



**Six DAY FACULTY
DEVELOPMENT PROGRAMME
on
AUTOMOTIVE AIR-CONDITIONING**



November 25 – 30, 2019

Organized by

Department of Automobile Engineering

Coordinator

**Dr. J. Venkatesan Professor and Head
&**

Dr. V. Ganesh, Associate Professor

Co - coordinator

Ramanjaneyulu Kolla, Assistant Professor

**SRI VENKATESWARA COLLEGE OF ENGINEERING
(Autonomous-Affiliated to Anna University)
Pennalur, Sriperumbudur Tk - 602 117**

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1. Introduction

The primary focus of the programme was to give theoretical exposure and hands-on experience to the latest technical developments in the Automotive Air-Conditioning system to the faculty members attending the programme.

1.1 Highlights of FDP

- Basic Concepts
- Ozone Layer Depletion
- Psychrometry
- Vehicular Air-Conditioning
- Components of Automotive Air-Conditioning System
- Refrigerants, Charging and Discharging
- Refrigerant System Diagnosis
- Control Systems and Controller Design
- Special Tools and Servicing of Automotive Air-Conditioning System
- Automotive Air-Conditioning System Demonstration
- Testing of Automotive Air-Conditioning System

1.2 Participants in FDP

Totally 23 participants attended the FDP (6 External and 17 Internal). All the participants are the teaching faculty members in the engineering colleges in Tamil Nadu.

1.3 Registration Kit and Study Materials

The registration kit was given to each FDP participants and the kit contains high quality legal size folder, note pad, pen and Identity card. Power point slides and lecture materials of all the FDP sessions were given to the participants.

2. Inaugural Function

Dr. P. Shanmugam, Senior General Manager (R & D), Sundaram Fastener Limited, Chennai inaugurated the six-day faculty development programme on "**AUTOMOTIVE AIR-**

CONDITIONING " on November 25th, 2019 at 9.30 AM. **Dr. J. Venkatesan**, Coordinator explained the overview of the FDP. **Dr. V. Ganesh**, Coordinator introduced the chief guest and **Mr. Ramanjaneyulu Kolla**, Co-coordinator delivered the vote of thanks.

3. FDP Sessions

Day 1

First session was FDP inaugural function and key note speech was given by Dr. P. Shanmugam. The second session lecture was given by Dr. J. Venkatesan, Professor and Head, Department of Automobile Engineering, Sri Venkateswara College of Engineering, on the topic "**Introduction to Air-Conditioning and Ozone Layer Depletion**". This session was interesting and informative. The third session lecture was handled by Dr. S. Premnath, Associate Professor Department of Automobile Engineering, Sri Venkateswara College of Engineering, on the topic "**Vehicle Air-Conditioning**".

Day 2

Dr. S. Arul Selvan, Assistant Professor (Selection Grade), Department of Automobile Engineering, Madras Institute of Technology, Anna University, Chennai, handled the forenoon sessions in the topics such as "**Design of Automotive Air-Conditioning Controller**" and "**Air-Conditioning Refrigerant Compressor, Driveability and Control Devices**". He shared lot of information in the field of designing of effective air-conditioning in a vehicle. The afternoon session was handled by Dr. J. Venkatesan, Professor and Head, Department of Automobile Engineering, Sri Venkateswara College of Engineering, on the topic "**Psychrometry**".

Day 3

First session was handled by Dr. J. Venkatesan, Professor and Head, Department of Automobile Engineering, Sri Venkateswara College of Engineering, on the topic "**Refrigerant Condensers and Evaporators**", the second session was handled by Dr. S. Premnath, Associate Professor Department of Automobile Engineering, Sri Venkateswara College of Engineering, on the topic "**Receiver, Drier and Accumulators**". The third session was handled by Mr. A. Balasubramanian, Assistant Professor, Automobile Engineering Department, SVCE in the topic "**Psychrometry, Tutorial**".

Day 4

Dr. J. Venkatesan, Professor and Head, Department of Automobile Engineering, Sri Venkateswara College of Engineering, handled the first sessions in the topic such as **"Refrigerants and Selection"**, the second session was handled by Mr. Ramanjaneyulu Kolla, Assistant Professor, Automobile Engineering Department, SVCE on the topic **"Charging and Discharging of Refrigerants"**. The afternoon session was a Laboratory Session in the topic **"Refrigerants System diagnosis"**, handled by Mr. A.K. Boobalasantilraj, Assistant Professor, Automobile Engineering Department, SVCE.

Day 5

Forenoon session was handled by Dr. V. Ganesh, Associate Professor, Department of Automobile Engineering, Sri Venkateswara College of Engineering, on the topics **"Automatic Temperature Control System"** and **"Refrigerant hoses and Connections"**. The afternoon session was a Laboratory Session in the topic **"Special Tools for Servicing Vehicle Air-Conditioning"**, handled by Mr. Ramanjaneyulu Kolla, Assistant Professor, Automobile Engineering Department, SVCE.

Day 6

Dr. V. Ganesh, Associate Professor, Department of Automobile Engineering, Sri Venkateswara College of Engineering, handled the forenoon sessions in the topic **"Testing Air-Conditioning System"** and **"Diagnosis and Servicing of Automatic Temperature Control System"**.

4. Valedictory Function

The Valedictory of FDP was held on 30th November 2019 and it was facilitated by Dr. J. Venkatesan, Professor and Head, Department of Automobile Engineering, Sri Venkateswara College of Engineering, Sriperumbudur. The chief Guest delivered the valedictory address in the area of **"Scope and opportunities in Automotive Air-Conditioning"**. Dr. V. Ganesh, Coordinator, welcomed the gathering, Mr. Ramanjaneyulu Kolla, Co-coordinator introduced the chief guest and Mr. A.K. Boobalasantilraj, delivered the vote of thanks.

5. PHOTOGRAPHS



Dr. P. Shanmugam, Senior General Manager (R & D), Sundaram Fastener Limited, Chennai, inaugurated the programme



Introductory speech by Dr. J. Venkatesan, Coordinator, FDP



Chief Guest Introduction by Dr. V. Ganesh



Dr. P. Shanmugam, Senior General Manager (R & D), Sundaram Fastener Limited, Chennai, key note speech



Memento Presentation to Dr. P. Shanmugam, Senior General Manager (R & D), Sundaram Fastener Limited, Chennai



Prof. J. Venkatesan, delivering lecture



Participants during lecture



Laboratory Session by Dr. V. Ganesh, Associate Professor, SVCE



Dr. S. Arul Selvan, Assistant Professor (Selection Grade), MIT, Anna University delivering a Lecture



Laboratory Session by Dr. V. Ganesh, Associate Professor, SVCE & Mr. A.K. Boobalaseshthilraj, Assistant Professor, SVCE



Laboratory Session by Dr. V. Ganesh, Associate Professor, SVCE & Mr. Ramanjaneyulu Kolla, Assistant Professor, SVCE



Certificate Distribution to Participants



Certificate Distribution to Participants



Certificate Distribution to Participants



Certificate Distribution to Participants



FDP Feedback by participants



Photo session after completion of the Valedictory Function with all the Participants

6. Conclusion

A six day faculty development programme (FDP) on AUTOMOTIVE AIR-CONDITIONING was conducted successfully. It gave the importance of air conditioning and its applications in automotive vehicles as well as very good exposure to the latest technologies and development in the vehicles. It also created awareness on research areas in the automotive air-conditioning among the automobile, mechanical and marine engineering faculty members.

7. Acknowledgement

We would like to thank SVCE management for sanctioning the grant of Rs. 10,000 (Ten thousand) for conducting six day faculty development programme (FDP) on AUTOMOTIVE AIR-CONDITIONING, and also we would like to thank SVCE management for giving infrastructure support for conducting the programme. We would also like to thank Co-coordinator and other Faculty and Supporting Staff members of Department of Automobile Engineering for extending their kind support for successful conduct of the FDP.

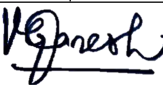
Annexure – I
Registration Details

SI No.	Name of the Staff	Designation	Institution	Participants	Department
1	Mr. Gowtham R	Assistant Professor	Rajalakshmi Engineering College	External	Automobile
2	Mr. Zahir Hussain M	Assistant Professor	Rajalakshmi Engineering College	External	Automobile
3	Mr. Jayakar J	Assistant Professor	Dhanalakshmi College of Engineering	External	Mechanical
4	Mr. Siva Subramaniam R	Assistant Professor	Dhanalakshmi College of Engineering	External	Mechanical
5	Mr. Nandhakumar D	Assistant Professor	Dhanalakshmi College of Engineering	External	Mechanical
6	Mrs. Vithya P	Assistant Professor	SCSVMV University	External	Mechanical
7	Dr. Venkatesan J	HOD/ Professor	Sri Venkateswara College of Engineering	Internal	Automobile
8	Dr. Ganesh V	Associate Professor	Sri Venkateswara College of Engineering	Internal	Automobile
9	Dr. Premnath S	Associate Professor	Sri Venkateswara College of Engineering	Internal	Automobile
10	Mr. Balasubramanian A	Assistant professor	Sri Venkateswara College of Engineering	Internal	Automobile
11	Mr. Dhanabal J	Assistant professor	Sri Venkateswara College of Engineering	Internal	Automobile
12	Mr. Paul Durai K	Assistant professor	Sri Venkateswara College of Engineering	Internal	Automobile
13	Mr. Ravi G	Assistant professor	Sri Venkateswara College of Engineering	Internal	Mechanical
14	Mr. Ramanjaneyulu Kolla	Assistant professor	Sri Venkateswara College of Engineering	Internal	Mechanical
15	Mr. Sakthivel R	Assistant professor	Sri Venkateswara College of Engineering	Internal	Mechanical
16	Mr. Boobalasantilraj A K	Assistant professor	Sri Venkateswara College of Engineering	Internal	Mechanical
17	Mr. Kaliyanasunder R	Assistant professor	Sri Venkateswara College of Engineering	Internal	Mechanical
18	Dr. Sridharan V	Assistant professor	Sri Venkateswara College of Engineering	Internal	Mechanical
19	Mr. Arul Kumar M	Assistant professor	Sri Venkateswara College of Engineering	Internal	Mechanical
20	Prof. Kalidoss S	Professor	Sri Venkateswara College of Engineering	Internal	Marine
21	Dr. Anandan M	Associate Professor	Sri Venkateswara College of Engineering	Internal	Marine
22	Mr. Karthic Kumar R	Assistant professor	Sri Venkateswara College of Engineering	Internal	Marine
23	Dr. Sheela N R	Assistant professor	Sri Venkateswara College of Engineering	Internal	Applied Physics

Annexure – II
Six Day Faculty Development Programme on “Automotive Air-Conditioning”
Duration: November 25th – November 30th, 2019
Resource persons and Topics Covered

Sl. No.	Name	Qualification	Designation	Topics Covered
1.	Dr. P. Shanmugam	M.E., Ph.D	Senior General Manager (R & D), Sundaram Fastener Limited, Chennai	<ul style="list-style-type: none"> • Key note speech
2.	Dr. S. Arul Selvan	M.E., Ph.D	Asst. Prof. / MIT Campus	<ul style="list-style-type: none"> • Design of Automotive Air-Conditioning Controller • Air-Conditioning Refrigerant Compressor, Driveability and Control Devices
3.	Dr. J. Venkatesan	M.E., Ph.D	HOD / AUT	<ul style="list-style-type: none"> • Introduction to Air-Conditioning and Ozone Layer Depletion • Psychrometry • Refrigerant Condensers and Evaporators • Refrigerants and Selection
4.	Dr. V. Ganesh	M.E., Ph.D	Assoc. Prof. / SVCE	<ul style="list-style-type: none"> • Automatic Temperature Control System • Refrigerant hoses and Connections • Testing Air-Conditioning System • Diagnosis and Servicing of Automatic Temperature Control System
5.	Dr. S. Premnath	M.E., Ph.D	Assoc. Prof. / SVCE	<ul style="list-style-type: none"> • Vehicle Air-Conditioning • Receiver, Drier and Accumulators
6.	Mr. A. Balasubramanian	M.E.	Asst. Prof. / SVCE	<ul style="list-style-type: none"> • Psychrometry, Tutorial
7.	Mr. Ramanjaneyulu Kolla	M.E.	Asst. Prof. / SVCE	<ul style="list-style-type: none"> • Charging and Discharging of Refrigerants • Special Tools for Servicing Vehicle Air-Conditioning
8.	Mr. A. K. Boobalaseshthilraj	M.E.	Asst. Prof. / SVCE	<ul style="list-style-type: none"> • Refrigerants System diagnosis


Mr. Ramanjaneyulu Kolla
 Co - Coordinator


Dr. V. Ganesh
 Coordinator


Dr. J. Venkatesan
 Coordinator & HoD/AUT
 Dr.J.VENKATESAN, M.E.,Ph.D.
 Professor & Head
 Department of Automobile Engineering
 Sri Venkateswara College of Engineering
 Pennalur, Sriperumbudur Taluk-602 117
 Tamil Nadu, India

REGISTRATION FORM

Six Day Faculty Development Programme on AUTOMOTIVE AIR-CONDITIONING

25th to 30th November 2019

1. Name:
2. Age and DoB:
3. Designation:
4. Name of the Institution:
5. University:
6. Address for Communication:

7. Official Address:

E-mail:
Phone:
8. Subjects Handled in last Two years:

9. Professional Industry: Experience(in years)
Teaching:

Signature of the Applicant

DECLARATION

The information furnished by me is true to the best of my knowledge. I agree to abide by the rules and regulation governing the FDP. If selected, I shall attend the program for the entire duration.

Date :

Place :

Signature of the Applicant

SPONSORSHIP

Dr./Mr./Ms.....
.....,

an employee of our institution is hereby allowed to attend the FDP on "Automotive Air-Conditioning". He / She will be permitted to attend the program for the entire duration, if selected.

Signature of the HoD/Principal

Date :

Place :

Registration form can be sent by post/email.

Email/Mobile:

vinaganesh@svce.ac.in / 6380883699
jvenkat@svce.ac.in / 9444339292
ramanjaneyulu@svce.ac.in / 6369305335

SIX DAY FDP

ON

AUTOMOTIVE AIR-CONDITIONING

25th to 30th November 2019

Co-ordinators

Dr. J. Venkatesan

Dr. V. Ganesh

Co-Coordinator

Mr. Ramanjaneyulu Kolla



Organized by

Department of Automobile Engineering

Sri Venkateswara College of Engineering

(Autonomous - Affiliated to Anna University)

Pennalur, Sriperumbudur (Tk) - 602 117

Tamil Nadu, India

Phone: 044 27152000, Ext: 450

ABOUT THE COLLEGE

Sri Venkateswara College of Engineering (SVCE), a premier self-financing engineering autonomous college was started in the year 1985 and is managed by Sri Venkateswara Educational and Health Trust. The college conducts 10 UG Programmes, 10 PG Programmes in Engineering/Technology. The courses are approved by AICTE and affiliated to Anna University, Chennai. The college is accredited by National Assessment and Accreditation Council (NAAC). The college is situated in a quiet environment about 37 km from Chennai and situated on Chennai–Bangalore National Highway (NH4) at Pennalur, in Sriperumbudur Taluk, Kancheepuram district.

ABOUT THE DEPARTMENT

The department of Automobile Engineering was established in the year 1999 with a mission to educate and impart technical knowledge to the students to become globally competent in the field of Automobile Engineering. It has well-qualified and self motivated faculty members with relevant experience in their area of specialization. The department is equipped with most modern and state of art laboratories like Engine testing, Automotive components, Automotive Electrical and Electronics, Vehicle Maintenance and Re-conditioning, 2 & 3 Wheeler, Automotive Fuels and Lubricants, CAD/CAM, etc. The department is also equipped with 2/3/4 Wheeler Chassis Dynamometer to simulate the vehicle in on-road condition. The department provides consultancy services to research scholars and automotive industries in the field of engine performance and emission testing using alternate fuels with the help of advanced instruments like AVL Pressure pickup, Angle encoder and Data acquisition system. The department is accredited by NBA.

ABOUT THE FDP

The FDP is approved and supported by SVCE. All topics of the syllabus of the forthcoming semester subject "Automotive Air-Conditioning" will be covered.

TOPICS TO BE COVERED

- Basic Concepts
- Ozone Layer Depletion
- Psychrometry
- Vehicular Air-Conditioning
- Components of Automotive Air-Conditioning System
- Refrigerants, Charging and Discharging
- Refrigerant System Diagnosis
- Control Systems and Controller Design
- Special Tools and Servicing of Automotive Air-Conditioning System
- Automotive Air-Conditioning System Demonstration
- Testing of Automotive Air-Conditioning System

REGISTRATION FEE

Registration Fee:: Rs. 600/-

The registration form can be downloaded from college web site, www.svce.ac.in. The registration is **restricted to 25**, with first come first basis. No TA/DA will be provided. The participants can use the college bus for to and fro journey.

ORGANIZING COMMITTEE

CHIEF PATRON: **Dr. A.C. Muthiah**
Chairman-Governing
Council, SVEHT

PATRON: Dr. M. Sivanandham
Secretary
SVEHT

CHAIR: Dr. S. Ganesh
Vaidyanathan
Principal, SVCE

CO CHAIR: Dr. J. Venkatesan
HoD-Automobile Engg.

CO-ORDINATORS:
Dr. J. Venkatesan
Professor
Department of Automobile
Engineering

Dr. V. Ganesh
Associate Professor
Department of Automobile
Engineering

CO-COORDINATOR:
Mr. Ramanjaneyulu Kolla
Assistant Professor
Department of Automobile
Engineering

VENUE: Department of Automobile
Engineering
Sri Venkateswara College
of Engineering

IMPORTANT DATES:

Submission of Application : 21.11.19

Intimation of selection : 22.11.19

Confirmation by Participants : 23.11.19