	<p style="text-align: center;">Prabodhan Shikshan Prasarak Sanstha's  <b>Rajendra Mane College of Engineering &amp; Technology</b>          (Recognised by AICTE, New Delhi and affiliated to University of Mumbai)          At. &amp; Po. Ambav (Devruk), Tal- Sangameshwar, Dist- Ratnagiri.          (Maharashtra State, India) PIN-415804          Phone- 02354-260992, 261501 Fax. No. 02354-261502          Email-info@rmcet.com, Website- <a href="http://www.rmcet.com">www.rmcet.com</a></p>
Title of Course	“HydroPneumatics (Industrial Fluid Power & Projects”
Resource Person	Mr. Suhas Gadekar, HOD (Mechanical Engineering), Prolific Systems & Technology Pvt. Ltd. Pune
Course Schedule	04/10/2017 to 07/10/2017 9.30 AM to 04.30 PM (6 Hours/ day)
Participants	1) BE Mechanical Engineering students 2) Faculty Members
Venue	Class room No. 14
Coordinators	Prof. Rahul Dandage (T&P Cell Coordinator) Ms. Harshali Makade & Mr. Prasad Shinde (Student Coordinators)

### Course Objectives:

- 1) To Create awareness among students about the emerging field of Mechatronics and Automation.
- 2) To equip the students with the knowledge of Industrial Fluid Power.

### Expected Course Outcomes:

After successful completion of the course, the participants will be able to:

- 1) Understand the working principle of various components of Industrial Fluid Power systems.
- 2) Understand the practical applications of fluid power systems in industrial automation.
- 3) Develop the fluid power circuits for various industrial applications.

Date- 21/09/2017

31-10-17

To  
The Principal,  
RMCET,  
Ambav (Devrukh)

Sub: Regarding permission to conduct course from Prolific Systems & Technologies,  
Pune

Respected Sir,

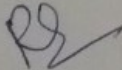
Department of Mechanical Engineering wish to conduct 4 days certificate training programme on "**HydroPneumatics (Industrial Fluid Power and Projects)**" in association with Prolific Systems and Technologies Pvt. Ltd. , Pune during 04/10/2017 to 07/10/2017 for the students of final year Mechanical Engineering.

As per the MOU signed between RMCET and Prolific Systems and the quotation received, the course fees are Rs. 500 per student. Total 82 students of BE mechanical will be attending this course.

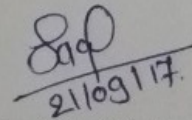
As per the college policy, Rs. 500 per student is borne by college for value added technical courses.

We request you to kindly extend your permission to conduct the course and sanction the payment of Rs. 41000 as training charges after successful completion of the course.

Thanking you.



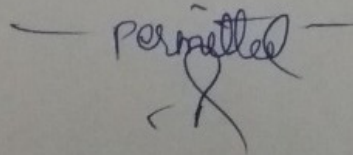
Prof. Rahul Dandage  
Course Coordinator



Dr. S.N. Waghmare  
HOD (Mech Engg)

Encl:

- 1) Quotation by Prolific systems.



## Course Curriculum

### 101 - Hydraulic systems

- Fundamentals of hydraulics: Basics of water and oil hydraulics
- Hydraulic system accessories: Reservoirs, filters, coolers, Instrumentation and accu
- Principle construction and working of components
- Hydraulic pumps: Pump basics, centrifugal & positive displacement pumps
- Pressure control: relief, reducing, regulating valves
- Flow control: FCV, Flow dividers, non-return valves
- Actuators: Linear actuators, hydraulic motors, Hydraulic drives.
- Direction control valves: Direct operated, pilot operated
- Hydraulic Circuit reading.
- Principle of solenoid valves
- Working principles of proportional valves and servo valves
- Proportional variable pump control system
- Hydraulic drives & controls

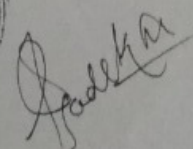
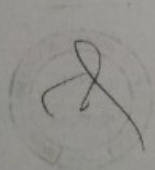
### 102 - Pneumatic systems

- Theories of compressed air
- Operation & function of air components
- Design & drawing of air symbols
- Simulation of movement phases & function phases
- Drawing air circuits according to standards
- Pneumatic logic
- Dryers, air receivers
- Compressors
- Pneumatic actuators
- Air distribution systems
- Directional valves
- Flow valves
- Control systems with vacuum component

## Memorandum of Understanding (MOU)


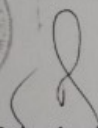

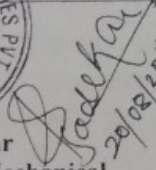
This Memorandum of Understanding ("MoU") entered into as of the August 20, 2017 between **Prolific System & Technologies Pvt. Ltd.** a company organized and existing under the laws of India and having a local business address at 36, Preet Chambers, Opp. Hero Honda Showroom, Mumbai Pune Highway, Wakdevadi, Pune and **Rajendra Mane College of Engineering and Technology** an institution and existing under the laws of India, and having a college at Taluka Sangameshwar, Dist. Ratnagiri, Ambav, Maharashtra 415804.

1. Recognizing the need to cultivate an industry and institution interaction, value addition and perpetual need to keep abreast with latest development in the field of Automation Technology the parties have agreed to enter into a MOU. The purpose of this MOU is to memorialize recent conversations and basic understanding to the parties.
2. Prolific shall keep on updating the **Rajendra Mane College of Engineering and Technology** of students on the latest happenings on the industrial automation sector which include
  - Popular hardware and software worldwide
  - The technological advancement
  - Automation solution providers in India
  - Job prospects for the students
3. Prolific shall identify and help student to implement industry level projects. The project will involve latest technologies in PLCs, Drives and Electrical and Electronics systems. The cost of the project shall be borne by students.
4. Prolific shall arrange for the practical workshop on various hardware and software at mutually agreed premises on chargeable basis. **Rajendra Mane College of Engineering and Technology** students are able to attend this training program. Prolific shall arrange all the hardware and software needed for training. **Rajendra Mane College of Engineering and Technology** shall arrange for the computer lab and projector. Prolific shall pass on the maximum discount for the college batch and the training fees shall be Rs. 700/-
5. Prolific shall allocate certain seats for **Rajendra Mane College of Engineering and Technology** for our Three months placement assisted "Post Graduate Diploma in Industrial Automation (PGDIA)" & "Post Graduation Diploma in Advance Mechanical Systems" training program conducted by Prolific. Prolific shall pass on a special 10% discount to **Rajendra Mane College of Engineering and Technology** students. The student shall bring the recommendation letter from HOD / Principal.



31-10-17 15:42

9. College will provide the computer lab before two days of training program as per the required software & Configuration, for loading the training software's.
10. **Rajendra Mane College of Engineering and Technology, Department of Mechanical Engineering** students can avail any telephonic help from prolific faculties if they need in their professional life.
11. College will deduct TDS as per Government norms and will provide the required certificate to PROLIFIC.
12. PROLIFIC will provide certificate to all students as well as faculties those are attended the course, at the end of course.
13. This MOU shall be valid for one (1) year from the effective date and thereafter it may be renewed on mutually agreed terms.

  <b>Principal</b> Rajendra Mane College of Engineering and Technology (Ratnagiri, Ambav)	  <b>Suhas S. Gadekar</b> Centre Director/ HoD Mechanical Prolific Systems & Technologies Pvt. Ltd.
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RAJENDRA MANE COLLEGE OF ENGINEERING & TECHNOLOGY, AMBAV (DEVRUKH)

ACADEMIC YEAR :2017-18

CLASS : B.E. (MECHANICAL)

4 Days Certificate Training Programme on "HydroPneumatics (Industrial Fluid Power)"

Resource Person: Mr. Suhas Gadekar, Prolific Systems & Technologies Pvt. Ltd. Pune.

31-10-17

NAME	04-10-17		05-10-17		06-10-17		07-10-17	
	Morning	Evening	Morning	Evening	Morning	Evening	Morning	Evening
AV PRATIK PRAKASH	Pratik	Pratik	Pratik	Pratik	Pratik	Pratik	Pratik	Pratik
ALE PRITESH PRADIP	Prade	Prade	Prade	Prade	Prade	Prade	Prade	Prade
ADE AKIB NAJIR	A...	A...	A...	A...	A...	A...	A...	A...
AI AVINASH CHANDRAKANT	Adasa	Adasa	Adasa	Adasa	Adasa	Adasa	Adasa	Adasa
MARE PARAG SHARAD	Parag	Parag	Parag	Parag	Parag	Parag	Parag	Parag
NDHI SHREYAS SHRKRISHNA	SSS	SSS	SSS	SSS	SSS	SSS	SSS	SSS
AG ABHIJIT PRAKASH	Abhi	Abhi	Abhi	Abhi	Abhi	Abhi	Abhi	Abhi
DEKAR MOHAMMED SUHAIL	Suhail	Suhail	Suhail	Suhail	Suhail	Suhail	Suhail	Suhail
MADAR DANISH RAFIQUE	Danish	Danish	Danish	Danish	Danish	Danish	Danish	Danish
DAM NIHAL ARVIND	Nihal	Nihal	Nihal	Nihal	Nihal	Nihal	Nihal	Nihal
MBLE VAIBHAV DIPAK	Di	Di	Di	Di	Di	Di	Di	Di
BRANDE AKSHAY JAYRAM	Akshay	Akshay	Akshay	Akshay	Akshay	Akshay	Akshay	Akshay
ALAVADE AMEY SUDHAKAR	Ame	Ame	Ame	Ame	Ame	Ame	Ame	Ame
ODAK MUSEB RAFIK	Museb	Museb	Museb	Museb	Museb	Museb	Museb	Museb
AWAR SAGAR CHANDRAKANT	Sagar	Sagar	Sagar	Sagar	Sagar	Sagar	Sagar	Sagar
HANSOPKAR MAHD MEHABOOB	Mahd	Mahd	Mahd	Mahd	Mahd	Mahd	Mahd	Mahd
HODKAR PUSHPRAJ DATTARAM	Pus	Pus	Pus	Pus	Pus	Pus	Pus	Pus
HIMPLE TEJAS CHANDRAKANT	Tejas	Tejas	Tejas	Tejas	Tejas	Tejas	Tejas	Tejas
SAWANT SWARAJ SANJAY	Swara	Swara	Swara	Swara	Swara	Swara	Swara	Swara
SHELAR AKASH VIJAY	Akash	Akash	Akash	Akash	Akash	Akash	Akash	Akash
SHINDE PRASAD FRANCIS	Prasad	Prasad	Prasad	Prasad	Prasad	Prasad	Prasad	Prasad
SHIRKE MEHUL MAHADEV	Mehul	Mehul	Mehul	Mehul	Mehul	Mehul	Mehul	Mehul
SHITAP SHUBHAM BHALCHANDRA	Shitap	Shitap	Shitap	Shitap	Shitap	Shitap	Shitap	Shitap
SOLKAR SHAHID JAVED	Shahid	Shahid	Shahid	Shahid	Shahid	Shahid	Shahid	Shahid
VASTA AZAM JALIL	Azam	Azam	Azam	Azam	Azam	Azam	Azam	Azam
BAT GIRISH SHANKAR	Girish	Girish	Girish	Girish	Girish	Girish	Girish	Girish
BHALEKAR KETAN JAYRAM	Ketan	Ketan	Ketan	Ketan	Ketan	Ketan	Ketan	Ketan
BHOJANE AKSHAY SHANTARAM	Akshay	Akshay	Akshay	Akshay	Akshay	Akshay	Akshay	Akshay

R.V. Dandage  
Co-ordinator

Mr. Suhas Gadekar  
Resource Person

Dr. S.N. Waghmare  
H.O.D. Mech. Dept

RAJENDRA MANE COLLEGE OF ENGINEERING & TECHNOLOGY, AMBAV (DEVRUKH)  
 ACADEMIC YEAR :2017-18  
 CLASS : B.E. (MECHANICAL)

4 Days Certificate Training Programme on "HydroPneumatics (Industrial Fluid Power)"

Resource Person: Mr. Suhas Gadekar, Prolific Systems & Technologies Pvt. Ltd. Pune.

NAME	04-10-17		05-10-17		06-10-17		07-10-17	
	Morning	Evening	Morning	Evening	Morning	Evening	Morning	Evening
NDHARPATTE AKSHAY SUNIL	AKS	AKS	AKS	AKS	AKS	AKS	AKS	AKS
AKAR MANDAR HANUMANT	MH	MH	MH	MH	MH	MH	MH	MH
ATL GOURAV ANIL	GA	GA	GA	GA	GA	GA	GA	GA
ATL GOURAV SITARAM	GS	GS	GS	GS	GS	GS	GS	GS
AWASKAR PRAJAKTA SANTOSH	ES	ES	ES	ES	ES	ES	ES	ES
AWASKAR YOGESH PRAKASH	YP	YP	YP	YP	YP	YP	YP	YP
ENDHARI SIDDHESH VILAS	MH							
HALAKE ABHIJIT SANTARAM	HA	HA	HA	HA	HA	HA	HA	HA
PRABHUTENDOLKAR NANDAN R.	MH							
SAKPAL ABHIJEET RAJESH	MH							
SAKPAL OMKAR SURESH	MH							
SALUNKE RAHUL PRAKASH	RS	RS	RS	RS	RS	RS	RS	RS
SANKHE ROHAN VILAS			RS		RS		RS	
SAWANT ABHISHEK SHANKAR	AS	AS	AS		AS	AS	AS	AS
SAWANT PRANAV MADHUKAR	MH							
SAWANT PRATHAMESH PRAKASH	PS	PS	PS	PS	PS	PS	PS	PS
SAWANT SUYASH NARAYAN	MH							
SHINDE ONKAR VIJAY	SH	SH	SH	SH	SH	SH	SH	SH
SHINGARE VENKATESH DILIP	VS	VS	VS	VS	VS	VS	VS	VS
SURVE TUSHAR VIDYADHAR	TS	TS	TS	TS	TS	TS	TS	TS
TAMBE SWAPNIL PRAKASH	TS	TS	TS	TS	TS	TS	TS	TS
TONE KARYAPPA LAXMAN	TK	TK	TK	TK	TK	TK	TK	TK
TORASKAR SANKET BABAJI	TS	TS	TS	TS	TS	TS	TS	TS
WADKAR AKSHAY JAGDISH	WA	WA	WA	WA	WA	WA	WA	WA
WARANG AKSHAY SANJAY	WA	WA	WA	WA	WA	WA	WA	WA
ZORE RAHUL RAMCHANDRA	ZR	ZR	ZR	ZR	ZR	ZR	ZR	ZR

31-10-17 15:4

Prof. R.V. Dandage  
 Course Co-ordinator

Mr. Suhas Gadekar  
 Resource Person

Dr. S.N. Waghmare  
 H.O.D. Mech. Dept

RAJENDRA MANE COLLEGE OF ENGINEERING & TECHNOLOGY, AMBAY (DEVRUKH)

ACADEMIC YEAR :2017-18

CLASS : B.E. (MECHANICAL)

4 Days Certificate Training Programme on "HydroPneumatics (Industrial Fluid Power)"

Resource Person: Mr. Suhas Gadekar, Prolific Systems & Technologies Pvt. Ltd, Pune.

NAME	04-10-17		05-10-17		06-10-17		07-10-17	
	Morning	Evening	Morning	Evening	Morning	Evening	Morning	Evening
ANDHYA RAJAN	Jaya	Jaya	Jaya	Jaya	Jaya	Jaya	Jaya	Jaya
N VISHWAMBHAR DIPAK	VS	VS	VS	VS	VS	VS	VS	VS
KAR HARSHAVARDHAN J.	YPC	YPC	YPC	YPC	YPC	YPC	YPC	YPC
OMKAR SUHAS	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni
RHUSHIKESH RAJENDRA	Bate	Bate	Bate	Bate	Bate	Bate	Bate	Bate
TEJAS VISHWANATH	Tej	Tej	Tej	Tej	P	Tej	Tej	Tej
II SHUBHAM SAHADEO	S. Dharti	S. Dharti	S. Dharti	S. Dharti	S. Dharti	S. Dharti	S. Dharti	S. Dharti
VAT SUSHANT DHANAJI	S	S	S	S	S	S	S	S
ALE RAHUL DATTATRAY	Rahul	Rahul	Rahul	Rahul	Rahul	Rahul	Rahul	Rahul
II PRAJAKTA GOVIND	Prajakta	Prajakta	Prajakta	Prajakta	Prajakta	Prajakta	Prajakta	Prajakta
ADE MIHIR MAHADEV	M	M	M	M	M	M	M	M
ANDE VAIBHAV VILAS	Varunde	Varunde	Varunde	Varunde	Varunde	Varunde	Varunde	Varunde
YE PRATHAMESH RAVINDRA	Pate	Pate	Pate	Pate	Pate	Pate	Pate	Pate
AV POONAM NITIN	Poonam	Poonam	Poonam	Poonam	Poonam	Poonam	Poonam	Poonam
ISHTE VISHAL VISHWAS	Vishal	Vishal	Vishal	Vishal	Vishal	Vishal	Vishal	Vishal
ARE HARRIS MUNAVAR	Harris	Harris	Harris	Harris	Harris	Harris	Harris	Harris
HI DINESH VILAS	Dinesh	Dinesh	Dinesh	Dinesh	Dinesh	Dinesh	Dinesh	Dinesh
AM AMEY RAVIKANT	Amey	Amey	Amey	Amey	Amey	Amey	Amey	Amey
IBLI SUYASH SAVALARAM	Suyash	Suyash	Suyash	Suyash	Suyash	Suyash	Suyash	Suyash
DEKAR SHIVANGI SANDEEP	Shivangi	Shivangi	Shivangi	Shivangi	Shivangi	Shivangi	Shivangi	Shivangi
ARE ROHIT VIJAY	Rohit	Rohit	Rohit	Rohit	Rohit	Rohit	Rohit	Rohit
JAV PRAVIN APA	Pravin	Pravin	Pravin	Pravin	Pravin	Pravin	Pravin	Pravin
ISHTE MANDAR RAJENDRA	Mandar	Mandar	Mandar	Mandar	Mandar	Mandar	Mandar	Mandar
KADE HARSHALI RAMESHWAR	Harshali	Harshali	Harshali	Harshali	Harshali	Harshali	Harshali	Harshali
HITE ABHIJEET RAVINDRA	Abhijeet	Abhijeet	Abhijeet	Abhijeet	Abhijeet	Abhijeet	Abhijeet	Abhijeet
ARE AKASH DILIP	Akash	Akash	Akash	Akash	Akash	Akash	Akash	Akash
IALE NAMRATA SANJAY	Namrata	Namrata	Namrata	Namrata	Namrata	Namrata	Namrata	Namrata
VALKAR PRATIKSHA SUNIL	Pratiksha	Pratiksha	Pratiksha	Pratiksha	Pratiksha	Pratiksha	Pratiksha	Pratiksha

31-10-17

V. Dandage  
Co-ordinator

Mr. Suhas Gadekar  
Resource Person

Dr. S.N. Waghmare  
H.O.D. Mech. Dept



Authorized Training Partner



# CERTIFICATE



This is to certify that  
**Prof. RAHUL VISHWANATH DANDAGE**

Has successfully completed Four Days training program on "Industrial Fluid Power" which covers

- > Hydraulic Systems, Functions, Operations, Ckt. Design & Trouble Shootings
- > Pneumatics Systems, Functions, Operations, Ckt. Design & Trouble Shootings

Held from **04<sup>th</sup> to 07<sup>th</sup> October, 2017** at "Rajendra Mane College of Engineering and Technology", organized by

Department of Mechanical Engineering and

Conducted by Prolific Systems and Technologies Pvt. Ltd. Pune.

We appreciate his/her Participation for successful completion of this program.

Rajendra Mane College of Engineering and Technology

Taluka Sangameshwar, Dist. Rahngiri, Ambav, Maharashtra 415804

☎ : 02354 289 400

•Website: [www.rmccet.com](http://www.rmccet.com)

**PROLIFIC SYSTEMS & TECHNOLOGIES PVT.LTD.**

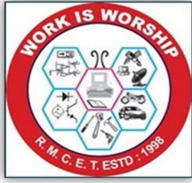
> An Affiliate of Aref Group (Kuwait)

> Funded by Can Bank, V.C Fund, owned by Canara Bank

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National Skill Development Corp. (Govt. of India) Approved Training Company





**Rajendra Mane College of  
Engineering and Technology, Ambav  
(Devrukh)**



**Department of Mechanical Engineering**  
4 days Certificate course on  
**“Hydro-Pneumatics (Industrial Fluid Power)”**  
(4<sup>th</sup> to 7<sup>th</sup> October, 2017)

The department of Mechanical Engineering of RMCET organised 4 days Certificate course on **“Hydro-Pneumatics (Industrial Fluid Power)”** during 4<sup>th</sup> to 7<sup>th</sup> October, 2017.

**Mr. Suhas Gadekar** (Head of Mechanical Department, Prolific Systems and Technologies Pvt. Ltd. Pune) was the Resource Persons for this Training course.

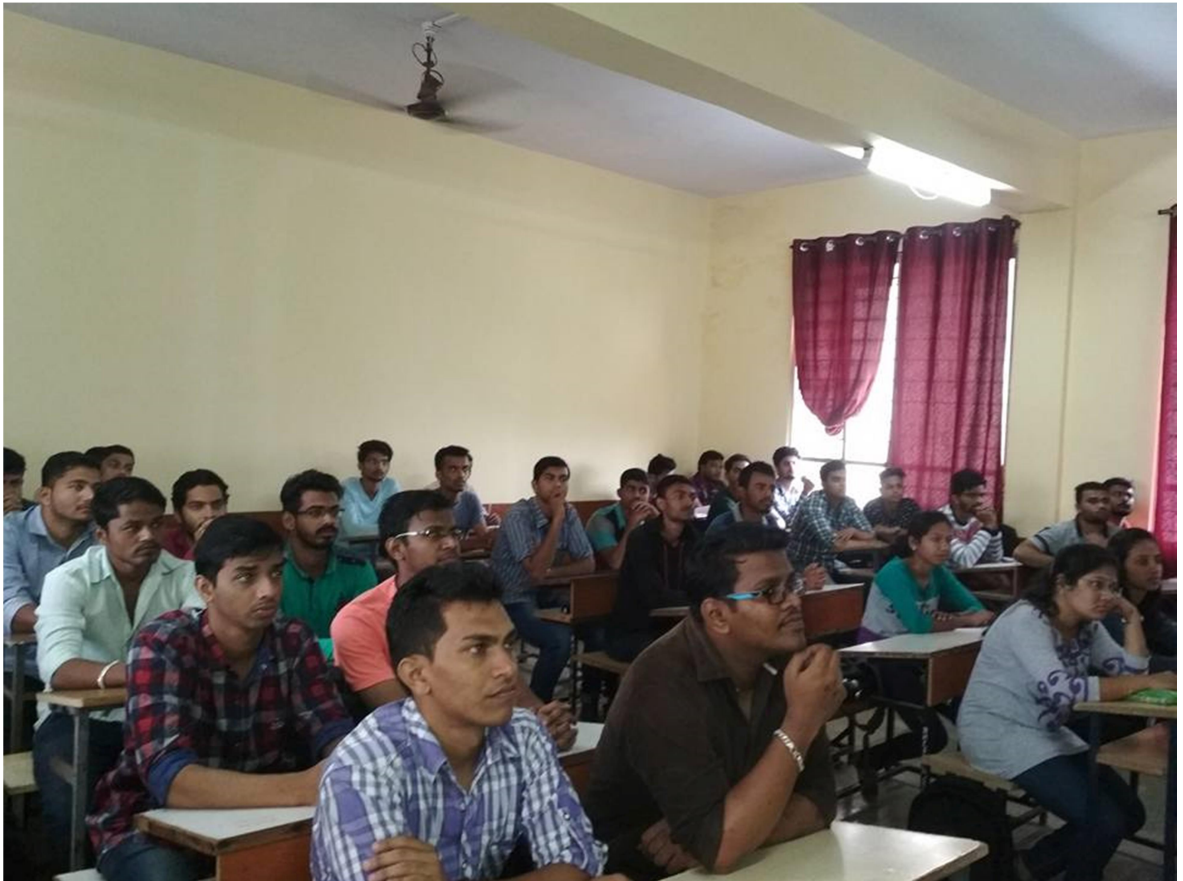


*(Course Coordinator Prof. R.V. Dandage felicitating Resource Person Mr. Suhas Gadekar)*

The course was conducted at Class room No.14 and was attended by 76 students of BE Mechanical Engineering. Prof. R.V. Dandage coordinated the Course.



*(Mr. Suhas Gadekar delivering the session)*



*(RF Mech students undergoing the course)*

The course was covering the important aspects of Industrial Fluid Power systems like:

- 1) Basics of Hydraulic and Pneumatic systems
- 2) Construction, working principle and Function of various fluid power components
- 3) Control valves for controlling Pressure, Flow, Direction etc.
- 4) Logic behind developing fluid power circuits
- 5) Reading fluid power circuits
- 6) Developing fluid power circuits.

The course has been approved under the Government of India's National Skill Development Corporation (NSDC). The course fees for all 76 students have been completely sponsored by RMCET under its mission to impart technical value added skills to the students. The students expressed their complete satisfaction about the course contents and appreciated the expertise and teaching methodology of the resource person. The students thanked RMCET management for organizing and sponsoring this training course.