREE VIDYANIKETHAN ENGINEERING COLLEGE
(Autonomous)
Department of Mechanical Engineering

An Expert Talk under IIC on
"ADVANCES IN HEAT TRANSFER"

(Under Technical Education Quality Improvement Programme (TEQIP)-II and III Cell)

(23rd January 2016)

The Department of Mechanical Engineering conducted an expert lecture on "ADVANCES IN HEAT TRANSFER" under Technical Education Quality Improvement Program-II(IIC). The program started with conveying the objectives of the talk and introduction to the resource person Sri.Pankaj Singh, IES Officer, Works Manager, Heavy Vehicles Factory, Chennai. Participants from II & III B. Tech (ME) attended the program. During the first session the Sri.Pankaj Singh delivered a lecture on advances in Heat Transfer. He also emphasised on the industrial applications. Many illustrative examples were discussed in his talk. The talk continued by illustrative examples even from the syllabus. He also highlighted the recent applications in recent trends and practical scenarios in Heat Transfer.

During the second session the expert delivered a lecture on "Theory of Machines". He also explained many mechanisms involved in the machineries. Finally, the participants interacted with the resource person and clarified their doubts in heat transfer and theory of machines.



Inauguration of the Program



Mr. Pankaj Singh speaking on "ADVANCES IN HEAT TRANSFER"



Students listening to the lecture

An Expert Talk under IIIC on “INDUSTRIAL AUTOMATION & ROBOTICS”

09th February 2016

(Under TEQIP-II)

The Department of Mechanical Engineering conducted an Expert Talk under IIIC on **“INDUSTRIAL AUTOMATION & ROBOTICS”** under Technical Education Quality Improvement Program–II on the forenoon of 09.02.2016.

The program started with conveying the objectives of the talk and introduction to the resource person Sri. T. Abiram Kumar, Application Engineer, Axis Global Automation, Chennai. Participants of III B.Tech, II semester (ME) attended the program.

During the first session the resource person delivered a lecture on industrial automation. He also emphasised on the industrial applications. Many illustrative examples were discussed in his talk. The talk continued by application of robots in various industrial sectors.

During the second session, he focussed on programming logic controllers (PLCs). He also delivered PLCs applications and its usage in various examples and also gave hands-on- experience in writing simple PLC program.

Finally, the participants interacted with the resource person and clarified their doubts on Industrial Automation & Robotics.



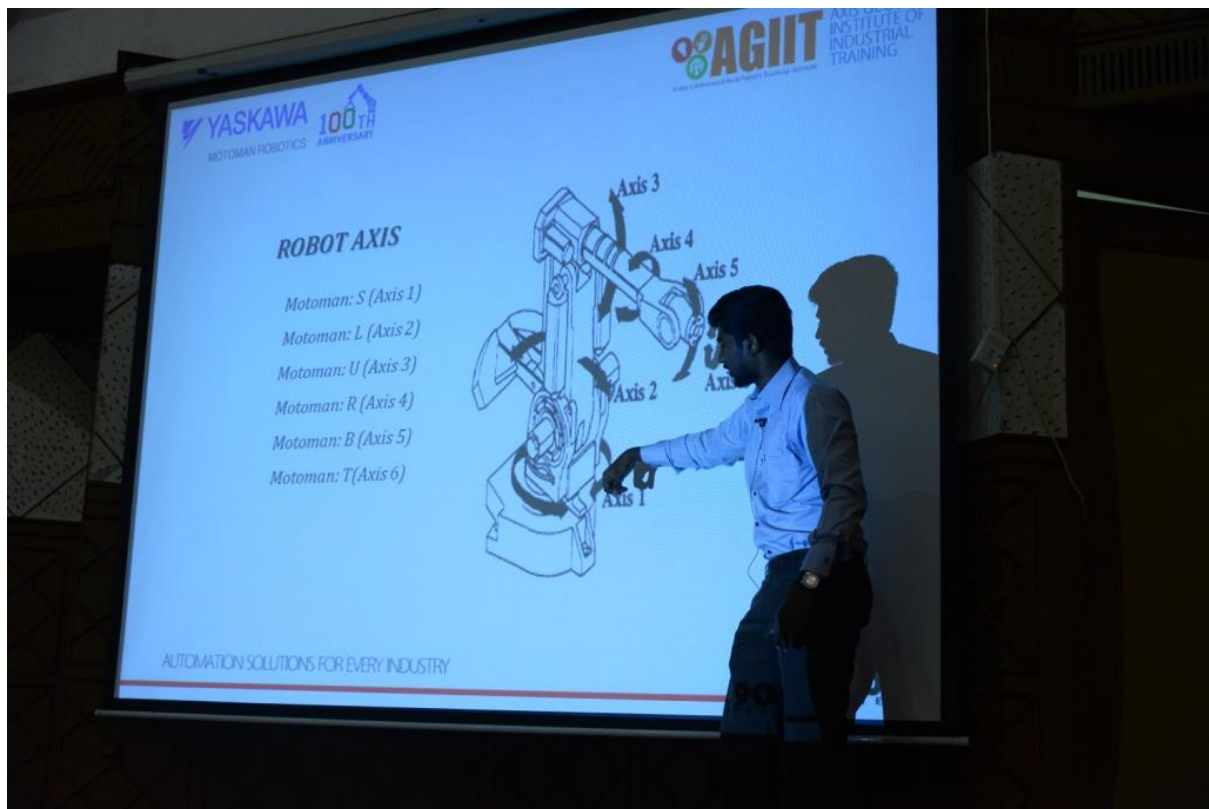
Sri. T. Abiram Kumar, Application Engineer, Axis Global Automation, Chennai



Sri. T. Abiram Kumar, speaking on Industrial Automation & Robotics



Students listening to the lecture



Sri. T. Abiram Kumar, explaining about the industrial robots