# Dr. Bhupathiraju Srinivasa Varma

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**Designation**: Professor

**Qualification**: Ph.D. in Mechanical Engineering

**Specialization**: Mechanical Engineering

**Experience** : 31 Years **Date of Joining** : 1<sup>st</sup> June 2014

**Phone Number** : +91-7893112644/9494863182

Email id : <u>bsvarma@cmrcet.org</u>

bsvarma.hyd@gmail.com

ORCID Id : 0000-0002-8662-9357 <u>Link</u>

JNTUH Registration No. : 9107-160305-165217

# **ACADEMIC QUALIFICATIONS:**

• **Ph.D** (Mechanical Engineering) from Regional Engineering College, Warangal, (presently **NIT**, **Warangal**) for the thesis titled "Development and Performance Evaluation of Alumina based Ceramic Cutting tools for machining Certain ferrous Materials" by Kakatiya university, Warangal in August 1999.

Awarded Research fellowship by government of India (MHRD).

• **M.Tech** (Mechanical Engineering) in June 1987 from Regional Engineering College, Kurukshetra (presently **NIT**, **Kurukshetra**), India.

Awarded Fellowship by Government of India through GATE-1985 (MHRD)

- **B.Tech.** (Mechanical Engineering) in April 1985 **from** Kakatiya Institute of Technology & Science, KakatiyaUniversity, Warangal, India.
- Post Graduate Diploma in Personnel Management, Industrial Relations and Labour Welfare from Andhra Pradesh Productivity Council (APPC), Hyderabad from 1989 -1990

**Experience:** 31 Years

18 Years Teaching Experience

3 Years research experience

10 Years Industrial Experience

# **Teaching Experience:** 18 Years

- **Presently working as Professor of Mechanical Engineering** Since 1<sup>st</sup> June 2014 in CMR COLLEGE OF Engineering & Technology, Medchal Road, Hyderabad-501401,India
  - **Chairman, Industry Institute Interaction Centre**
  - **❖** Head, Centre of Materials & Manufacturing
  - Responsible for over 100 internships (1 to 3 months) to final year students in reputed organizations in Hyderabad like CMH Tools, Ramtech Industries etc in 2017-2018
  - Responsible for over 100 Summer Training program for students (4 to 8 weeks) to Pre-final year students in reputed organizations /Institutions in Hyderabad like IIT Hyderabad, NFC,DRDL,ARCI, Veljan, Ramtech Industries etc
  - ➤ Working for Industry-Institute Interaction with local industry and DST, Government of India .
  - > Taking up activities in development of Cutting tools and Thermal Spray Coatings, Development of Certain Cast Irons.
  - ➤ Conducted FDP program on Current Trends in Materials in May 2017 for 2 weeks for Faculty of Engineering Colleges (75 Participants)
- Worked as Principal and Professor of Mechanical Engineering from December, 2011 to May2014 at Shri Rawatpura Sarkar Institute of Technology ,Vill.Pacheda, NayaRaipur, Chhattisgarh, India.

#### **Lab Development**

- Mechanical and Civil laboratories have been revamped thoroughly and the equipment was made functional with necessary repairs.
- ➤ Geology lab was established besides Survey lab was thoroughly augmented with several equipment including total station
- ➤ ECE labs (15 laboratories) were meticulously studied and equipment quotations have been obtained from reputed vendors and a systematic plan has been prepared for procurement.

#### Academics

- > Several painstaking measures have been taken to improve attendance of the students with excellent outcome.
- ➤ Conducted at least 10 Experiments out of 12 in each Laboratory.

## **Training and Placement**

- Soft skills and Aptitude classes have been made as a part of Curriculum at 1<sup>st</sup> year and second year levels.
- Worked as Principal and Professor of Mechanical Engineering from October,2010 to December,2011 at Guru Nanak institute of Engineering and Technology, Ibrahimpatnam, Hyderabad, India.

- ➤ Head of the institution from the inception and was responsible for establishing 9 laboratories in ECE, Mechanical, Civil and Computer Science and Engineering.
- Assisted the management to get Technical campus status for the Group consisting of 2 Engineering colleges, Pharmacy College, MBA College, and MCA College.
- Worked as Principal and Professor of Mechanical Engineering from July, 08 to October, 2010 at Vignan's institute of Management and Technology for Women, Ghatkesar, Hyderabad, India.

## Head of the institution from the inception.

- ➤ Responsible for Getting University ranks and positioning the college in first 5/7 positions of the university among 330+ Engineering colleges of JNTU, Hyderabad.
- ➤ Average college Attendance of the students has been maintained at 90%+
- Revision, Make-up classes, Pre-mids, Quiz tests were conducted on regular basis.
- ➤ Introduced NSS Scheme, Personality development classes, Blood donation camps
- Worked as Professor & Head of Mechanical Engineering from April, 05 to August, 06 at VNR Vignana Jyothi Institute of Engineering & Technology, Hyderabad-500090, India.
  - Established CAD/CAM Lab with various softwares considered one of the best among the colleges in Andhra Pradesh.
  - Active involvement with industries such as M/s. BMF beltings limited(subsidiary of M/s. Fenner India) for training in DOE, Low cost automation and implementing MSA etc.
- Worked as Professor & Head of Mechanical Engineering from Jun, 03 to April, 05 At Gokaraju Ranga Raju Institute of Engineering & Technology, Bachupally, Hyderabad-500090, India.
  - ➤ Introduced industry based M.Tech. Course during 2004-05 in 'Design for Manufacturing' by designing the curriculum which includes **Precision Engineering** and **MEMS.** The students of First batch have been well received by BFW, Bangalore; CADEM, Bangalore etc.
  - First Placements through Campus were made in Top rated IT companies
  - > Student's Chapter of SAE was established
- Worked as Professor of Mechanical Engineering from Nov,02- May ,03 at AKCE, Krishnankoil, Srivilliputtur-626190.
  - Active involvement with automotive industries such as M/s. TVS, Madras; M/s Massey Ferguson, Madurai etc for product development.
- Worked as Lecturer in Mechanical Engineering from Jan, 87 to Aug, 94\*\* at Kakatiya Institute of Technology & Science, Warangal-506 015, India.

- ➤ Handled various courses for B. Tech. students. Responsible for establishing Foundry Engineering & Metrology Laboratories.
- > Students achieved excellent results in Production Engineering subjects and made several university records.
- Many students qualified in GATE and got admissions in prestigious institutions.

## \*\* Study leave from June-1991-Aug,1994

# Research Experience: 3 Years (June, 1991- August, 1994)

Research Fellow (GOI) at the Mechanical Engineering Dept., Regional Engineering College, (Presently, NIT, Warangal), Warangal-506 004, India.

- ➤ Worked with Govt. of India fellowship on an ARDB project "Development and Evaluation of Ceramic cutting tools for cutting high strength materials". Developed ZTA tools, Yttria added ZTA tools to cut high strength and high hardness materials upto 500 BHN at High speeds besides testing several ceramic tools for their performance and reliability.
- ➤ Tools Developed: Alumina, Zirconia Toughened Alumina (15 vol% ZrO₂), Yttria stabilised Zirconia, Yttria stabilised Alumina, Syalon
- Materials tested: 0.31% Carbon Steel, Grey Cast Iron, Hardened Steel with 52Rc
- > Cutting speeds: 100-600 m/min
- > Studies Conducted: Flank Wear, Tool Life, Wear mechanisms, Surface finish, Micro structure of tools, Reliability of tools.

# **Industrial Experience: 10 Years**

# Bajaj Eco-Tec Products Limited, Meerut, India

**Aug,2006-July 2008** 

Position: General Manager (Operations)

- o Project execution from finalization of Technical Specifications of Main plant, Lamination and Impregnation plant, Utilities and other auxiliary systems Ordering, Follow up, Inspection of Equipment for 50,000m³/annum of First integrated Particle board plant.
- o General Admn., Production Planning, Day today activities at the Site, Guidance to Civil Engineers, Project Engineers, Civil contractors and Designers.
- o Construction Materials Planning & procurement, Materials management, Finance Planning, Review & performance of Project.
- o Manpower Planning, Job specifications, Recruitment & training, Security & Fire Safety measures.
- o Liasioning with Govt. Officials including District Magistrate, Revenue officials, Pollution Control board officials, Factories Inspector, Asst. Commissioner of Labour, Central Excise, Sales Tax, Dy. Director of Industries etc.
- ° Employee Strength: About 250<sup>+</sup>

## **ECOBOARD INDUSTRIES LIMITED. Pune. India**

Sept,1994- Nov,2002

Position: (i ) Dy. General Manager(Technical) June 2002- Nov 2002

(ii) Dy. General Manager(Production) December 2000- June 2002

(iii) Manager (Materials) Sept 1994-March 1998/ Sr.Manager (Materials) Apr 1998-Nov 2000 & Head Of The Materials Department (1994 - November 2000)

## (i) Particle Board Division

# Job Profile : Deputy General Manager (Technical): June 2002 to Nov 2002 Member, Capex Team

- O Plant performance enhancing measures; Co-ordination with Plants for deciding Specifications / Technicalities for several capital equipment; Major modifications of existing equipment; Identifying Suppliers; Floating enquiries; Techno-Commercial discussions with Suppliers; Releasing Purchase Orders and Executing the same; Coordination with Finance & Plants and evaluating the technicalities of Regular Engineering Purchase requisitions.
- Deputy General Manager (Production), Jambhulwadi Plant, Islampur, Dec. 2000-June, 2002
- O General Admn., Production Planning, Day today activities at the plant, Guidance to Production & Maintenance staff, Maintenance of Machines, Raw Material Planning & procurement, Seasonal buying, Materials management, Finance Planning, Review & performance of Depts. & Staff, Personnel and labour unions, Recruitment &training, Security & Fire Safety measures.
- o Liasioning with Govt. Officials including Factories Inspector, Asst. Commissioner of Labour, Central Excise, Sales Tax, Dy. Director of Industries etc., Co-ordination with Marketing Team for despatches etc.,
- Employee Strength: About 350<sup>+</sup>

# Sr. Manager (Materials) April 1998-Nov.2000 / Manager (Materials), Sept 1994-Mar 1998 i) Ecoboard Division

O Raw material requirements, Procurement of indigenous machinery, utility requirements and spares; Imports of raw material, spares and machinery; Inventory design and maintaining optimum levels; Cost saving measures; Support to marketing team and procuring base paper/board as per market demand; Technical support to production team for the bagasse based particle board, Transport contracts for finished goods on All India basis from the plants.

#### (ii) Waste Water Treatment Division

 Estimating and procuring of various equipment for effluent treatment plants (Anaerobic Digesters) for various chemical industries including distilleries, paper mills, petrochemical plants etc.

#### **Details of Achievements in the industry**

#### **Major Materials / Methods Developed:**

1) Developed 33 kV static charger through a local vendor for substituting a Swiss system at 5% of the original price for Lamination press of Particle board.

- 2) Developed Fire detection and extinguishing system through a local vendor at 15% of the original price for sanding machine of Particle board.
- 3) Developed Creep resistant Aluminium Alloy 2618A as a Caul plate material (Flat mould) in particle board industry in place of 6081A with **savings over 34%** in addition to improved surface of boards and reduction in finishing/raw material costs.
- 4) Platens of press brought to working condition by special welding technique/method thus breakdown due to platens leakage was down to 15%, thus helped the industry to run more efficiently. This resulted in **reducing the down times** from over 4-5% to well under 1% on this account.
- 5) Several Components like blades, Screens and wear plates, used in particle board / paper mills were developed and these measures resulted in increase in life of these components by 6-30X.
- 6) Components of Sanding Machine: Several Components of Sanding machine, very crucial in manufacturing board, were thoroughly rectified/reengineered, due to which the production has increased from 300-350 boards to an average of 800 Boardsper shift without any quality problems or fire hazards. Thus, it was made as a rugged system to suit the operating conditions and brought down rejects and power bills drastically by 8000 kW/day.
- 7) **Seals for Pumps / Hydraulic Systems:** The estimated losses amounting to Rs. 2.5 Crores/annum due to faulty seals were rectified which resulted in enhancing the production time by 4-5%. (Seal Jet ,Machined seals)
- 8) **Material conveying** is a typical problem in particle board industry due to size and density of material. The problems which existed earlier, like jamming of the duct due to irregular bends, duct size, non-provision of dampers etc were eliminated.
- 9) Certain machines, which were not utilised for several years, were brought into operation with technical corrections which also resulted in effecting savings on power bills by Rs.2 Lacs/per month(10% of Power Bill Cost).
- 10) **Hot Water Generators**:15% of man-days were lost in each year due to frequent break downs/malfunctioning of Hot water generators. This was solved by taking corrective action in modifying common header at the input end of feed water and observing the pH and total dissolved solids (TDS) at frequent intervals. Till date, since June 2001, the hot water generator,25 lacs kCal/hr at Islampur plant of M/s Ecoboard Industries has been running without trouble.

## **Other related Techno- Commercial matters**

- Import of complete Plant and Machinery of particle board division of Ecoboard, Velapur consisting of over 142 TEUs and 10 Break Bulk cargo during 1996-98 with good savings in clearance and other charges. Detention charges over Rs. 350 lakhs got waived from the shipping company.
- **Substitutes for spares and standardisation**of various materials for German machinery of Wood based particle board of 1960 make to suit, bagasse based board production.
- Modification of equipment to suit process conditions like Press cylinders, High pressure pump cylinders, rotary dryer seals & drive mechanism etc.
- **Refund of Rs. 26 lakhs from customs** during 1996 pending since 1992-93.
- Supply of spares (mostly non-off shelf and tailor made items) in May 1998 for plant maintenance at Islampur in record time with short notice.

## **ACHIEVEMENTS:**

- SikshaSant Swami Keshavanand National Award-2012 presented on 13<sup>th</sup> September,2012 by Manav KalyanVidyapeethSansthan ,Jaipur.
- 2. Best Engineer Award-2007 presented on 15<sup>th</sup> September 2007 by Association of Engineers, MuzaffarNagar,UP.

## Journal Publications/Conference Presentations: 18

# **International Journals: 08**

- B. Srinivasa Varma, Santosh Kulkarni & Somvir Singh Nain (2018) "Influence of Different Electrodes Material on MRR of EDM of Die Steel", Global Journal of Engineering Science & Research, pp. 236-240 (UGC Approved). Link
- 2. B.Srinivasa Varma, M.Sai ram, "Investigation of Characteristics in Electrical Discharge Machining of Certain Cast Irons using Response Surface Methodology", International Journal of Applied Engineering Research, Volume 12, Number 17 (2017) pp. 7011-7018, ISSN: 0973-4562. Link

- 3. B.Srinivasa Varma, Yalamanchili Someshwer Rao, Pawan Kumar, "Effect of friction stir Welding on the hardness and surface roughness of AA-6061 T6 Aluminum alloy", International Journal of Engineering, science and Mathematics, Vol.6, Issue 8, pp.710-717, December 2017, ISSN: 2320-0294. Link
- **4.** B.Srinivasa Varma et al **"Weld defect studies of EN-8 Mild Steel by Non-Destructive Techniques"**, Journal of Pure and applied Ultrasonics, Vol.38, Issue 3, pp.58-64, September 2016, ISSN: 0256 4637. Link
- **5.** B.Srinivasa Varma, S.Shyam Kumar, S.Madhu "Reliability Of ZTA Ceramic Cutting Tools While Machining Carbon Steels", CMR Journal of Engineering and Technology, Vol.1, Issue 2, pp.1-18, August 2016, ISSN: 2455-4677. Link
- **6.** B.Srinivasa Varma, S.Shyam Kumar, "Behaviour and wear Mechanisms of ZTA based Ceramic Cutting Tools on hardened Steels", International Journal of Research in Engineering and Applied Sciences, Vol.6, Issue 4, pp.8-14, April 2016, ISSN: 2249-3905. Link
- 7. B.Srinivasa Varma et al , "Effect of Heat Treatment Processes on the Mechanical Properties and Micostructural Characteristics of AISI 440C", International Journal Of Emerging Technologies And Applications In Engineering, Technology And Sciences (IJ-ETA-ETS), Vol.6, Issue 2, pp.58-63, July December 2013, ISSN: 0974-3588. Link
- **8.** B.Srinivasa Varma et al , "Nano Composites of Alumina in Pure Aluminium –Stir casting Route" , Journal of Information, Knowledge and Research in Mechanical Engineering, Vol.2, Issue 2, pp.181-185, Nov 12 to Oct 13, ISSN: 0975-668X. <u>Link Mech 34</u>

## **Presentations in Conferences: 10**

- B. Srinivasa Varma, Santosh Kulkarni & Somvir Singh Nain (2018) "Influence of Different Electrodes Material on MRR of EDM of Die Steel" Proceedings of International Conference on Advances in Mechanical Engineering (ICAME 2018), organized by Department of Mechanical Engineering, CMR College of Engineering & Technology, Hyderabad, India from 21 -22, December 2018. (ISBN: 978-81-923800-1-8). Link
- 2. B. Srinivasa Varma et al, "Modeling and simulation of humanitarian disaster system in a real time environment", International Conference on Environmental Management, JNTU, Hyderabad, India, Oct 28-30, 2005. ISBN:8178001055 <u>Link</u>
- 3. B.Srinivasa Varma et al, "Characteristics & Usage of granite powder substituting silica sand for aluminum castings", in Proceedings of National Conference on Recent Trends in Mechanical Engineering held in Feb 1998.

- 4. B.Srinivasa Varma et al, "Performance of ZTA tools for machining hardened steels", in Proceedings of International conference on Advances Manufacturing in June,1994 at UniversitiTeknologi, Malaysia Johorbahru, Malaysia.
- 5. B.Srinivasa Varma et al, "Air pollution control in engineering industry and new trends", Emerging trends in environmental engineering on July 25<sup>th</sup> 2009 organized by Department of Mechanical Engineering, Chaitanya Engineering College, Visakhapatnam.
- 6. B.Srinivasa Varma et al, "Performance evaluation of 2618A, creep resistant aluminium alloy as mould in the production of particle board", International interactive workshop on ANSYS workbench and multi-physics suite on 16<sup>th</sup> Dec,2010 at Chaitanya Engineering College, Visakhapatnam.
- 7. B.Srinivasa Varma et al, "Aging characteristics of EN-1A steel as platen material in the manufacture of particle board" International interactive workshop on ANSYS workbench and multi-physics suite on 16<sup>th</sup> Dec,2010 at Chaitanya Engineering College, Visakhapatnam.
- 8. B.Srinivasa Varma et al, "Ceramics In Mechanical Engineering Applications", National Symposia of emerging materials held at NIT, Warangal, Feb 1992.
- 9. B.Srinivasa Varma et al, "Machining of steel with zirconia toughened alumina tools", in Proceedings of National conference on advances in mechanical engineering, conducted by MNREC, Allahabad Held in Nov 1992.
- 10. B.Srinivasa Varma et al, "Problems of bull gear production & Feasibility study of CNC hobbing in tractor industry", in Proceedings of National conference on advances in mechanical engineering, conducted by MNREC, Allahabad Held in Nov 1992.

#### Text Books Published:

- 1. A Text Book on Engineering Metrology, Amazon Kindle Edition with ISBN: 9781520498577, ASIN: B01N16DOKC
- 2. Environmental Studies for Engineering, Amazon Kindle Edition with ISBN: 9781520505145, ASIN:B01NAZ3UED

## **NPTEL Online Certifications Awarded:**

- 1. Introduction to Mechanical Micromachining with **Elite** + **Silver** Certification (January April 2019) by IIT Kharagpur.
- 2. Fundamentals of Surface Engineering: Mechanisms, Processes and Characterizations with **Elite** Certification (July October 2018) by IIT Roorkee.
- 3. Engineering Metrology with **Elite** Certification (July October 2018) by IIT Kanpur

# Workshops/FDPs/ Conferences/Techfests Organized:

- 1. One Day invited lecture on **Current Trends in Precision Engineering** by Prof. V C Venkatesh, University of Nevada, Las Vegas, USA on 7<sup>th</sup> September 2018, at Department of Mechanical Engineering, CMR College of Engineering & Technology, Hyderabad.
- 2. Two week Faculty Development program on Current Trends in Materials and Manufacturing' from 15<sup>th</sup> -27<sup>th</sup> May 2017 at CMR College of Engineering & Technology, Hyderabad.
- 3. AZURA 2K17, National Level Student Techfest on 23<sup>rd</sup> and 24<sup>th</sup> March 2017 at CMR College of Engineering & Technology, Hyderabad.
- 4. Conducted 3 Day Workshop on 'Design of Experiments' sponsored by M/S. BMF Beltings Limited (Subsidiary Of M/S Fenner India) in Mar/ Apr 2006 at VNR Vignana Jyothi Institute of Engineering & Technology, Hyderabad.

# Workshops/FDPs Attended:

- 1. 11<sup>th</sup> Summer School in Tribology from 14<sup>th</sup> May to 18<sup>th</sup> May 2019 at Indian Oil Institute of Petroleum Management (IiPM) Gurugram (Gurgaon) Organized by Department of science & Technology and Tribological Society of India.
- 2. One week Faculty Development program on ICT in Advanced Manufacturing Engineering Organized by E & ICT Academy, NIT Warangal from 27<sup>th</sup> May to 1<sup>st</sup> June 2019.
- 3. Two day National seminar on developments in Computational Fluid mechanics and its application in Various Industrial Problems sponsored by SERB- India on 6<sup>th</sup> & 7<sup>th</sup> May 2019 at CMR Engineering College, Hyderabad.
- 4. Short Term Course on Composite Material from 21<sup>st</sup> June to 28<sup>th</sup> June 2019 at Indian Institute of Technology, Kharagpur.
- 5. One Day invited lecture on Current Trends in Precision Engineering by Prof. V C Venkatesh, University of Nevada, Las Vegas, USA on 7<sup>th</sup> September 2018, organized by Department of Mechanical Engineering, CMR College of Engineering & Technology, Hyderabad.
- 6. One week Faculty Development Program On "Design of Machine Elements" from 7<sup>th</sup> to 14<sup>th</sup> February 2018 at CMR Institute of Technology, Hyderabad.

- 7. Two week Faculty Development program on Current Trends in Materials and Manufacturing' from 15<sup>th</sup> -27<sup>th</sup> May 2017 at CMR College of Engineering & Technology, Hyderabad.
- 8. One week Faculty Development program on Thermal and Fluids Analysis: CFD Approach from 27<sup>th</sup> Feb-4<sup>th</sup> March,2017 at Gokaraju Rangaraju Institute of Engineering & Technology, Hyderabad.
- 9. One week Faculty Development program on Applications of CFD in thermal Fluids Engineering from 29<sup>th</sup> Feb-6<sup>th</sup> March,2016 at CMR Engineering College, Hyderabad.
- 10. One week Faculty Development program on Finite element analysis and practices through ANSYS from 30<sup>th</sup> Nov-5<sup>th</sup> Dec 2015 at Geetanjali College of Engineering & Technology, Hyderabad.
- 11. Two week Faculty Development program on Advanced Mechanics of Solids from 22<sup>nd</sup> to 28<sup>th</sup> July 2012 at CMR College of Engineering & Technology, Hyderabad.
- 12. 2 week Faculty Development program on Computational Fluid Dynamics from 8<sup>th</sup> to 19<sup>th</sup> Feb,2012 at Vishwakarma Institute of Technology, Pune.
- 13. One week Faculty Development program on Computational Fluid Dynamics from 18<sup>th</sup> to 24<sup>th</sup> Dec,2011 at CMR College of Engineering & Technology, Hyderabad.
- 14. 2 week Faculty Development program on Heat Transfer, 29<sup>th</sup> Nov-10<sup>th</sup> Dec,2011 at Vishwakarma Institute of Technology, Pune.
- 15. Mission-10X Academic Leadership Work shop from 14<sup>th</sup> to 17<sup>th</sup> September 2011 organized by Academic Staff College of India, Hyderabad.
- 16. Two week Faculty Development program on CNC Turning and Milling from 6<sup>th</sup> to 19<sup>th</sup> June 2011Organized by MTAB Engineers Pvt. limited, Chennai.
- 17. Mission-10X Academic Leadership Work shop from 28<sup>th</sup> to 30<sup>th</sup> March 2011 organized by Academic Staff College of India, Hyderabad.
- 18. One week faculty development program on Nano Technology from 8<sup>th</sup> to 14<sup>th</sup> August 2010 at CMR College of Engineering & Technology, Hyderabad.
- 19. One week faculty development program on Integration of Computer Based Methodologies in Mechanical Engineering System from 1<sup>st</sup> to 6<sup>th</sup> June 2009 at MVGR Engineering College, Vizianagaram.

20. ISTE Summer School on Computer Aided Process Planning Organized by NIT, Warangal in May 1993

# **Guest Lectures Presented / Resource Persons:**

- 1. Invited lecture on Selection of materials using Performance Indices and Ashby Charts on 10-2-2017 at Rajiv Gandhi University of Knowledge Technologies, Basar.
- 2. Invited lecture on Theory of Inventive Problem Solving(TRIZ) on 11-2-2017 at Rajiv Gandhi University of Knowledge Technologies, Basar.
- 3. Invited lecture on Optimization Techniques in engineering Research in Faculty development programme on Numerical Methods and Optimization Techniques in Engineering Research on 16-12-2016 at CMR Engineering College, Hyderabad.
- 4. Invited lecture on Conducting class tests, Setting examination papers and evaluating exam papers, design of lab experiments, Conducting laboratories, evaluation of lab records in One week FDP on teaching Methodologies from 28<sup>th</sup> Nov-3<sup>rd</sup> Dec 2016 at CMR College of Engineering & Technology, Hyderabad.
- 5. Invited lecture on Selection of materials and theory of inventive problem solving in National Conference on multi disciplinary academic Research and innovation in technology (NCMARIT-2016) from 18th 19<sup>th</sup> Nov 2016 at MATS University, Raipur, Chhattisgarh.
- 6. Invited lecture on Product design and Development strategies on 21<sup>st</sup> March 2015 at MATS University, Raipur, Chhattisgarh.
- 7. Invited lecture on Design for manufacturing and New trends on 15<sup>th</sup> March 2015 at MATS University, Raipur, Chhattisgarh.
- 8. Invited Lecture on Inventive Problem Solving Techniques on 18<sup>th</sup> Oct 2014 at MATS University, Raipur, Chhattisgarh.
- 9. Invited lecture on Selection of materials using Ashby Charts and Performance Indices on 23<sup>rd</sup> Nov 2013 at MATS University, Raipur, Chhattisgarh.
- 10. Invited lecture on Selection of materials using Ashby Charts and Performance Indices on 16<sup>th</sup> Feb 2013 at MATS University, Raipur, Chhattisgarh.
- 11. Invited lecture on Recent Trends in Powder Metallurgy Techniques and their applications in engineering industry on 11<sup>th</sup> Aug 2012 at MATS University, Raipur, Chhattisgarh.

- 12. Invited lecture on Recent Trends in Metal Forming and their applications in Automotive/Aerospace Industry on 17<sup>th</sup> Mar 2012 at MATS University, Raipur, Chhattisgarh.
- 13. Invited lecture on converting waste into Wealth Opportunities at Jagannath Institute of Technology & Management, Paralakhemundi, Odisha.
- 14. Invited lecture on recent trends in Welding on 25-07-2009 at Chaitanya Engineering College, Visakhapatnam.
- 15. Invited lecture on Designing of castings and recent trends on 30-11-2013 at Gandhi Institute of Excellent Technocrats, Odisha.
- 16. Invited lecture on The importance of precision engineering and concept of design for manufacturing in 'Gaja Jyothi' A National seminar on current trends in Mechanical engineering from 23<sup>rd</sup> -24<sup>th</sup> Feb, 2008 at Jagannath Institute of Technology & Management, Paralakhemundi, Odisha.

# **Memberships in Professional Societies:**

- 1. Fellow of The Institution of Engineers (India) ( F 120911-2) / February 2016.
- 2. Life Member of Tribological Society Of India (LM- 5793).