



**Dr. S.N.Sapali**

**Registrar**

Indian Institute of Information Technology Pune

Email [sns.mech@coep.ac.in](mailto:sns.mech@coep.ac.in) , [registrar@iiitp.ac.in](mailto:registrar@iiitp.ac.in)

<b>Current Designation</b>	Professor in Mechanical Engineering																	
<b>Qualifications</b>	<table border="1"> <thead> <tr> <th>Degree:</th> <th>DD/MM/YY</th> <th>Result</th> <th>Grade</th> </tr> </thead> <tbody> <tr> <td>BE (Mech)</td> <td>April 1985</td> <td>67.22%</td> <td>First Class with Dist</td> </tr> <tr> <td>ME (Mech)</td> <td>May 1992</td> <td>67.6%</td> <td>First Class</td> </tr> <tr> <td>PhD – Mech</td> <td>April 2002</td> <td></td> <td></td> </tr> </tbody> </table>	Degree:	DD/MM/YY	Result	Grade	BE (Mech)	April 1985	67.22%	First Class with Dist	ME (Mech)	May 1992	67.6%	First Class	PhD – Mech	April 2002			
Degree:	DD/MM/YY	Result	Grade															
BE (Mech)	April 1985	67.22%	First Class with Dist															
ME (Mech)	May 1992	67.6%	First Class															
PhD – Mech	April 2002																	
<b>Date of Joining on Govt. sanctioned post</b>	24-4-1987, lecturer in Mech Engg at GCOE Karad (DTE selection) 9-8-1989, lecturer in Mech Engg at GCOE Karad (MPSC selection)																	
<b>Professional Experience</b>	Total : 33 years Industry: Nil Teaching : 33 years <b>Professor</b> Since: 1-2-2008 Associate Professor (Asstt Prof in V pay scale) Since : 07-01-1998 Lecturer (Asstt Professor in V pay scale) Since: 24-4-1987																	
<b>Academics</b>	Laboratories Developed	one																
	Manuals developed	one																
	Courses / Workshops Organised	8																
	Courses Attended (Total 10 weeks)	5																
<b>Publications</b>	No. of International Journals	22																
	No. of National Journals	8																
	No. of International Conferences	26																
	No. of National Conferences	17																
	No. of Meetings/Workshop Invited Talks	>100																
<b>Research Guidance</b>	No. of Master Students [Completed]	37																
	No. of Master Students [Ongoing]	3																
	No. of Ph.D students [Completed]	9																
	No. of Ph.D students [Ongoing]	6																
<b>IPR</b>	No. of Books/ Book Chapters/Monographs	4																

	No. of Patents filed	8
	No. of Patents obtained	1
	No. of Product / Technology Development	2
<b>Awards and Accolades</b>	<ol style="list-style-type: none"> <li><b>Best paper award</b> for the paper presentation in <b>25<sup>th</sup> National seminar on Industrial Gases, held at Pune in 2003.</b></li> <li><b>Appreciation certificate</b> from Director, COE Pune in 2004.</li> <li><b>Appreciation certificate</b> from Emerson Climate Technologies Ltd, Karad 2008.</li> <li><b>Best Teacher Award</b> from Govt of Maharashtra in the academic year 2012-13.</li> <li><b>Appreciation certificate</b> for valuable contribution as <b>Program Chair</b>, 3<sup>rd</sup> Annual International Simulation Conference of India, 11<sup>th</sup> and 12<sup>th</sup> January 2014.</li> <li>From Indo-US Collaboration for Engineering Education ( IUCEE) for volunteering time and effort in planning and implementation of ICTIEE 2016 conference, Pune, January 10-12, 2016.</li> <li><b>Appreciation certificate</b> for coordinating one week STTP on <b>Advances In Refrigeration and Sustainable Energy</b>” during 28<sup>th</sup> November to 2<sup>nd</sup> December 2016.</li> <li><b>Appreciation certificate</b> for coordinating one week STTP on <b>Energy Conservation in Air Conditioning</b>” during December 5-9, 2016.</li> </ol>	
<b>Ongoing Research Projects</b>	Six	
	Funding Agency: ISHRAE, COEP	
	Amount Sanctioned: 25 LAKHS	
	Duration: 3 YEARS	
<b>Completed Research Projects</b>	Nine	
	Funding Agency: AICTE, COEP	
	Amount Sanctioned: 25 Lakhs	
	Duration: 4 years	
<b>Industrial consultancy assignments</b>	<p>From various agencies are.</p> <ol style="list-style-type: none"> <li>CPWD Pune, 2. Animal Husbandry, 3. Z.P. Pune 4. Z.P A'nagar. 5. Private companies, 6. Pune Corporation, etc</li> </ol> <p>More than 25 assignments</p>	
<b>Other Academic credentials</b>	FDP /Workshops/Conferences participation as a resource person	
	Fellowship/Membership of professional societies/	
	BOS member/Syllabus Committee Member/DUPC member/etc.	
<b>Areas of Interest, Research, Teaching and Education</b>	<ol style="list-style-type: none"> <li>Research Area: Thermal Engineering with focus on Heat Transfer and Refrigeration</li> <li>As a BOS member in university, Faculty member to prepare the program curriculum</li> </ol>	
<b>Administrative Responsibilities</b>	Coordinator QIP Center Registrar IIIT Pune	

	NBA Engineering and Evaluation Committee member New Delhi-Tier-1, Institutes As a NBA evaluator for Tier –II institutes
<b>Any other information</b>	Faculty advisor of SAE BAJA team Faculty advisor ISHRAE COEP chapter Faculty advisor ASHRAE COEP Chapter

## **I. CONTRIBUTION AT INTERNATIONAL LEVEL**

- Reviewer for research papers of International Conference HEFAT 2006 ad 2007
- Presented a research paper **in 5<sup>th</sup>** International Conference on Heat Transfer, Fluid Mechanics and Thermodynamics, Sun City, South Africa, July 1-4, 2007.
- Presented a research paper **in world congress on Engineering 2011 held during**, July 6-8, 2011 at Imperial College London, UK.
- Reviewer for the International Journal Experimental, Thermal and Fluid sciences , Elsevier Publication, 2011
- Worked as Session Chair at **ASME International Mechanical Engineering Congress and Exposition 2014, November 14-20, 2014**, Montreal, Canada for following four sessions,
  - 1-11-2 Turbine and Blade Aerodynamics and Performance II
  - 7-21-2 Wind Turbine Modeling
  - 7-21-3 Wind Farm Optimization
  - 7-26-1 Carbon Capture
- Delivered a Keynote Speech at International Conference on Energy Systems and Developments (ICESD 2015), Pune, India, 11-13<sup>th</sup> February 2015

## **II. CONTRIBUTION AT NATIONAL LEVEL**

- Chairman and member of expert committees for opening new MBA, MCA, Pharmacy and Engineering Institutes under AICTE New Delhi.
- Keynote speaker for many national conferences in India.
- Consultant for cold storages of NHB, Ministry of Agriculture, New Delhi.
- Member of Engineering Evaluation and Accreditation Committee , NBA, New Delhi.

## **III, STATE LEVEL**

1. Contributed as **a coordinator at state level** to carry out the Post graduate (ME/M Tech) admissions of all specializations of all engineering programs **2013-15.**
2. As **a member of interview panel of Maharashtra Public Service commission**
3. Chairman Board of Studies of Mechanical Engineering, at COEP during July 2012 to June 2015.
4. Contributions a member of interview panel for the faculty recruitment in many engineering colleges and universities in Maharashtra from 2003 till date.
5. Member of Board of Studies of Mechanical Engineering Pune university, Pune

6. Member of Board of Studies of Mechanical Engineering Shivaji university, Kolhapur
7. Member of Board of Studies of Mechanical Engineering Solapur university, Solapur
8. Session chairman for the technical sessions of National Conferences
9. Examiner for the project competitions arranged in many institutes

## RESEARCH

<b>A</b>	<b>Guidance to PhD Thesis (Completed)</b>
	<ol style="list-style-type: none"> <li>1. Design, Development and Performance Evaluation of hermetic compressor using R410a refrigerant blend for Air Conditioning Application by A A Keste ,</li> <li>2. Condensation of HFC-134a and R-404A in a Smooth and Micro-fin Tube, by P A Patil.</li> <li>3. Characterization of components of air-conditioning system of a car” by A D Desai.</li> <li>4. Dynamic modelling exergy analysis and model validation by experimentation of milk chiller submitted <b>BY:</b> Mr. /Ms. GHEWADE DINKAR VISHNU</li> <li>5. Cryogenic air separation Plants: Simulation, design and Exergy Analysis, Mr Raibhole V N.</li> <li>6. Design, manufacture and Experimental Analysis of a centrifugal pump of low specific speed and optimization and validation of result by CFD.</li> <li>7. “Design and Development of Micro Wind Turbine” submitted by Kale S. A.</li> <li>8. Waste heat recovery in a bulk milk chiller, by S M Pise</li> <li>9. Exergy Analysis of Cooling Tower of a Thermal Power Plant, Nandkumar Annarao Rawabawale</li> </ol>
	Five candidates till working for their PhD under my supervision

<b>B</b>	<b>INTERNATIONAL JOURNAL PUBLICATIONS</b>
<b>1</b>	CFD Analysis of Heat Transfer in Reciprocating Helical Coil with Piston Cooling Application, International Review of Mechanical Engineering, Italy, September 2007.
<b>2</b>	Condensation of R-134a in a Multi Flow Channel Aluminum Flat Condenser with Micro-fins, International Review of Mechanical Engineering, Italy, November 2007.
<b>3</b>	“Two-Phase Condensation Heat Transfer Coefficients and Pressure Drops Of Hfc-134a for Different Condensing Temperatures In a Smooth and Micro-Fin Tube” IJERIA, August 2009.
<b>4</b>	<b>Optimization of Mach number for Suction and Discharge Port Areas of the Valve Plate of Hermetic Compressor Using R-410A Refrigerant Blend for A/C Application”</b> international journal International Review of Mechanical Engineering, Italy, January 2010.

5	<b>Heat Transfer During Condensation of Hfc-134a and R-404a Inside Of A Horizontal Smooth And Micro-Fin Tube, accepted</b> , Elsevier-International journal of Experimental Thermal and Fluid science, March 2010.
6	<b>Air Flow and Cabin static Pressure measurement of a/c system of a medium size passenger car</b> , international journal International Review of Mechanical Engineering, Italy, November 2010.
7	<b>Experimental optimization of charge level in an automotive air conditioning system under steady state conditions</b> , Society of Automotive Engineers, Brazil, SAE Paper No. 2010-36-18J, Accepted
8	<b>Experimental Characterisation of condenser of an automotive A/C system under steady state condition</b> , International Journal of Multidisciplinary Research and Advances in Engineering, ISSN 0975-7074, vol. 2, No III, PP 139-154, October 2010
9	"Simulation of oxygen plant for biomass Gasification application by Aspen Plus" International Journal of Earth Science and Engineering [ISSN: 0974-5904], Volume 5 spl, pp 415-419, January 2012.
10	comprehensive evaluation of innovative multi rotor wind turbine designs", International Journal of Mechanical Engineering and Technology (IJMET), Volume 3, Issue 2, May-August (2012)
11	Performance analysis of Centrifugal Pumps Impeller of Low specific speed of various blades design and validation of results by CFD" IJCE (Mech Engg) USA, May 2012.
12	Experimental analysis of Centrifugal Pumps Impeller of various materials and validation of results by CFD" ISME (Turbo-machine) USA, July 2012.
13	Simulation of Medium Purity gaseous oxygen cryogenic plant for biomass gasification by Aspen Plus, International Review of Mechanical Engineering, September 2012, (Vol. 6 N.6)
14	Exergy Flow Analysis in Semielliptical Rectangular Bulk Milk Cooler, International Review of Mechanical Engineering, November 2012, (Vol. 6 N. 7)
15	On this work one paper is published with title as "Simulation of medium purity gaseous oxygen cryogenic plant for biomass gasification by Aspen Plus" Published in IREME, Italy, Vol. 6, No. 6, September-2012 [ IF: 6.47]
16	Paper on " Simulation and Parametric analysis of cryogenic oxygen plant for biomass gasification", Published for <b>Mechanical Engineering Research, Vol.2 No.2, November, 2012, pp.97-107, ISSN: 1927-0607, Canadian center of Science and Engineering, Canada. [DOI-10.5539/mer.v2n2p97].</b>
17	S.A. Kale, S.N. Sapali, " <b>Development and Field Test Performance of a Nonconventional Unidirectional Co-Axial Two Series Rotors Micro Wind Turbine</b> ", Volume 768, 'Energy Efficient Technologies for Sustainability' in Advanced Materials Research, Print ISSN No.:1022-6680, (Switzerland) ( <b>Indexed by Elsevier: SCOPUS and Ei-Compendex (CPX)</b> , Cambridge Scientific Abstracts) doi:10.4028/www.scientific.net/AMR.768.119, 2013
18	S.A. Kale, S.N. Sapali, " <b>A review of multi-rotor wind turbine systems</b> ", Journal of Sustainable Manufacturing and Renewable Energy, Volume 2 Issue 1-2, 2013 (USA)
19	Kale S. A., Sapali S.N., "Wind Flow Considerations to Predict Power Performance of Counter Rotating Horizontal Axis Wind Turbine and Unidirectional Co-Axial Series Rotor Wind Turbine", Advances and Applications in Fluid Mechanics, Volume 17, Issue 2, Pages 135 – 146, April 2015, DOI: 10.17654/AAFMApr2015_135_146

20	S. A. Kale, M. R Birajdar, S. N Sapali, "Numerical Analysis of New Airfoils for Small Wind Turbine Blade", Journal of Alternate Energy Sources and Technologies Vol 6, No 1, ISSN: 2230 – 7982, pp. 01-06, 2015
21	Investigations of Energy Savings in Bulk Milk Cooler by Waste Heat Recovery, International Review of Mechanical Engineering (I.RE.M.E.), vol. 8, N.6, November 2014.
22	MATLAB Simulation and validation of fluid properties in the cross flow wet cooling tower", International Review of Mechanical Engineering (I.RE.M.E.), vol. xx, n.x, March 2017.
<b>C</b>	<b>International Conference publications</b>
23	"The effect of clearance on the performance of a hermetic compressor", <b>International conference on advances in Mechanical Engineering at IISc. Bangalore, 1996.</b>
24	"Biomass gasifier steam injected gas turbine co-generation for sugar industry", <b>International conference on advances in Mechanical Engineering at University of Roorkee, Roorkee, 1997.</b>
25	"Exergy analysis of modern cryogenic air separation plant", <b>3<sup>rd</sup> International Conference on Heat Transfer, Fluid Mechanics, and Thermodynamics Cape Town, South Africa, 21-24 June 2004.</b>
26	Parametric evaluation of primary combustion chamber of WTB of sugar factory", <b>3<sup>rd</sup> International Conference on Heat Transfer, Fluid Mechanics, and Thermodynamics Cape Town, South Africa, 21-24 June 2004.</b>
27	"Condensation of R-134a In a Multi-channel Aluminum Flat Tube Condenser with Micro-fins" , <b>3<sup>rd</sup> International Conference on Heat Transfer, Fluid Mechanics, and Thermodynamics Cape Town, South Africa, 21-24 June 2004</b>
28	Analysis of Flue Gas loss through Mathematical Modeling and Experimentation on Fire Tube Boilers for Performance Improvement, <b>4<sup>th</sup> International Conference on Heat Transfer, Fluid Mechanics, and Thermodynamics Cairo, Egypt, 2005.</b>
29	"Advancement in Kern's Method and Comparison of Rating Methods" <b>4<sup>th</sup> International Conference on Heat Transfer, Fluid Mechanics, and Thermodynamics, Cairo, Egypt. 2005.</b>
30	"Rating and Optimization of U-Tube Shell and Tube Heat Exchanger" <b>4<sup>th</sup> International Conference on Heat Transfer, Fluid Mechanics, and Thermodynamics Cairo, Egypt. 2005.</b>
31	"Optimization of Shell & Tube Intercooler in Multi-stage Compression Unit", <b>4<sup>th</sup> International Conference on Heat Transfer, Fluid Mechanics, and Thermodynamics Cairo, Egypt, 2005.</b>
32	" <b>Performance Analysis Of Air-Cooled Condenser Using Micro-Fin Tubes</b> ", <b>5<sup>th</sup> International Conference on Heat Transfer, Fluid Mechanics and Thermodynamics, Sun City, South Africa, July 1-4, 2007.</b>
33	" <b>Dynamic Modeling of Bulk Milk Cooler</b> ", <b>5<sup>th</sup> International Conference on Heat Transfer, Fluid Mechanics and Thermodynamics, Sun City, South Africa, July 1-4, 2007.</b>
34	" <b>Experimental Apparatus for Measuring in tube Condensation heat transfer coefficient</b>

	<b>and pressure drop using smooth and micro-fin tubes for HFC refrigerants” ASME Summer Heat Transfer Conference, Jacksonville, Florida USA, August 10-14, 2008</b>
35	<b>“Some investigative study on Development of Valve –plate for Hermetic Compressor Using R-410A Refrigerant Blend”</b> International Conference on Advances in Mechanical Engineering , Surat, Gujrat, December 15-17, 2008.
36	<b>Functional and Strength Design of one MW wind turbine blade”, International Conference on Energy and Environment (EnviroEnergy), NIT Kurukshetra, March 19-21, 2009</b>
37	<b>Experimental evaluation of performance of evaporator of an automotive a/c system under steady state condition. 1<sup>St</sup> international conference on Mechanical Engineering, ICOME 2010, VIRTUAL FORUM, Praise worthy Prize, s.r.l</b>
38	<b>Paper on “ Simulation of Oxygen Plant for biomass gasification application by Aspen Plus” Presented at International Conference RACE-2012, MIT, Manipal, 4-6 January 2012.</b>
39	<b>Paper on “Simulation of biomass gasification with oxygen/air as gasifying agent by Aspen plus” presented at International conference on Power and Energy Engineering (ICPEE-2012), 1-2 September, 2012, Phuket, Thailand. [Excellent Oral Presentation Paper Award]</b>
40	<b>“ Exergy Analysis of Cryogenic Air Separation Unit Integrated with Biomass Gasifier” Presented at World Congress on Engineering and Computer Science 2013 (WCECS 2013), 23-25 October, 2013, San Francisco, USA.</b>
41	<b>Paper on “ Exergy Analysis of Cryogenic Air Separation Unit Integrated with Biomass Gasifier” Published in Lecture Notes of Engineering and computer science, IAENG, USA</b>
42	<b>“Energetic and Exergetic Performance analysis of Vapour Compression Refrigeration using Refrigerant 22 and R161”,</b> in an international conference on “Emerging Trends in Technology & its Applications”, at Yadavrao Tasgaonkar College of Engineering and Management, Karjat, during March 7-8, 2014.
43	<b>“CFD Analysis of Heat Recovery System for Window Air conditioning”,</b> in an international conference on “Emerging Trends in Technology & its Applications”, at Yadavrao Tasgaonkar College of Engineering and Management, Karjat, during March 7-8, 2014.
44	S.A. Kale, S.N. Sapali, “Power output prediction and Primary Evaluation of a Unidirectional Co-axial Series Rotors Wind Turbine”, <b>IEEE Xplore Digital Library</b> , Print ISBN: 978-1-4673-5150-8, DOI <a href="https://doi.org/10.1109/AICERA-ICMiCR.2013.6576030">10.1109/AICERA-ICMiCR.2013.6576030</a> , INSPEC Accession Number: 13698267 , pp. 1 - 3, 2013
45	Kale S. A., Sapali S.N., “Private engineering education scenario in India”, ASME International Mechanical Engineering Congress and Exposition 2014, November 14-20, 2014, Montreal, Canada, ISBN: 978-0-7918-4950-7, DOI: 10.1115/IMECE2014-39952
46	Kale S. A., Sapali S.N., “Development and Field Testing of an Inclined Flanged Compact Diffuser for a Micro Wind Turbine”, ASME International Mechanical Engineering Congress and Exposition 2014, November 14-20, 2014, Montreal, Canada, ISBN: ISBN: 978-0-7918-4952-1, DOI: 10.1115/IMECE2014-37883
47	S.N. Sapali, S.M. Pise, A.T. Pise, D.V. Ghewade, " Investigation of waste heat recovery from bulk milk cooler", Case Studies In Thermal Engineering 4 (2014)136-143

48	S.N. Sapali, S.M. Pise, A.T. Pise, D.V. Ghewade, " Investigation of Energy Savings on Bulk Milk Cooler by Waste Heat Recovery ", Case Studies In Thermal Engineering 4 (2014)136-143
<b>D</b>	<b>At National level journal</b>
49	"Utilization of distillery spent wash as a supplementary fuel for thermal power plant", <b>Journal of Environment and Pollution, Techno-science publications, Jaypur, 1997.</b>
50	Biomass gasifier steam injected gas turbine co-generation plant in place of condensate extraction steam turbine", <b>Journal of Environment and Pollution, Techno-science publications, Jaypur, March 2004.</b>
51	" Constituents of atmosphere: a review", <b>Journal of Environment and Pollution, Techno-science publications, Jaypur, September 2004.</b>
52	Scope of Biogas in Rural Area, Gramin Bharat EK Chintan, Sahana Publication, Parbhani, Pp300308, December 2012
53	Kale S. A., Sapali S.N., "Finite Element Analysis of Vertical and Inclined Flanged Diffusers for Micro Wind Turbine", Journal of Alternate Energy Sources & Technologies, Volume 5, Issue 2, Pages 37-42, 2014
54	Kale S. A., Sapali S.N., " <b>Numerical Analysis of New Airfoils for Small Wind Turbine Blade</b> ", Journal of Alternate Energy Sources & Technologies, Volume 6, Issue 1, Pages 1-6, 2015
55	J. S. Pal and S N Sapali, "Acoustic Intensity method for sound power measurement and acoustic treatment of an auxiliary engine for a commercial vessel" Bulletin of Marine Science and Technology, Tolani Maritime Institute, Induri, Pune, volume 10, pp 56-61, April 2017.
56	"R-290 the most suitable and Environment friendly refrigerant for water coolers applications" ISHRAE Pune Chapter news letter, issue-June 2017.
<b>E</b>	<b>At National level conferences/symposium</b>
57	"Evaluation of the performance of a hermetic compressor, existing for high temperature applications, which is used for low temperature applications", <b>IX ISME conference, University of Roorkee, Roorkee, 1994.</b>
58	"Computer modeling of a rock-bed and thermic oil energy storage system for solar power plant", National seminar on " <b>Energy for better tomorrow renewable and non-renewable energy sources,</b> " (EFBET - 97) at KITS, Ramtek, 1997.
59	"Study of improved Claude system, the cryogenic approach for metallic joints and topography of machined parts", <b>XIII National symposium on cryogenic at Shivaji University, Kolhapur, 1993.</b>
60	"Parametric evaluation and exergy analyses of cryogenic air separation plants, Presented at the workshop on "Scope for application of cryogenics in rapidly changing industrial scenario of Haldia", at <b>Haldia Institute of Technology, Haldia (WB), 2000.</b>
61	"Cryogenic air separation plants: parametric evaluation and exergy analyses, presented at <b>23<sup>rd</sup> National seminar on industrial gases, Goa, 2001.</b>
62	"Analyses of a rock-bed-thermic oil solar energy storage system", <b>recent advances in</b>



	<b>renewable energy technology-2002</b> , at Shivaji University, August 13-14, 2002.
63	“Wind power a promising renewable energy source for Maharashtra-A review”, <b>recent advances in renewable energy technology-2002</b> , at Shivaji University, August 13-14, 2002.
64	"Intricacies of Argon separation in a cryogenic air separation", presented at <b>25<sup>th</sup> National seminar on industrial gases, Pune, 2003. <i>This paper received a best technical paper award.</i></b>
65	“Retrofitting of Air Conditioning Units With R407c”, <b>National seminar on “Recent advances in Mechanical Engineering”, KKWCOE Nashik, January 16-17, 2004.</b>
66	“Effect of Micro-Finned Tubes and Louvered Fins on Heat Transfer Rate of a Condenser and an Evaporator of a Window Air Conditioner”, <b>National seminar on “Recent advances in Mechanical Engineering”, KKWCOE Nashik, January 16-17, 2004.</b>
67	“Evaluation of Performance of a solar water heating system with indirect heat exchanger”, <b>National seminar on “Recent advances in Mechanical Engineering”, KKWCOE Nashik, January 16-17, 2004.</b>
68	‘Esterified Jatropha Curcas Oil as a blended fuel in I.C. engines’, National conference on Energy and Fuel Issues of Future, Pune Institute of engineering and Technology, Pune, November 5-6, 2004.
69	“ <b>Energy Conservation Opportunity in a Cooling Tower of a Power Plant</b> ”, National Conference on Development – Cum – Environment Friendly Future Industrial Fuels, at Kumaraguru College of Technology, Coimbatore-641 006, May 19-21, 2005.
70	“ <b>Evolution of Cryogenic Air Separation Plants</b> ”, Invited paper at in the national conference on Sun Rising Technologies, held at Parshwanath College of Engineering, Mumbai, November 18-19, 2005.
71	Design considerations of a hermetic compressor with R410a refrigerant, National Conference, at COE, Pandharpur, 2005.
72	“ <b>Dynamic Modeling of Bulk Milk Cooler</b> ”, <b>5<sup>th</sup> International Conference on Heat Transfer, Fluid Mechanics and Thermodynamics, Sun City, South Africa, July 1-4, 2007.</b>
73	“ <b>Energetic and Exergetic Performance analysis of Vapour Compression Refrigeration using Refrigerant 22 and R161, in an international conference on “Emerging Trends in Technology &amp; its Applications”, at Yadavrao Tasgaonkar College of Engineering and Management, Karjat, during March 7-8, 2014.</b>
	<b>A) Books published:</b>
	1. Refrigeration and air Conditioning, PHI Learning Pvt Ltd, New Delhi, April 2009.
	2. “Heat Transfer” Tech-Max, Pune, II edition July 2006.
	3. "Basic Mechanical Engineering", Nirali Prakashan, Pune, III edition, March 2007.
	4. Heat Transfer” Nirali Publications, Pune, August 2014, ISBN: 978-93-5164-131-5
	5. “Thermodynamics” Nirali Publications, Pune, August 2013, ISBN: 978-93-83073-99-3

	<p>6. "Engineering Thermodynamics", Nirali Publications, Pune, 2013</p> <p>7. "Applied Thermodynamics" Nirali Publications, Pune, August 2013, ISBN: 978-93-83071-34-3</p> <p>8. "Thermal Science" Nirali Publications, Pune, 2014, ISBN: 978-93-5164-222-0</p>
	<b>B) Recognition:</b>
	<p>1. <b>Recognized teacher to guide Ph.D students, Pune University, Pune.</b></p> <p>2. <b>Permanent reorganization as a Ph.D guide, Shivaji University, Kolhapur.</b></p> <p>3. 37 ME students have completed Dissertation thesis under my supervision, two students are working for thesis</p>
	<p>6. Designed and developed a metallic joint for joining the fractured bones as required by <b>Krishna Medical Science and Research Center, Karad.</b></p>
	<b>C) Patents Publicatons</b>
	<p>1. <b>Solar operated energy efficient evaporative air cooler without pump</b>  a. <b>Application No. : 2474/MUM/2012</b>  b. <b>Journal No. - 36/2013, Publication Date : 06/09/2013</b></p> <p>2. <b>Innovative wind turbine</b>  a. <b>Application No. : 2475/MUM/2012</b>  b. <b>Journal No. - 36/2013, Publication Date : 06/09/2013</b></p> <p>3. <b>Simple Unidirectional Series Rotors Wind Turbine</b>  a. <b>Application No. : 409/MUM/2013</b>  b. <b>Journal No. - 08/2014, Publication Date : 21/02/2014</b></p> <p>4. <b>Mist nozzle and method of matking the same</b>  a. Application no 2035/MUM/2015A dated 26/5/2015  b. Journal No.- 05/06/2055, Publication date 05/06/2015</p> <p>5. A portable electricity producing device  a. Application No. Docket No: 11433 dated 26/05/2015</p> <p>6. <b>SOLAR OPERATED MULTIPURPOSE MISTSPRAY GENERATOR MACHINERY,</b>  Application No. 201621035365 dated 17-10-2016</p> <p>7. <b>Mist Nozzle (Design Patent)</b>  Application No. 287735</p> <p>8. <b>ENERGY EFFICIENT MULTIPURPOSE MIST SPRAY EVAPORATIVE COOLER</b>  <b>Application No 201621035369 dated 17-10-2016</b></p>
	<b>D) Seminar/Conferences attended</b>
	<p>1. International Conference on Energy Systems and Developments (ICESD 2015), Pune, India, 11-13<sup>th</sup> February, 2015</p> <p>2. <b>ASME 2014 International Mechanical Engineering Congress &amp; Exposition IMECE2014 Montreal, Quebec, Canada, November 14-20, 2014.</b></p> <p>3. World congress on Engineering at Klark Campus, University of California, SabFrasisco, USA October 23-25, 2013.</p> <p>4. World congress on Engineering at Imperial College London, UK held during July 6-7. 2011.</p>

	<ol style="list-style-type: none"> <li>5. National Conference on Alternate Energy Sources for Rural Development, held at Moze College of Engineering, Wagholi, Pune, January 31, 2009.</li> <li>6. Fifth International Conference on “<b>Heat Transfer, Fluid Mechanics and Thermodynamics</b>” Sun City, South Africa, July 1-4, 2007.</li> <li>7. National Conference on <b>Sun Rising Technologies</b>, held at Parshwanat College of Engineering, November 18-19, 2005.</li> <li>8. National seminar on “<b>Recent advances in Mechanical Engineering</b>”, KKWCOE Nashik, January 16-17, 2004.</li> <li>9. <b>25<sup>th</sup> National Seminar on industrial gases</b> held at Pune on 24<sup>th</sup> and 25<sup>th</sup> January 2003.</li> <li>10. National Symposium on <b>Recent Advances in Renewable Energy Technologies</b>, Held at Shivaji University Kolhapur on August 13-15, 2002.</li> <li>11. <b>IX ISME Conference 94</b>, held at University of Roorkee, November 10-11, 1994.</li> <li>12. <b>Thirteenth National Symposium</b> on Cryogenics TNSC-93, held at Shivaji University Kolhapur, December 3-5, 1993.</li> <li>13. <b>Sixth Annual Convention</b> of Maharashtra-Gao Section of ISTE, held at Dr. Babasaheb Ambedkar Technological University, Lonere, December 14-15, 2001</li> </ol>
	<p style="text-align: center;"><b>Noteworthy UG projects</b></p> <ol style="list-style-type: none"> <li>1. Re-sharpening of teeth of a metal cutting band saw</li> <li>2. Running an IC engine with alcohol</li> <li>3. To determine the volumetric efficiency of a reciprocating compressor</li> <li>4. Determination of a correlation for HT coefficient in laminar flow over a fin</li> <li>5. To study the performance of petrol engine with variable compression</li> <li>6. Desktop Air-cooler, Ravi Kadam, Limhan, 2007</li> </ol>
	<p style="text-align: center;"><b>Noteworthy PG projects</b></p> <ol style="list-style-type: none"> <li>1. Analyses of a rock-bed-thermic oil solar energy storage system, P.B. Patil, 1999.</li> <li>2. Exergy analysis of Ice-Plant. Mr Salunkhe, 2002.</li> <li>3. Parametric and Exergy analysis of combustion chamber of a bagasse fired boiler. Ashish Kadam, 2002.</li> <li>4. Design and Evaluation of Performance of Hermetic Compressor With R410a or R407c as a Refrigerant Which is Used in Air Conditioning Applications, Ambadas Kandekar, 2003.</li> <li>5. Performance Evaluation of Domestic Indirect Solar Water Heating System, Rashid Ali, 2003.</li> <li>6. Overall Size Reduction of 1.5 Ton Window Air Conditioner using Enhanced Heat Transfer Rate, Sachin Satdive, 2003.</li> <li>7. Condensation of R-134a in a multi flow channel aluminum flat tube condenser with micro-fins, Kiran Gaikwad, 2004.</li> <li>8. Performance improvement of a boiler, at Forbes Marshall, Pune, Kedar Jambhekar, 2005.</li> <li>9. Design of a heat exchanger to cool lube oil, Kirloskar Pnuemetic Company Ltd., Pune, Mr. Shashikumar Jogi, 2005.</li> <li>10. Heat transfer analysis of a Plate Heat Exchanger, Mr. Mallikarjun, 2005</li> <li>11. Performance Evaluation of an Indirect Type Solar Water Heater, Mrs. Viashali</li> </ol>

	<p>Chandratre, 2005.</p> <ol style="list-style-type: none"> <li>12. Thermal and Exergy Analysis of a primary Condenser of a Chemical Plant, Akhil Srivastav, 2006.</li> <li>13. Simulation of Cryogenic air Separation Plant, Annasaheb banne, 2006.</li> <li>14. Thermal Analysis of an intercooler of a turbocharged diesel engine, Suraj Shinde, 2007.</li> <li>15. Analysis of a coil heat exchanger through fluent software, Deshmukh, 2007.</li> <li>16. Mesta Oil As A Blended Fuel In C.I. Engines, Sorte, 2007.</li> <li>17. Study of Boiler Tube Leakages and CFD Analysis of Economizer Tube, Shivdas Prasad, National Thermal Power Station, Eklehre, Nashik, 2008</li> <li>18. Parametric Analysis of Cryogenic Air Separation Plant Using Aspen Software, Subhashish Dey, MED,COEP, 2008.</li> <li>19. Heat Recovery System for Window Air Conditioner, Uttekar R S, MED,COEP, 2009.</li> <li>20. Optimisation of Exhaust System for three Cylinder Engine, Mutkule G P, ARAI, Pune, 2009.</li> <li>21. Design and development of Fan test rig and to carry out the performance of a large capacity blower fan, Amol Brahmapurkar, 2009-10.</li> <li>22. Heat Load estimation, duct design and CFD simulation of a HVAC system for a computer laboratory, by Sujata Dhanali, 2010-11</li> <li>23. CFD analysis of Banana cold storage by Kharde Ravindra N, 2010-11</li> <li>24. Simulation and experimental analysis in the induction gas dynamics of 2 cylinder naturally aspirated diesel engine, by Yarsam Pravin V 2010-11.</li> <li>25. Heat Cooling load estimation and energy analysis of building envelop-the software development by Rajan R Gosavi, 2011-12.</li> <li>26. Heat Recovery system for drying the kitchen food waste by force convection by Moiz Tinwala 2012-13.</li> <li>27. Transfer analysis and insulation design for cryogenic liquid nitrogen tank by Upalkar Shripad Arun 2011-12.</li> <li>28. Design and Optimization of high pressure fuel injection pipes for diesel engines by by Chinmay J Damale, 2013-14.</li> </ol>
	<ol style="list-style-type: none"> <li>29. Experimental evaluation and performance of labyrinth seals in reciprocating engines by Anurag N Kumbhare, 2013-14.</li> <li>30. Heat recovery system for window air conditioning and design improvement using CFD by Kalukhe Sagar Kashinath, 2013-14.</li> <li>31. Numerical and experimental analysis of industrial water filter, Experimentation, by Navneet Kumar Jha, 2014-15.</li> <li>32. Optimization of insulation thickness of thermal storage vessel by Mr Navin N Nankani, 2014-15.</li> <li>33. Simulation and development of energy efficient air cooler by Mr Kaushal P Patil, 2016-17.</li> <li>34. Design development and anaysis of hydraulically operated supporting machine for animal's treatment by Mr Pawan P Pawar, 2016-17.</li> <li>35. Design and performance anaysis of water cooled condenser for domestic refrigerator by Mr Anil G Wavare, 2016-17</li> </ol>

<b>F</b>	<b>On going Ph D thesis</b>
	<ul style="list-style-type: none"> <li>• Chaudhari C. S., “Design, Development and Performance Evaluation of a Refrigeration System for a new environment friendly refrigerant”</li> <li>• N.D.Shikalgar “ Exergy analysis and Performance Analysis of a refrigerator using ecofriendly refrigerant”</li> <li>• Deshmukh A M, “Low cost eco-friendly mist spray direct evaporative cooler”</li> <li>• Nandkumar Rawabawale, “Exergy Analysis of a Cooling Tower of Thermal Power Plant”</li> <li>• Ajit B. Shinde, “Bagasse Drying by Heat Recovery from Surrounding Walls and Floor of The Combustion Chamber of a Jaggery Plant: Design, Fabrication and Performance Evaluation”.</li> <li>• Jitendra Singh Pal, “Exergy Analysis of Waste Heat Recovery Systems for Marine Applications”</li> </ul>
<b>G</b>	<p><b>Out Reach activities</b></p> <ol style="list-style-type: none"> <li>1. As a member of an NBA committee for many Colleges in India since 2009-2016.</li> <li>2. As a member of State level admission committee to conduct the entrance test, carry out the admissions through CAP for the academic year 2013-14</li> <li>3. Working as a coordinator for QIP center at COEP since 2012-13</li> <li>4. As a session chair, “World congress on Engineering and Computer science 2013, at San Francisco, USA, 23-25, 2013.</li> <li>5. Worked as a convener for the international conference on Advances in Mechanical Engineering , as a part of centenary celebrations, 29,30 and 31 May 2012</li> <li>6. As a <b>reviewer for the research paper to be published</b> in international conference HEFAT 2007 and 2006.</li> <li>7. <b>Chairman to make admission for MCA</b>, during the academic year 2002-03, <b>at Karad.</b></li> <li>8. Chairman of inspection committees for new Institutions like Engineering, Pharmacy, MBA and MCA</li> </ol>

<p><b>G</b></p>	<ol style="list-style-type: none"> <li>9. of times since from 2003-2011 at State level as well as national level.</li> <li>10. <b>Officer in charge</b> for university examinations and competitive examinations at COE Pune, and Karad.</li> <li>11. <b>Joint Organizing secretary</b>, for national Conference on <b>Energy and Fuel Issues of Future, November 5-6, 2004.</b></li> <li>12. Conducted <b>mock interview</b> of teaching staff of production department of WIT Solapur to make oneself prepared to face NBA committee, November 2004.</li> <li>13. As a <b>coordinator for MBA and MCA admissions</b> for the academic year 2005-06, 2006-07 and 2007-08..</li> <li>14. As a <b>Core Committee member for F.Y B.Tech</b> admission of autonomous institutes for the academic year 2005-06.</li> <li>15. <b>Chairman for a technical session</b> in the national conferences in India and abroad.</li> <li>16. Worked as a Subject Expert for the interviews of Lecturer, Assistant professor, Professor of Mechanical Engineering Deptt, College of Engineering, in Pune university area.</li> </ol>
<p><b>H</b></p>	<p><b>Development of course material/monograph</b></p>
	<ol style="list-style-type: none"> <li>1. A book on <b>Heat Transfer</b>, the-max publications, Pune-2006.</li> <li>2. A book, <b>Basic Mechanical Engineering</b>, Nirali Publications, Pune, 1997.</li> <li>3. Course Notes for two day workshop on <b>“Environment Friendly Refrigeration and Cryogenics” COE, Pune</b> during January 13-14, 2006.</li> </ol>

<b>I</b>	<p style="text-align: center;"><b>Participation/conduction in a Continuing Education Programme</b></p> <ol style="list-style-type: none"> <li>1. Coordinator and resource one week STTP on <b>Advances In Refrigeration And Sustainable Energy</b>” during 28<sup>th</sup> November to 2<sup>nd</sup> December 2016.</li> <li>2. Coordinator and Resource person for one week STTP on <b>Energy Conservation in Air Conditioning</b>” during December 5-9, 2016.</li> <li>3. Two day Brain storming Workshop of Heads of Educational Institutes on Key Issus of Higher Technical Education, ABV –IIITM Gwalior, 27-28<sup>th</sup> August 2015</li> <li>4. Two days workshop on NBA experts/evaluators, February 19-20,2013 at Jaypur,Rajasthan</li> <li>5. Two days workshop on Administrative improvement in autonomous institute, throughTEQIP-II at IIM Indore, December 14-16, 2012.</li> <li>6. Coordinator and a resource person for one week STTP on “Advances in Refrigeration and Cryogenic Air Separation”, held at COEP, Pune During November 17-22, 2008.</li> <li>7. Coordinator and a resource person for one day workshop on “Cryogenics”, held at RIT, Sakharale on 2<sup>nd</sup> April 2007.</li> <li>8. Organized one week short-term course on <b>“Cooling Load Estimation and duct Design of an Air Conditioning System”</b> COE, Pune during June 13-18, 2005.</li> <li>9. Organized two days workshop on <b>“Environment Friendly Refrigeration and Cryogenics”</b> COE, Pune during January 13-14, 2006.</li> </ol>
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	<p>10. <b>Conducted one-day workshop for restructuring the syllabus of BE (Mechanical) at Govt. COE, Karad</b> on August 24, 2002. I have represented the college</p> <p>11. <b>invited talk on “Introduction to cryogenic air separation” to the staff and students</b> of</p> <ul style="list-style-type: none"> <li>• KBP College of Engineering, Satara</li> <li>• TKIET College of Engineering, Waranagar</li> <li>• College of Engineering, Pandharpur</li> <li>• Modern College of Engineering, Pune.</li> </ul> <p>12. Expert lecture on Global Warming and Ozone friendly Refrigerants, at GCOE Amarawati, August 8, 2009.</p> <p>13. A <b>key-note speaker</b> and <b>resource person for the one-day seminar on Cryogenic Applications</b> at PDA College of Engineering, Gulberga, <b>June 9, 2004</b>.</p> <p>14. As a resource person in the two week STTP <b>at PVPIT College of Engineering, Budhagaon, Sangli</b>, June 23, 2004.</p> <p>15. As a resource person in the two week STTP <b>Computational Fluid Mechanics and Heat Transfer of Mechanical Engineering at Govt. COE, Pune</b>, January 14, 2005.</p> <p>16. As a session chairman for the national conference <b>at College of Engineering, Kopargaon</b>, July 21-22, 2004.</p> <p>17. As a resource person in the <b>two week STTP on Recent Trends in Refrigeration and Air Conditioning, at Sinhgad College of Engineering, Pune</b>, November 7-19, 2005.</p> <p>18. One day workshop in association with ONWARD TECHNOLOGY Pune , on RAPID PRODUCT DEVELOPMENT,, January 5, 2013.</p> <p><b>19.</b> One day workshop in association with ONWARD TECHNOLOGY Pune , on SPEED TO MARKET:NEW PRODUCT DEVELOPMENT TECHNIQUES”, March 9, 2013.</p>
	<p>20. As a resource person for one day seminar on <b>Cryogenics</b> at DKTE’s College of Engineering, Ichalkaranji on 19<sup>th</sup> March 2006.</p> <p>21. As a coordinator and a resource person for one day workshop on <b>Cryogenics</b> at RIT College of Engineering, Sakharale, on 2<sup>nd</sup> April 2007.</p>



<b>J</b>	<p><b>Other Academic Contributions</b></p> <ol style="list-style-type: none"> <li>1. Obtained a sanction of Rs 2.5 lakhs for a PhD on going project in year 2016 from SMART ENERGY center, COEP</li> <li>2. Obtained a sanction of Rs 2 lakhs for a PhD on going project in year 2016 from Alumni Association of COEP</li> <li>3. Submitted a proposal for Rs 55 lakhs to AICTE New Delhi in December 2015 for funding to QIP center, COEP</li> <li>4. Obtained a sanction of <b>Rs 17.26 lakhs</b> for DESIGN AND DEVELOPMENT OF CO-AXIAL SERIES-ROTOR under <b>RPS scheme of AICTE New Delhi in the year 2013 at COEP, Pune.</b></li> <li>5. Obtained a sanction of <b>Rs 4.5 lakhs</b> for the modernization of refrigeration and air conditioning laboratory under <b>MODROB scheme of AICTE New Delhi in the year 2003</b> at Karad.</li> <li>6. Obtained a sanction of <b>Rs 5 lakhs</b> for cryogenic laboratory under <b>TAPTEC scheme of AICTE New Delhi in the year 2003 at Karad.</b></li> </ol>
	<ol style="list-style-type: none"> <li>7. Obtained a sanction of <b>Rs 7.4 lakhs</b> for cryogenic laboratory under <b>RPS scheme of AICTE New Delhi in the year 2004 at PIET, Pune.</b></li> <li>8. Obtained a sanction of <b>Rs 1.5 lakhs</b> for PhD on going project <b>in the year 2008 from Pune University, Pune.</b></li> </ol>
<b>k</b>	<p><b>Consultancy Projects Completed/ongoing</b></p> <ol style="list-style-type: none"> <li>1. Design of Discharge Muffler of a hermetic compressor, <b>Kirloskar Copeland Ltd, Karad</b></li> <li>2. Pressure drop in water filter, <b>Flash Equipment (P) Ltd, Pune</b></li> <li>3. Design Verification of Hydraulic Cylinder, <b>Kasco Industries, Pune</b></li> <li>4. Heat transfer in a rectangular channels with Micro-fin, <b>Tata Toyo (P) Ltd, Pune.</b></li> <li>5. Designed and developed a metallic joint for joining the fractured bones as required by <b>Krishna Medical Science and Research Center, Karad, 1988.</b></li> <li>6. Consultancy work completed from Mr. T. Vasu, Bajaj Tempo Ltd., Pune</li> <li>7. <b>Consultancy work on improvement of boiler efficiency, Forbes Marshall, Pune</b> completed, 2005.</li> </ol>
	<ol style="list-style-type: none"> <li>8. <b>Consultancy work on cold cabinet , Animal husbandary, completed, 2009.</b></li> <li>9. Consultancy work on centrifugal pump, Alfa Lawal, Pune, 2009.</li> <li>10. Consultancy work to determine the performance curves, Talab Engineering, Pune, 2009.</li> <li>11. Consultancy work of Whirlpool India Ltd, Pune, August 2009.</li> <li>12. Consultant for Cold storages of National Horticulture Board, 2010 -15.</li> <li>13. Consultancy to Animal Husbandry department, Govt of Maharashtra, 2012 to 2015.</li> <li>14. Musta Refrigeration engineers Pvt Ltd "CFD analysis of Self Cleaning Filter", 2015.</li> </ol>

<b>L</b>	<p><b>Membership</b></p> <ol style="list-style-type: none"> <li>1. Life member of <b>ISTE</b></li> <li>2. Member of "<b>Board of studies</b>" of Automobile Engineering, Shivaji University, Kolhapur, during 1996-1998</li> <li>3. Member of "<b>Board of studies</b>" of Mechanical Engineering, Shivaji University, Kolhapur, during 2002-03</li> <li>4. <b>Life member of Alumni Association of COEP.</b></li> <li>5. <b>Member of ISHRAE Pune Chapter.</b></li> <li>6. Member of "<b>Board of studies</b>" of Mechanical Engineering, Shivaji University, Kolhapur, from 2005-06.</li> <li>7. <b>Fellow member of Institution of Engineers (India) from 2007.</b></li> <li>8. <b>Executive committee member of ISHRAE Pune Chapter for the year 2011-12.</b></li> </ol>
<b>M</b>	<p><b>Outreach</b></p> <ol style="list-style-type: none"> <li>1. Guided number of students to present the seminar on technical topics in the national level seminar competition. Number of times, students won the prizes.</li> <li>2. Recommended to students who have gotten admissions for PG courses outside India Name of the students: (1) Agarwal 03-04, (2) Sane 03-04, (3) Rahul Kulkarni, June-04, (5) Joshi 2005-06. . (6) Rohan Gumaste, 2007-08. (7) Mr. Neeraj Chirmulay 2008-09.</li> <li>3. Worked as a judge for paper presentation competition of AAVISHKAR at COE, Karad during 2002-03 and for AAVISHKAR 2005-06.</li> <li>4. Worked as a judge for paper presentation competition at KIT Kolhapur during 2002-03 and 2005-06.</li> <li>5. Worked as a judge for paper presentation competition of at GP Pune during 2004-05.</li> <li>6. Worked as a judge for project presentation competition of at College of Engineering, Ambejogai during 2008-09.</li> <li>7. Worked as a judge for paper presentation competition of at JSPM College of Engineering, Balewadi, Pune during 2008-09.</li> </ol>
<b>N</b>	<p><b>Awards</b></p> <ol style="list-style-type: none"> <li>9. <b>Best paper award</b> for the paper presentation in <b>25<sup>th</sup> National seminar on Industrial Gases, held at Pune in 2003.</b></li> <li>10. <b>Appreciation certificate</b> from Director, COE Pune in 2004.</li> <li>11. <b>Appreciation certificate</b> from Emerson Climate Technologies Ltd, Karad 2008.</li> <li>12. <b>International Conference on Power and Energy Engineering, Phuket, Thailand, Best oral presentation, of the paper "simulation of Biomass gasification with Oxygen/air as gasifying agent by Aspen Plus P00063". 2012,</b></li> <li>13. <b>Best Teacher Award</b> from Govt of Maharashtra in the academic year 2012-13</li> <li>14. <b>Appreciation certificate for valuable contribution as Program Chair, 3<sup>rd</sup> Annual International Simulation Conference of India, 11<sup>th</sup> and 12<sup>th</sup> January 2014.</b></li> <li>15. <b>from Indo-US Collaboration for Engineering Education ( IUCEE) for volunteering time and effort in planning and implementation of ICTIEE 2016 conference, Pune, January 10-12, 2016.</b></li> </ol>

	<p><b>16. Appreciation certificate for coordinating one week STTP on Advances In Refrigeration and Sustainable Energy” during 28<sup>th</sup> November to 2<sup>nd</sup> December 2016.</b></p> <p><b>17. Appreciation certificate for coordinating one week STTP on Energy Conservation in Air Conditioning” during December 5-9, 2016.</b></p>
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