



# **SAL** **EDUCATION**

A Report on

One week Faculty Development Program

From 18/03/2019 to 23/03/2019 [Except 21/03/2019]

On Topic

**“Recent Trends and Developments in Mechanical Engineering”**

*Jointly sponsored by*

**Gujarat Technological University [GTU]**

And

**ALL India Council for Technical Education [AICTE]**

*Organized by*

**Mechanical Engineering Department,**

**SAL Institute of Technology and Engineering Research,**

Opp. Science City, Sola- Bhadaj Road,

Ahmedabad.

## **About AICTE**

All India Council for Technical Education (AICTE) was set up in November 1945 as a national-level Apex Advisory Body to conduct a survey on the facilities available for technical education and to promote development in the country in a coordinated and integrated manner.

As known, Technical education in India contributes a major share to the overall education system and plays a vital role in the social and economic development of our nation. And so the AICTE works with the vision “To be a world-class organization leading technological and socio-economic development of the country by enhancing the global competitiveness of technical manpower and by ensuring high quality technical education to all sections of the society.”

## **About GTU**

Gujarat Technological University is a premier academic and research institution which has driven new ways of thinking since its 2007 founding, established by the Government of Gujarat vide Gujarat Act No. 20 of 2007. GTU is a State University with 486 affiliated colleges in its fold operating across the state of Gujarat through its FIVE zones at Ahmadabad, Gandhinagar, Vallabh Vidyanagar, Rajkot and Surat. The University caters to the fields of Engineering, Architecture, Management, Pharmacy and Computer Science. The University has about 4,00,000 students enrolled in various technical educational programs.

## **About the Institute SALITER**

Established in 2009 by Adarsh Foundation, SAL Group of Institute offering graduate and post graduate programs in Engineering, Pharmacy, MBA and Architecture, having 6 colleges and 11 branches. SAL Group of Institutes are affiliated to GTU and approved by AICTE, New Delhi.

SAL Technical Campus is awarded by The Times of India as No. 1 best in private Engineering College in Gujarat. It is managed by technical experienced and well qualified team under leadership of Dr. Rajendra Shah, Chairman. The Campus has grown steadily and is imparting quality technical education to young engineers. 1st Institute in Gujarat ranked by QS-I gauge.

Here in, The Mechanical engineering department started in year 2009 with a vision to become a prominent department producing competent professionals with research and innovation skills, and provide students a wide global exposure. It is the branch of engineering that involves the design, production, and operation and maintenance of machinery, and so well equipped laboratories and best computing facilities are provided for students. Also the students are exposed to various industries' working atmosphere to make them more competent in today's era.

## Objective of the Program

The faculty development program “Recent Trends and Developments in Mechanical Engineering” is designed so as to provide a base to the academicians for enhancing their knowledge in the field of mechanical engineering. Here in, the experts and guests invited are from plethora of areas, and the ultimate objective is to introduce not only the current trends of design, manufacturing, energy sector, etcetera, but also to keep the faculty members abreast of the scientific developments and research that is being carried out globally in the Mechanical engineering stream.

## Schedule of FDP

### Day 1: 18<sup>th</sup> March 2013

<b>TIME</b>	<b>Details</b>	<b>Venue</b>
9.30 AM - 10.30 AM	Registration	Outside SCE Seminar Hall
	Tea & Breakfast	SAL Restaurant Area
10.30 AM - 12.30 PM	Inaugurations	SCE Seminar Hall
	Special Guest:- Mr. Chandranshu Girikant Pandya Ex.Wing officer in Indian Air Force.	
	Special Guest:- Mr. Bharat Joshi Scientific Officer-G, Head of Mechanical Group, Institute of Plasma Research.	
	Special Guest:- Mr. Ashok Bhavsar, Proprietor, Delta Packaging Industries.	
12.30 PM - 1.00 PM	Lunch	SAL Restaurant Area
1.00 PM - 3.00 PM	EXPERT LECTURE-1 Dr. Sanket N. Bhavsar, Professor & Head, Department of Mechatronics Engineering, G H Patel College of Engineering and Technology, Vallabh Vidyanagar, Anand.	SCE Seminar Hall
3.00 P.M.- 3.15 PM	Tea	Outside SCE Seminar Hall
3.15 P.M.- 5.15 P.M.	EXPERT LECTURE-2 Prof. S. B. Soni, Associated with Ahmedavad University, Nirma University and Many Industries, Ahmedabad.	SCE Seminar Hall

**Day 2: 19<sup>th</sup> March 2013**

<b>TIME</b>	<b>Details</b>	<b>Venue</b>
9:30 AM - 10:30 AM	Tea & Breakfast	SAL Restaurant Area
10.30 AM - 12.30 PM	Expert Lecture-1 Dr. Hitesh Vandra, Principal, Shri Swaminarayan Institute of Technology-BHAT, Gandhinagar.	SCE Seminar Hall
12.30 PM - 1.00 PM	Lunch	SAL Restaurant Area
1.00 PM - 3.00 PM	Expert Lecture-2 Mr. Harsh Maniar, Design Engineer, Khodiyar CAD Center (I) Pvt Ltd, Ahmedabad.	SCE Seminar Hall
3.00 P.M.- 3.15 PM	Tea	Outside SCE Seminar Hall
3.15 P.M.- 5.15 P.M.	Expert Lecture-3 Mr. Purvesh Agrawal, Design Engineer, Khodiyar CAD Center (I) Pvt Ltd, Ahmedabad.	SCE Seminar Hall

**Day 3: 20<sup>th</sup> March 2013**

<b>TIME</b>	<b>Details</b>	<b>Venue</b>
9:30 AM - 10:30 AM	Tea & Breakfast	SAL Restaurant Area
10.30 AM - 12.30 PM	Expert Lecture-1 Dr. Anand B. Dhruv, Professor, HOD, Department of Mech. Engg., Vishwakarma Government Engineering College, Ahmedabad.	SCE Seminar Hall
12.30 PM - 1.00 PM	Lunch	SAL Restaurant Area
1.00 PM - 3.00 PM	Expert Lecture-2 Dr. Reena Trivedi, Associate Professor, Department of Mechanical Engineering, Nirma Institute of Technology, Ahmedabad.	SCE Seminar Hall

<b>TIME</b>	<b>Details</b>	<b>Venue</b>
3.00 P.M.- 3.15 PM	Tea	Outside SCE Seminar Hall
3.15 P.M.- 5.15 P.M.	Expert Lecture- 3 Dr. Mayur Sutaria, Professor, Department of Mechanical Engineering, CHARUSAT (Charotar University of Science and Technology), Changa, District- Anand.	SCE Seminar Hall

**Day 4: 22<sup>nd</sup> March 2013**

<b>TIME</b>	<b>Details</b>	<b>Venue</b>
9:30 AM - 10:30 AM	Tea & Breakfast	SAL Restaurant Area
10.30 AM - 12.30 PM	Expert Lecture-1 Dr. P. M. George, Professor & HOD, Department of Mech. Engg., Birla Vishwakarma Mahavidhyalaya, Vallabh vidyanagar, Anand.	SCE Seminar Hall
12.30 PM - 1.00 PM	Lunch Break	SAL Restaurant Area
1.00 PM - 3.00 PM	Expert Lecture-2 Mr. Ajay Karansinh Desai, Drilling Engineer, ONGC Ltd., Ankleshwar.	SCE Seminar Hall
3.00 P.M.- 3.15 PM	Tea Break	Outside SCE Seminar Hall
3.15 P.M.- 5.15 P.M.	Expert Lecture-3 Dr. Kaushik M. Patel, Professor, Department of Mechanical Engineering, Nirma Institute of Technology, Ahmedabad.	SCE Seminar Hall

**Day 5: 23<sup>rd</sup> March 2013**

<b>TIME</b>	<b>Details</b>	<b>Venue</b>
9:30 AM - 10:30 AM	Tea & Breakfast	SAL Restaurant Area

<b>TIME</b>	<b>Details</b>	<b>Venue</b>
10.30 AM - 12.30 PM	Expert Lecture-1 Dr. R. N. Patel, Additional Director, School of Engineering, Nirma Institute of Technology, Ahmedabad.	SCE Seminar Hall
12.30 PM - 1.00 PM	Lunch Break	SAL Restaurant Area
1.00 PM - 3.00 PM	Expert Lecture-2 Mr. Ajay Karansinh Desai, Drilling Engineer, ONGC Ltd., Ankleshwar.	SCE Seminar Hall
3.00 P.M.- 3.15 PM	Tea	Outside SCE Seminar Hall
3.15 P.M.- 5.15 P.M.	Valedictory	SCE Seminar Hall

### **List of Experts and their Field of Expertise**

<b>Sr. No.</b>	<b>Expert Name</b>	<b>Associated Institute/ Organization</b>	<b>Field of Expertise</b>
1	Dr.Sanket Bhavsar	G H Patel College of Engineering & Technology	Manufacturing, Automation, Machining and Micro-Nano Technology
2	Mr. S. B. Soni	Ahmedabad University, Nirma University and Many Industries	Design and Manufacturing
3	Dr.Hitesh H.Vandra	Shri Swaminarayan Institute of Technology-BHAT	Internet of Things
4	Mr. Harsh Maniar	Khodiyar CAD Center [Ahmedabad]	Design Software
5	Mr. Purvesh Agrawal	Khodiyar CAD Center [Ahmedabad]	Virtual Reality and Design software
6	Dr. A. B. Dhruv	Vishwakarma Government Engineering College	Metal Forming, Micro/Nano Manufacturing, CAD/CAM, Automobile engineering
7	Dr. Reena Trivedi	Nirma University	Optimization
8	Dr. Mayur Sutaria	Charotar University of Science and Technology (CHARUSAT)	Materials processing under liquid and semi-solid condition; design and development of composite materials and their components; automated DFM and manufacturability enhancement
9	Dr.P.M.George	Birla Vishwakarma Mahavidhyalaya	Computer Aided Tolerance Analysis, Taguchi Concept and Response

			Surface Methodology, GD&T
10	Dr. K.M. Patel	Nirma University	Manufacturing Processes and analysis
11	Mr. Ajay Karansinh Desai	ONGC Ltd., Ankleshwar	Drilling Technologies related to oil and gas sector
12	Dr. R. N. Patel	Nirma University	Thermal Engineering

### **Topics covered during Program**

- “Position Control Sensors for Automation in Mechanical Devices” by Dr. Sanket Bhavsar.
- “Recent Trends in Mechanical Design for Industry” by Prof. S. B. Soni.
- “Internet of Things [IOT]” by Dr. Hitesh Vandra.
- Design using “ANSYS” software by Mr. Harsh Maniar.
- Practical Session on “Virtual Reality” by Mr. Purvesh Agrawal.
- “Advances in Sheet Metal Forming” by Dr. Anand B. Dhruv.
- “Genetic Algorithm – A Nonconventional Optimization Technique” by Dr. Reena Trivedi.
- “Metal Casting- Opportunities and Aspirations” by Dr. Mayur Sutaria.
- “Geometric Dimensioning and Tolerancing for Economic Manufacturing” by Dr. P. M. George.
- “Abrasive based Finishing Technology” by Dr. K. M. Patel.
- “Advance Drilling Technologies” by Mr. Ajay Karansinh Desai.
- “Heat Exchanger Network Synthesis - Process Optimization for Energy Conservation” by Dr. R. N. Patel.

### **Scheduled Events**

#### **FDP – Fresh Start**

The day started by warmly welcoming the participants and every individual at the entrance of the SAL Education campus with the banners of the Faculty development program being placed on the gate.



The Detailed Poster of Faculty Development Program Placed  
on The Entrance Gate of The SAL Education Campus

## Registration Procedures

The Registration is the first procedure of any program and this registration was to be done outside the SCE seminar hall at the aisle. The committee members were allocated to carry out this procedure and on registration the participants were provided with the registration kit holding the notepad, schedule and Food coupons.



Registration Desk with the Registration Committee Members



A Participant's Registration Procedure Being Carried Out at The Desk



The standee placed at the entrance of SCE Seminar Hall representing the details of the FDP



The list of registered participants are as below:

<b>Sr. No.</b>	<b>Participant Name</b>	<b>Organization / Institution</b>	<b>Institute Code</b>
1	Bharat Dogra	Indus university	025
2	Krupal Shah	Indus university	025
3	Anilkumar Nandram Rathour	C. U. Shah University	044
4	Piyushkumar Devani	SALITER	067
5	Rupal Tank	SALITER	067
6	Atul J.Patel	SALITER	067
7	Yagnang Pandya	SALITER	067
8	Umang S Modi	SALITER	067
9	Manishkumar H. Patel	SALITER	067
10	Ravi Malaviya	SALITER	067
11	Hardik G. Soni	SALITER	067
12	Ketan M Patel	SALITER	067
13	Patel Akulkumar Mahendrabhai	SALITER	067
14	Saras Ashwinkumar Patel	SALITER	067
15	Nirmal Chauhan	SALITER	067
16	Nemisha Goswami	SALITER	067
17	Panchal Pragneshkumar Dineshkumar	SALITER	067
18	Thaker Pulkit Pravinbhai	SALITER	067
19	Tejas J. Wadiya	SALITER	067
20	Sanket Dipakbhai Patel	SALITER	067
21	Hardik Vasavada	SALITER	067
22	Soyeb Saiyed	SALITER	067
23	Vatsal Shah	SALITER	067
24	Vishvas Gautambhai Patel	SALITER	067
25	Mayurkumar Nareshbhai Patel	SALITER	067
26	Jigna Sagar Bhavsar	SALITER	067
27	Manisha Yadav	SALITER	067
28	Apeksha Patel	SALITER	067
29	Shah Parth Atulkumar	SALITER	067
30	Sachin Panchal	SALITER	067
31	Riddhesh Vijaybhai Yagnik	SALITER	067

<b>Sr. No.</b>	<b>Participant Name</b>	<b>Organisation / Institution</b>	<b>Institute Code</b>
32	Rakesh P. Prajapati	SALITER	067
33	Jay Mahendrakumar Patel	SALITER	067
34	Preksha Khatri	SALITER	067
35	Manish Parmar	SALITER	067
36	Avinash Panchal	SALITER	067
37	Jimesh Gajjar	SALITER	067
38	Bhavik Mehta	SCE	113
39	Harshit Bhavsar	SCE	113
40	Nikita Bavishi	SCE	113
41	Dipen Modi	SCE	113
42	Mr. Brijesh Kayasth	SCE	113
43	Bhavikkumar Mohanlal Padhiyar	SCE	113
44	Jitendra R Brahmhatt	SCE	113
45	Nisarg Trivedi	SCE	113
46	Ankitkumar P Shah	SCE	113
47	Krishna K Dave	SCE	113
48	Ripal Modi	SCE	113
49	Hardik Bhatt	SCE	113
50	Snehalkumar Vinubhai Patel	SCE	113
51	Nayana Gandhi	SCE	113
52	Raviprakash Patel	SCE	113
53	Dixit M Patel	SCE	113
54	Ravi Kalotra	SCE	113
55	Bharatbhai Prajapati	SCE	113
56	Vinaykumar Tarunkumar Verma	SCE	113
57	Chintan.A.Patel	SCE	113
58	Rakesh Prajapati	SCE	113
59	Jalay Soni	SCE	113
60	Divyesh M. Jaisar	SCE	113
61	Pratik B.Patel	SETI	126
62	Jay A. Raval	SETI	126
63	Jitendra J.Thakkar	SETI	126
64	Maharshi Patel	SETI	126

<b>Sr. No.</b>	<b>Participant Name</b>	<b>Organisation / Institution</b>	<b>Institute Code</b>
65	Sasmita Patnaik	SETI	126
66	Jalpit B. Prajapati	SETI	126
67	Shaswat L. Padalia	SETI	126
68	Ketankumar G. Patel	SETI	126

**Note:**

- **SALITER** - SAL Institute of Technology and Engineering Research
- **SCE** – SAL College of Engineering
- **SETI** – SAL Engineering and Technical Institute

**Inaugural Session**

After having their breakfast at the SAL restaurant area, the participants were gathered at the Seminar hall for the inauguration of the faculty development program following the schedule provided to them. Even the dignitaries of the college, special guests invited including **Shri Chandranshu Pandya**[Ex. Wing officer at Air Force], **Shri Bharat Doshi** [Scientific Officer-G, Head of Mechanical Group, Institute of Plasma Research] and **Shri Ashok Bhavsar** [Proprietor, Delta Packaging Industries] and HOD's of all the departments graced the hall with their presence accepting the invitations presented to them by the FDP team.

The **schedule of the Inauguration** session is as mentioned:

<b>Sr. No.</b>	<b>Program</b>	<b>Tentative Time</b>
1	Prayer	10:30 to 10:45
2	Opening of FDP and Welcome speech by Prof. Manish H. Patel (HOD, Mechanical Engineering Department)	10:45 to 10:50
3	Lighting of Lamp	10:50 to 10:55
4	Welcome ceremony with bouquet and Momentous	10:55 to 11:05
5	Words of Wisdom by Mr. Madhusudan Joshi (Chief Operating Officer - COO , SAL Education Campus)	11:05 to 11:15
6	Speech by Special Guest, Shri Chandranshu Pandya	11:15 to 11:35
7	Speech by Guest, Shri Bharat Doshi	11:35 to 11:55
8	Speech by Guest, Shri Ashok Bhavsar	11:55 to 12:20
9	Vote of Thanks by Dr. Rupesh Vasani (Director, SAL Education Campus)	12:20 to 12:25
10	National Anthem	12:25 to 12:30



The Guests , dignitaries of the college and the participants gathered in the SCE Seminar hall



Asst. Prof. Shaswat Padalia addressing the event for the first day of the event



Prayer Song sung by one of the students – Harsh Dave of 8<sup>th</sup> Semester, Mech. Engg. Department.



The Dignitaries and Participants standing in respect while remembering the Almyity in the Prayer at the start of Event



Guests and dignitaries of college being invited for Lamp Lighting



Lighting of Lamp by Prof.P.M.Raval [Principal I/C,SETI] and Shri Bharat Doshi



Lamp Lighting by Shri Chandranshu Pandya and Shri Ashok Bhavsar



Lamp Lighting by Shri Madhusudan Joshi [Chief Operating Officer,SAL Education Campus] and Manish H. Patel[HOD, Mech. Engg. Dept., SALITER]



Lighted Lamp symbolizing Wisdom and Knowledge



The participants and the HOD's present in the Event



The special Guest of the event and the Chief Operating Officer of SAL Education Campus being seated on the Dias



Prof.P.M.Raval (Principle I/C, SETI) presenting memento and bouquet to Shri Chandranshu Pandya



Mr.Madhusudan Joshi (COO,SAL Education) honoring Shri Bharat Joshi with Bouquet and Memento



Shri Ashok Bhavsar Receiving memento and bouquet from Assoc.Prof. Hema Vanar(Principala I/C,SCE)



Prof.Manish H.Patel (Event Coordinator & HOD,Mech.Engg. Dept.,SALITER) honoring Mr.Madhusudan Joshi (COO,SAL Education)



Welcome speech by Prof. Manish H. Patel, Head of Mech. Engg. Department, SALITER



Words of Wisdom by Mr. Madhusudan Joshi (Chief Operating Officer, SAL Education)



Shri Chandranshu Pandya addressing the participants on Visions to be possessed by a Mechanical Engineer and also about various energy sector's status in our Country



Shri Bharat Doshi and Shri Ashok Bhavsar sharing their views on "Recent trends and Developments in Mechanical Engineering"

## Experts Honored by the FDP Team



Asst.Prof. Pragnesh Panchal [Faculty, SALITER] honoring the Expert- Dr.Sanket Bhavsar with Bouquet and Memento on 1<sup>st</sup> day of FDP



Asst.Prof. Dipen Modi [HOD, Mechatronics Engg. Department, SCE] honoring Mr.Harsh Maniar from Khodiar CAD Centre on 2<sup>nd</sup> day of FDP



Dr. A.B.Dhruv being honored by Asst.Prof. Manish H. Patel [HOD, Mech. Engg. Department, SALITER] on 3<sup>rd</sup> day of FDP



Asst. Prof. Nayana Gandhi [Faculty, SETI] honoring Dr. Reena Trivedi on 3<sup>rd</sup> day of FDP



Asst.Prof. Manish H. Patel [HOD, Mech. Engg. Department, SALITER] honoring Dr. P.M.George on 4<sup>th</sup> day of FDP



Asst.Prof. Bhavik Padhiyar [HOD, Mech. Engg. Department, SCE] honoring Dr. Kaushik M.Patel on 4<sup>th</sup> day of FDP





Dr. R.N.Patel being honored by Asst.Prof. Manish H. Patel [HOD, Mech. Engg. Department,SALITER] on 5<sup>th</sup> [final] day of FDP

### Glimpse of Expert Lectures Held



Dr.Sanket Bhavsar explaining position control system on the first day of FDP



Prof.S.B.Soni expressing the need of design in the industries



Dr.Mayur Sutaria while sharing knowledge in his field of expertise - "Metal Casting"



Dr.Reena Trivedi discussing Genetic Algorithm with the academicians present in the hall



The Faculties experiencing the concept of “Virtual Reality” by visualizing an Injection Moulding Machine designed by Mr.Purvash Agrawal(Design Engineer, Khodiyar CAD Center)



Dr.Hitesh Vandra discussing the need and growth of the concept “Internet of Things”



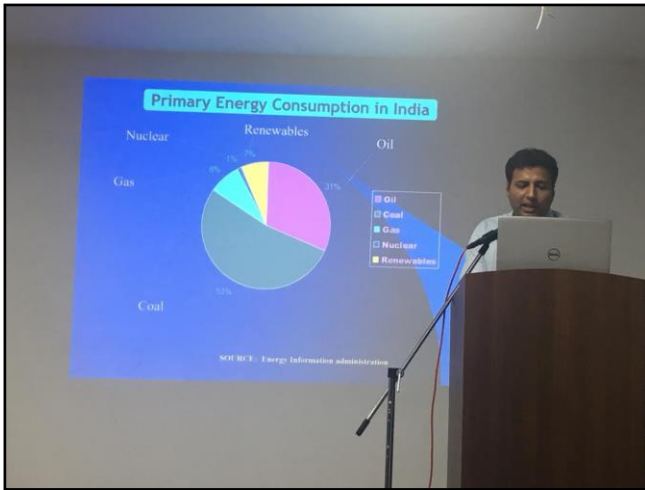
Mr.Harsh Maniar during his session on “ANSYS” Software



Dr.Kaushik M.Patel throwing limelight on various advances in Non-Conventional Machining Processes



Dr.Anand B.Dhruv drawing attention of the participants towards advances in Sheet Metal Forming



Mr.Ajay Desai (Drilling Engineer,ONGC) showing the primary energy consumption in India



Mr.Ajay Desai explaining the advance in Drilling Engineering needed in Oil and Gas Industry

### Valedictory Function

The valedictory function of the FDP was held on the last day in the presence of two guests Prof. S.M.Bhatt and Prof.D.C.Solanki. Their presence at the function provided great amount of energy and a positive aura among the participants.



Prof.S.M.Bhatt being honored by Asst.Prof.Ketan M.Patel [Faculty, Mech. Engg. Department, SALITER]



Prof.D.C.Solanki being honored by Asst.Prof.Jalpit Patel [HOD, Mech. Engg. Department, SETI]



The Guests on the Dias during the Valedictory



Prof.S.M.Bhatt delivering a motivational speech during the Valedictory



The participants giving a test related to the FDP sessions held and also filling the Feedback form of the event.



Asst.Prof. Nayana Gandhi presenting the Feedback of the Event

***“The Faculty Development Program arranged was a great event with eminent expert lecturers from various top colleges and their field of expertise were vivid. And so the event had drawn interest of the academicians throughout. Such FDPs should be organized from time to time so that it could not only help the faculties enhance their knowledge but also it could cater to their research work”***

- Feedback by Asst. Prof. Nayana Gandhi , Faculty, SETI.

## Certificates Received by Participants



Asst. Prof. Manish H. Patel receiving certificate from the Guests for Valedictory- Prof. S.M.Bhatt and Prof. D.C.Solanki



Asst. Prof. Jimesh Gajjar receiving certificate From Asst. Prof. Manish H. Patel[HOD, Mech. Engg. Dept.,SALITER]



Asst. Prof. Rakesh Prajapati receiving certificate From Asst. Prof. Manish H. Patel[HOD, Mech. Engg. Dept.,SALITER]



Asst. Prof. Nikita Bavishi receiving certificate From Asst. Prof. Manish H. Patel [HOD, Mech. Engg. Dept.,SALITER]



Asst. Prof. Nemisha Goswami receiving certificate From Valedictory Guest - Prof. D.C.Solanki



Asst. Prof. Anil N. Rathour receiving certificate  
From Valedictory Guest –Prof. S.M.Bhatt



Asst. Prof. Vinay Verma receiving certificate  
From Valedictory Guest - Prof. S.M.Bhatt

### **Participants of FDP on the Valedictory [Final Day]**



Group Photo of Participants with the Guests Prof. S.M. Bhatt and Prof. D.C.Solanki at the end of  
the Valedictory function of Faculty Development Program

#### **Report by:**

Mrs. Preksha Khatri,  
Assistant Professor,  
Mechanical Engineering Department, SALITER.

#### **Edited by:**

Mr. Manish H. Patel,  
Event Coordinator & Head,  
Mechanical Engineering Department, SALITER.

#### **Photo Credits:**

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Mr. Shaswat Padalia,  
Mr. Manish H. Patel,  
Mr. Sachin Panchal,  
Assistant Professor,  
Mechanical Engineering Department, SALITER.