PROFILE



1. Name in Full Dr. Vitthal Shrirang Bandal

Principal, Govt. Polytechnic, Pune

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2. Education

- Ph. D. (IIT Bombay). Research Topic: PSS Design based on MultirateOutput Feedback Sliding Mode Control Strategies (CPI =9.0 out of 10.0), 2006.
- M.E. (Electrical) (Power Systems), Govt. College of Engineering, Karad, India-April 1995 (Percentage of Marks =70.73 %), 1995.
- B. E. (Electrical), Govt. College of Engineering, Karad with first rank in ShivajiUniversity, Kolhapur, July 1989 (Percentage of Marks =80.88 %) (Recipient of University Gold Medal)

3. Achievements/Awards:-

1. Received *Gold Medal* for securing **FIRST RANK** at B.E. (Electrical) examination in Shivaji University Kolhapur.

- 2. Received "BEST PAPER AWARD" at National Conference held at IIT Kharagpur (India) during December 2003.
- Received 1000 USD award for Best Research paper at International Conference held at Canada and Hon Kong in 2005.
- 4. Received "BEST PAPER AWARD" at American Control Conference held at New York (USA) during July 2007.
- 5. Stood 1st in Maharashtra Public Service Commission examination held for the post of Asst. Engineer (Electrical) (Public Works Department).
- 6. Successful Completion of Ph.D. from IIT Bombay in $2\frac{1}{2}$ years.
- 7. Visited University of Manitoba, Winnipeg, CANADA and University of Saskatchewan, Saskatoon, CANADA to deliver expert lecture on "PSS design based on Multirate Output Feedback Sliding mode Control Strategies" during July-2007.
- 8. Recognized as PG (Pune and Shivaji University) and Ph.D. guide. (Pune and AmravatiUniversity).
- Worked as consultant to Health department, Govt. of Maharashtra in design and implementation of Solar PV - AC hybrid system(SPVS)for Deep freezer and ILR installed at 407 Primary Health Centers in Maharashtra.
- 10. Worked as **Faculty** for SNCU training programmes conducted for Cold chain Officers/Technicians organized by UNICEF.
- 11. Worked as a consultant for safe City Kolhapur Project, by KMC Kolhapur in 2016-17

4. Experience

Sr. No.	Name of the Office/ Organization	Designation	Year From To	Job Description
1	Govt. Polytechnic, Pune(An Autonomous Institute of Govt. of Maharashtra)	Principal	8 th July 2019 to till date	Administration , Teaching, Research
2	Govt. Polytechnic, Karad	Principal	8 th July 2016 to 7 th July 2019	Administration ,Teaching, Research
3	Govt. College of Engineering, Pune (An Autonomous Institute of Govt. of Maharashtra)	Associate Professor in Electrical Engineering	1stNovember-2015 to 7th July 2016	Teaching, Research, Administration
4	National Cold chain Resource Centre (NCCRC), Pune Ministry of Health, GoI, New Delhi	Sr. Consultant & Coordinator	1st September 2014 to 31st October-2015	Research, Training, Administration
5	Govt. College of Engineering, Pune (An Autonomous Institute of Govt. of Maharashtra)	Associate Professor in Electrical Engineering	21st July-2006 to31st August 2014	Teaching, Research, Administration
6	IIT Bombay	Research Scholar	21stJuly-2003 to 20th July-2006	Research
7	Govt. College of Engineering Karad	Assistant Professor in Electrical Engineering	6 th Jan-1998 to 20 th July 2003	Teaching, Research, Administration
8	Govt. College of Engineering Karad	Lecturer in Electrical Engineering	13th Nov-1992 to 5th Jan-1998	Teaching, Research, Administration

5. <u>Publications</u>

International/National Conferences

- Vitthal S. Bandal, B. Bandyopadhyay and A. M. Kulkarni, "An Application of Fast Output Sampling Sliding Mode Controller to Design a Power System Stabilizer-Simulation Results ", Proc. 27th National Systems Conference (NSC 2003), pp. 13-17, Indian Institute of Technology, Kharagpur, India. Dec. 2003
- 2. Rajeev Gupta, B. Bandyopadhyay A. M. Kulkarni and Vitthal Bandal, "Design of Decentralized Power System Stabilizers for Multi-Machine Power System Using Model Reduction and Periodic Output Feedback Techniques", Proc. International Conference on Power System (ICPS 2004), pp. 188-194, Kathmandu, Nepal, Nov. 2004
- 3. Vitthal Bandal, B. Bandyopadhyay and A. M. Kulkarni, "Design of Decentralized Sliding Mode Control Technique Based Power System Stabilizers for Multi-Machine Power System", Proc. IEEE International Conference on Control Applications (CCA 2005), pp. 55-60, Toronto, Canada, August 2005
- 4. Vitthal Bandal, B. Bandyopadhyay and A. M. Kulkarni, "Design of Decentralized Sliding Mode Control Technique Based Power System Stabilizers for Multi-Machine Power System", Proc. 2nd International Conference on Informatics in Control, Automation and Robotics (ICINCO 2005), INSTICC Press, pp. 161-165, Barcelona, Spain, September 2005
- 5. Vitthal Bandal, B. Bandyopadhyay and A. M. Kulkarni, "Power System stabilizer design for single Machine Infinite Bus System based on Power

- Rate Reaching Law Sliding Mode Control Technique", Proc. 7thInternational Power Engineering Conference (IPEC 2005), Singapore, Paper. FM-2.5, November 2005
- 6. Vitthal Bandal, B. Bandyopadhyay and A. M. Kulkarni, "Output Feedback Fuzzy sliding mode control technique based Power System Stabilizers for Single machine infinite bus System", Proc. IEEE International Conference on Industrial Technology (ICIT 2005), pp. 341-346, Hong Kong, Dec. 2005
- 7. **Vitthal Bandal** and B. Bandyopadhyay, "Multirate Output Feedback Fuzzy sliding mode control technique based Power System Stabilizers for Power System", Proc., National Conference On Communication, Controls and Bioinformatics (NCCCB-06), **Kota, India**, Paper FZ-7, March 2006
- 8. Vitthal Bandal and B. Bandyopadhyay, "Power System Stabilizers design based on Power rate reaching law based sliding mode control ", Proc. American Control Conference (ACC 2007), pp. 5922-5927, New York, USA, July 2007
- 9. Vitthal Bandal, G.Leela Krishna "Discrete time sliding mode control technique base Static VAR Compensator", a national level Technical Symposium (CIENCIA08), held during March 16-17, 2008, at CVR Engineering College Hyderabad, Andhra Pradesh, INDIA
- 10. Vitthal Bandal, M.Venkateswarlu "Modeling, Controller design of Unified Power Flow Controller using sliding mode control technique" a National Workshop on Nonlinear and variable Structure Control System (NVSC:2008), held during April 19-20, 2008, at A.D.Patel College of Engineering, New Vallabh Vidyanagem Anand, Gujarat, INDIA

- 11. Vitthal Bandal, P. Nageswara Rao "Modeling and Discrete Sliding Mode Controller Design for Single Machine Infinite Bus System (SMIB)", a national level technical Symposium on March 12th -14th, 2009 (PROMETHEAN'09), at Padmastri Dr.B.V.Raju Institute of Technology, Hyderabad, Andhra Pradesh, INDIA
- **12. Vitthal Bandal**, B,Chandra sekhar. "Discrete Time Sliding Mode Controller for Sensor less Induction motor". A National level technical Symposium, PRAGNYA'09, held during March 6-7, **2009**at JNTU **HYDERABAD**, **Andhra Pradesh**, **INDIA**
- **13. Vitthal Bandal**, P.ChandraSekhar, "Load frequency control of two area interconnected power systems by Sliding mode Control". A National level technical Symposium, PRAGNYA'09, held during March 6-7, **2009** at JNTU, HYDERABAD, INDIA.
- **14. Vitthal Bandal**, Pratik Vernekar," A New Approach to a Sliding Mode Controller design for a Magnetic Levitation System", 2009 Asia-Pacific Conference on Computational Intelligence and Industrial Applications (PACIIA 2009), pp. 326-329, Wuhan, China, November 2009.
- **15.** AjitLaware, **Vitthal Bandal**, "PIC Microcontroller Based Micro Irrigation System", Conference on Agriculture Mechanization through Entrepreneurial Development, held during February 6-7,2010 at **M.P.K.V., RAHURI, MAHARASHTRA INDIA**.
- **16.** A.R. Laware, **V. S. Bandal**, "PIC Micro Controller based Micro Irrigation System using gypsum sensor, Recent Trends in Instrumentation and Control (RTIC), Dr. VithalraoVikhePatil College of Engineering, Ahmednagar, **2010**.
- 17. Vitthal Bandal, Pratik Vernekar," Design of a Discrete-Time Sliding Mode Controller for a Magnetic Levitation System" Proc. American

- Control Conference (ACC 2010), pp. 4289-4294, Baltimore, Maryland USA, July 2010.
- 18. Vitthal Bandal, Priti Madurwar, "Performance Analysis of shunt Active Filter using Sliding Mode Control Strategies" Proc. 12th International Workshop on Variable Structure Systems (VSS 2012), pp. 214-219, IIT Bombay India, January 2012
- 19. Umre, P.B., Vitthal Bandal, Dhamne A.R., "Design of controller for Unified Power Flow Controller (UPFC) using Sliding Mode Control (SMC) strategies," Confluence The Next Generation Information Technology Summit (Confluence), Noida, New Delhi 2014 5th International Conference , vol., no., pp.893-897, 25-26 Sept. 2014.
- 20. Talange D. B., Laware A.R., Vitthal Bandal; "Development of an internal model sliding mode controller for cascade control system", IEEE International Conference on Energy Systems and Applications (ICESA-2015), DYP COE, Pune held during 30th October-1st November 2015.
- 21. Laware A.R., Vitthal Bandal, Talange D. B. "Design of Predictive Sliding Mode Controller for Cascade Control System", 2016 IEEE First International Conference on Control, Measurement and Instrumentation (CMI), IEEE Catalog No. CFP16C90 ISBN: 978-1-4799-1768-6, PP 284-89, Kolkata, 8-10th January 2016.
- 22. Laware A.R., Bandal V.S. Patil Anita K. and Talange D.B., "Design and Experimental Verification of Normal Terminal Sliding Mode Control for Level Tank System", Accepted and presented for National conference NOBCON 2021, Junagadh, Gujrat, ISBN: 978-93-91729-01-1.

International Journals

- Vitthal Bandal and B. Bandyopadhyay, "Robust Decentralized Output Feedback Sliding Mode Control Technique Based Power System Stabilizer for Multimachine Power System (10-machine 39-bus system) ", Volume 1, Issue 5, PP, 1512-1522, September 2007 IEE Proceedings on Control Theory and Applications.
- 2. T.T. Waghmare, V.B. Waghmare and Vitthal Bandal, "Design of Series Parallel loaded Transformer less DC Supply", Volume 50, Number 2, PP, 146-151, 2009, International Journal of Advanced Engineering and Applications.
- Vitthal Bandal and Shahab Khormali, "Sliding Mode Control Strategies for Induction motor Control", Volume 3, ISSN: 0975 7783, January 2011, International Journal of Advanced Engineering and Applications.
- 4. A. R. Laware, D. B. Talange and V. S. Bandal, "Real-Time Temperature Control System using PID Controller and Supervisory Control and Data Acquisition System (SCADA)", International Journal of Application or Innovation in Engineering and Management (IJAIEM), Vol. 2, Issue 2, ISSN: 2229-6972 (online), ISSN: 2319-4847 (print), pp. 88-94, 2013
- N.B. Dhokey, S.Patil, S. Dhandare and V. S. Bandal, "Role of Ceramic coating on Electrical and Magnetic Properties of Iron Powder ", Volume 10, Number 3, (2014), PP 591-596, Electronic Material letters (DOI: 10.1007/s13391-014-3236).
- **6.** A. R. Laware, D. B. Talange and **V. S. Bandal**, "Temperature Control of Heat Exchanger using Sliding Mode Control Law", **Journal of Control**

- and Instrumentation (JoCI), Vol. 6, Issue 1, ISSN: 2229-6972 (online), ISSN: 2347-7237 (print), pp. 14-27, 2015
- A.S. Mane and V.S. Bandal, "Single Phase Inverter Topologies by using Sliding Mode Control Strategies", International Journal of Electrical Engineering and Technology (IJEET), Vol. 6, Issue 2, pp. 24-45, 2015.
- **8.** A.S. Mane and **V.S. Bandal**, "Cascaded H- Bridge Multilevel Inverter Modulation Topologies and its Simulation", **International Journal of Electrical Engineering and Technology (IJEET)**, Vol. 6, Issue 8, pp. 108-126, **2015**.
- 9. A.S. Mane and V.S. Bandal, "A Literature Review: Multilevel Inverter Topologies and Sliding Mode Control Strategies", International Journal of Applied Science Engineering and Management (IJASEM), Vol. 3, Issue 4, pp. 16-40, 2017.
- **10.** A.S. Mane and **V.S. Bandal**, "In-phase Deposition Modulated Single Phase Five Level Cascaded H-Bridge Multilevel Inverter", **International Journal of Applied Science Engineering and Management(IJASEM)**, Vol. 4, Issue 2, pp. 1-17, **2018**.
- **11.** A. R. Laware, D. B. Talange and **V. S. Bandal**, "Evolutionary optimization of sliding mode controller for level control system", **ISA Transactions** 83, pp. 199-213, 2018. DOI: 10.1016/j.isatra.2018.08.011
- **12.** A. R. Laware, **V. S. Bandal**, M. G. Ghogare and D. B. Talange, "Design of LMI-based finite-time sliding mode controller: The convex optimization problem", **Journal of Engineering Sciences**, **UGC Care Approved Group II Multidisciplinary Journal**, Vol. 11, Issue 05, pp. 542-549, May 2020. DOI: 10.15433.JES.2020.V11I5.43P.87
- **13.** Laware A. R., Talange D. B. and **Bandal V. S.**, "Experimental realization of constrained optimization of sliding mode controller parameters with

- modified objective functions", **International Journal of Software Computing and Testing**, Vol.6, No.1, April 2020. DOI: 10.37628/ijosct.v6i1.594.
- **14.** A.R. Laware, R.R. Navthar, **V.S. Bandal** and D.B. Talange, "Global optimization of second-order sliding mode controller parameters with new sliding surface: An application to process control systems", Accepted (on 10th August 2021) for **Elsevier's ISA Transactions**, Article in Press. https://doi.org/10.1016.2021.08.013
- **15. Vitthal Bandal** and B. Bandyopadhyay, "Multirate Output Feedback Fuzzy Sliding Mode Control Technique Based Power System Stabilizer (PSS) ", *Under Review*, **International Journal of Fuzzy Sets and Systems.**
- 16. Vitthal Bandal and B. Bandyopadhyay, "Robust Power Systems Stabilizer using Output Feedback sliding Mode Control Technique. (Single Machine Infinite Bus System) Under Review, International Journal of Electrical Power & Energy Systems.
- **17. Vitthal Bandal** and B. Bandyopadhyay, "Multirate Output Feedback Sliding Mode Control Based Power System Stabilizer (PSS) for 191-Generator, 488-Bus practical Power System", *Under Review*
- 18. A. R. Laware, R. R. Navthar, V. S. Bandal and D. B. Talange, "Global Optimization of Second-Order Sliding Mode Controller: An Application to Level Control System", accepted to Elsevier ISA Transactions
- 19. Laware A.R., Patil A.K., Bandal V.S., Talange D.B.,"Design and Experimental Evaluation of Global Sliding-Mode Controller", Int. Journal of Systems, Control and Communication Under Minor Revision
- **20.** Ajit R. Laware, **Vithal S. Bandal** and Dhananjay B. Talange, "Fast Terminal Sliding Mode Controller Tuning via Jaya and Artificial Bee

- Colony Optimization Algorithms with Experimental Validation", **Journal of the Franklin Institute** *Under Minor Revision*
- 21. Laware Ajit R., Bandal Vitthal S., Ghogare Mukesh G., Awaze Sheha K. and Talange Dhananjay B. "Design and Experimental Evaluation of Non-Singular Terminal Sliding Mode Controller Using Modified Sliding Surface Variables" submitted to International Journal of Computer Applications in Technology, (IJCAT), (Under Review), Inderscience Publisher
- 22. Laware Ajit R., Bandal Vitthal S., Patil Anita K. and Talange Dhananjay B. "Design and Experimental Evaluation of Non-Singular Terminal Sliding Mode Controller Using Modified Sliding Surface Variables" submitted to International Journal of Systems, Communication and Control (IJSCC), (Under Review), Inderscience Publisher.
- 23. Laware Ajit R., Bandal Vitthal S., and Talange Dhananjay B. "Fast Terminal Sliding Mode Controller Tuning via Jaya and Artificial Bee Colony Optimization Algorithms with Experimental Validation", Submitted to Elsevier's Journal of the Franklin Institute, (Under Review)

6. <u>Participation in Training Programmes:</u>

- **1.** Two weeks ISTE course on "Microprocessor Applications in Instrumentation & Control" at Engineering College **Kota** (Rajasthan) during 19-06-1995 to 01-07-**1995**.
- **2.** Two weeks QIP course on "Microprocessors in Instrumentation" at SGGS Nanded (Maharashtra) during 17-06-1996 to 28-06-1996.
- **3.** One week ISTE course on "Performance Appraisal and Development system" at Govt. College of Engineering, **Karad** (Maharashtra) during 10-03-1997 to 16-03-1997.

- **4.** Two weeks ISTE course on "C Programming and OOP in C" at Sardar Patel College of Engineering, Andheri **Mumbai** (Maharashtra) during 09-12-1997 to 20-12-**1997**.
- **5.** Two weeks AICTE-ISTE course on "EMTP, MATLAB, PSPICE packages and their applications in Electrical Engineering" at **REC Warangal** (Andhra Pradesh) during 27-12-1999 to 08-01-**2000**.
- **6.** Two weeks AICTE-ISTE course on "Campus Wide Networking" at VIT Pune (Maharashtra) during 17-06-2001 to 30-06-**2001**.
- 7. One week QIP course on "Facts and HVDC systems" at **IIT Bombay**, (Maharashtra) during 02-12-2002 to 06-12-**2002**.
- **8.** 'Control of Critical Systems` Workshop conducted at **IIT Kharagpur** by ISRO, December **2003**.
- 9. One week QIP course on "Science and Practice of Teaching" at IIT Bombay, (Maharashtra) during 13-09-2004 to 17-09-2004
- **10.**One week QIP course on "Power System Operation & Control" at **IIT Bombay**, (Maharashtra) during 04-10-2004 to 08-10-**2004**.
- **11.**One week QIP course on "Management and Practice of Teaching" at **IIT Bombay**, (Maharashtra) during 14-03-2005 to 18-03-**2005**.
- **12.**Faculty Development Programme on "Teachers as Leaders" at College of Engineering **Pune** on 17th November **2006**.
- **13.**Faculty Development Programme under TEQIP Networking on "Embedded Technology with Hands on Training" at College of Engineering **Pune** during 5-12-2006 to 6-12-**2006**.
- **14.**One week ISTE workshop on "Mission 10X" at MIT, **Pune** during 17-12-2007 to 21-12-2007.

- **15.**One week TEQIP sponsored short term course on "Finite Elements in Engineering" at College of Engineering, **Pune** during 09-07-2012 to 13-07-2012.
- **16.**One week QIP course on "Variable Structure and Sliding Mode Control-Concept, Theory and Applications" at **IIT Bombay**, (Maharashtra) during 21-01-2013 to 25-01-**2013**.
- **17.**Two days **Training for Maharashtra state officers at** M/s. L&T Ltd., Madh, Mumbai from 11th to 12th Nov., 2016
- 7. <u>Participation in National/ International</u> <u>Conferences/workshops</u>
 - **1. 27**th National Systems Conference, IIT Kharagpur, India during 17-19 December 2003.
 - International Conference on Power Systems (ICPS 2004), Kathmandu, Nepal, 3-5 November 2004.
 - 3. IEEE International conference on Control Applications (CCA 2005), Toronto, Canada during 28-31 August 2005.
 - **4.** 7thInternational Power Engineering Conference (IPEC 2005)Singapore, during November 29 to December 2, 2005.
 - IEEE International Conference on Industrial Technology (ICIT 2005), Hong Kong, during 14-17 December 2005.
 - 6. National Conference on Communication, Controls and Bioinformatics (NCCCB-06), Kota, India, during 8-10 March 2006.
 - 7. IEEE International Conference on Industrial Technology (ICIT2006) held at Renaissance Hotel & Convention Centre, Mumbai during 15-17th December 2006.
 - 8. 2006 IEEE conference on Electric & Hybrid Vehicle held at Pune

- during 18-20 December, 2006.
- 9. Workshop on Power Electronics: Advances and Applications (Under TEQIP) held at VNIT Nagpur, during 8-10 March, 2007.
- **10. IEEE American Control Conference (ACC 2007), New York, USA**during 9-13 July **2007**.
- 11. Workshop on Power Electronics: Advances and Applications (Under TEQIP) held at NIT Trichy, Tamilnadu during21-23January, 2009.
- 12.12TH INTERNATIONAL WORKSHOP ON VARIABLE STRUCTURE SYSTEMS(VSS 2012), IIT Bombay India, January 2012.
- 13. International Interactive Workshop on Effective Academia Leadership Strategies- A global perspective" at SEGI University, Kuala Lumpur, Malaysia during 12-14th December 2013.
- **14.** Two days Workshop on "Innovations in Health, Immunization & Cold Chain System in India" at Patana, Bihar during 20-21st March 2014.
- **15.** Organized One day workshop on "Capacity Building of Cold Chain Equipment manufacturers and professional institutes on WHO-PQS standard" on 20th October, 2014 at Hotel Royal Plaza, New Delhi.
- **16.** Attended "Indian Cold Chain Show" organised by Reed Manch Exhibitions, New Delhi, third annual edition on cold chain logistics sector at Gorgaon, Mumbai on 10th December, 2014.
- **17.** One week course on "Effective Cold Chain and Vaccine Management Course" at Delhi during 27th April 2015 to 1st May 2015 (Organized by NCCVMRC, MoHFW and UNICEF).
- **18. National Power Electronics Conference (NPEC-15)**, **IIT Bombay**, India, during 21-23December **2015**.
- **19.** Organized Trainer Workshop on AICTE approval Process 2016-17 at College of Engg. Pune on 6th March, 2016 under the banner of AICTE

Mumbai on Sunday, 6th March 2016

20. Participated in IEEE Fall School on Modern Sliding Mode Control organized at IIT, Bombay during 26-30th October, 2016.

8. **Area of Research**

- 1. Modeling of Dynamical Systems
- **2.** Robust control of large scale systems
- **3.** Power System Stabilizer
- **4.** Sliding Mode Control

9 Research / Consultancy Grants

- MODROBS: Rs. 4.25 Lacs
- Consultancy: -Rs. 36 Lacs (Public Health Department-Govt. of Maharashtra)

: -Rs. 01 Lac (Kolhapur Municipal Corporation)

- Research Promotion Scheme (RPS) by AICTE, New Delhi:
 Rs.11 Lacs for Research Project "Modeling and Controller Design of UPFC using Sliding Mode Control Techniques"
- Worked as consultant to Health department, Govt. of Maharashtra in design and implementation of Solar PV AC hybrid system (SPVS) for Deep freezer and ILR installed at 407 Primary Health Centers in Maharashtra during 2009-2015,
- Worked as Technical consultant for safe City Kolhapur Project, by KMC Kolhapur in 2016-17.
- Worked as Technical consultant for CCTV Surveillance System of Pune City, by Pune Commissioner of Police in July 2020

10 Teaching Responsibilities (Subjects Taught)

- **1.** Microprocessors and Microcontrollers (M.E. (Electrical))
- **2.** Power System Planning (M.E. (Electrical))
- **3.** HVDC Transmission (M.E. (Electrical))
- **4.** Power System Analysis (M.E. (Electrical))
- **5.** Advanced Protective Relaying (M.E. (Electrical))
- **6.** Control Systems Design (B.E. (Electrical))
- 7. Microprocessors and its Applications (B.E. (Electrical))
- 8. Microprocessors (T.E. (Electrical))
- 9. Instrumentation Techniques (T.E. (Electrical))
- **10.** Industrial Electronics (T.E. (Electrical))
- 11. Computer Programming and Numerical Methods (T.E. (Electrical))
- **12.** Electrical Machines (S.E. (Electrical))
- **13.** Network Analysis (S.E. (Electrical))
- 14. Energy Resources and Engineering (S.E. (Electrical))
- 15. Computer Network (S.E. (Information Technology)
- **16.** Basic Electrical Engineering (F.E. (Elect. / Civil/Mech.))
- 17. Electrical Circuit Analysis (S.Y. B. Tech(Electrical))
- **18.** Elements of Electrical Engineering (F.Y. B. Tech(Electrical))
- **19.** Special Topics in Control Systems (F.Y. M. Tech (Electrical) (Control systems)
- 20. Signals and Systems (S.Y. B. Tech(Electrical))
- 21. Fundamentals of Control Systems (T.Y. B. Tech.)

- 22. Robust Control (F.Y. M. Tech (Electrical) (Control Systems)
- **23.** Numerical Methods and Computer Programming (S.Y. B. Tech(Electrical))
- **24.** Sliding Mode Control (F.Y. M. Tech (Electrical) (Control Systems)
- 25. Optimal Control Systems (F.Y. M. Tech (Electrical) (Control Systems)
- **26.** Intelligent Control (F.Y. M. Tech (Electrical) (Control Systems)

11. Administrative Responsibilities (other):

- 1. I have worked as **Head of Information Technology** Department.
- **2.** I have worked as **CHAIRMAN** admission committee at First Year Engineering / Pharmacy (Degree) MaharashtraState admissions.
- **3.** I have worked as **Member**, **Board of Studies** in Electrical Engineering, Dr. Babasaheb Ambedkar Marathwada University Aurangabad.
- **4.** I have worked as a **Member**, **Board of Studies** in Electrical Engineering, Shivaji University Kolhapur.
- **5.** I have worked as a **Faculty**, **Board of Studies** in Electrical Engineering, Shivaji University Kolhapur.
- **6.** I have developed Microprocessor and Computer laboratory.
- 7. I have been coordinating student project and seminar in the department.
- **8.** I have worked as **Rector** for hostels (Boys/ Girls) at Karad.
- **9.** I was looking after the maintenance of Computers and peripherals (Printers / UPS) of the institute.
- **10.**I was also looking after maintenance of the Electrical installations and EPABX system of the institute.
- **11.**I have been actively participating and leading the social events of the college such as annual get together, cultural programmes etc.

- **12.** I haveworked as **Rector** and looked after Electrical maintenance of entire hostel campus of COE Pune during July-2006 to March-2009
- **13.**I have worked as **Chairman for F.Y. B. Tech. Admissions** for autonomous Institutes in MaharashtraState.
- **14.** Expert Member (Electrical Engineering), All India Council for Technical Education (AICTE), New Delhi.
- **15.** Expert Member (Electrical Engineering), National Board of Accreditation (NBA), New Delhi.
- **16.** Performance Auditor(TEQIP), NPIU, Govt. of India, New Delhi

12. Invited Talks

- **1.** Expert lecture on "MATLAB Applications in Engineering" in Govt. College of Engineering Amaravati, March-2004.
- **2.** Expert lecture on "MATLAB Applications in Engineering" in Govt. Polytechnic, Latur, April-2005.
- Expert lecture on "MATLAB Applications in Engineering" in Govt.
 College of Engineering Aurangabad, August-2005.
- **4.** Expert lecture on "MATLAB Applications in Engineering" in DKTE. College of Engineering Ichalkaranji, October-2005.
- 5. Expert lecture on "MATLAB Applications in Engineering" in AC Patil College of Engineering Navi Mumbai, September-2005.
- 6. Expert lecture on "MATLAB Applications in Engineering" in RIT Sakharale, December-2005.
- 7. Expert lecture on "MATLAB Applications in Engineering" in IG College of Engineering Navi Mumbai, January-2006.

- **8.** Expert lecture on "MATLAB Applications in Engineering" in Govt. College of Engineering Amaravati, April-2006.
- Expert lecture on "MATLAB Applications in Engineering" in Govt.
 College of Engineering Amaravati, May-2006.
- **10.** Expert lecture on "**Signals &Systems**" in Two days workshop held at **RIT Sakhrale** during **24-25**th **August 2006.**
- **11.** Expert lecture on "Signals &Systems" in Two days workshop held at RIT Sakhrale during 20-21st September 2006.
- **12.** Expert lecture on "MATLAB Applications in Engineering" in One Week STTP on "MATLAB Applications in Engineering" held at Lokmanya Tilak Institute of Technology, Mumbai during 8-12th January 2007.
- 13. Expert lecture on "Sliding mode Control and its Applications" in Mechanical and Electronics Engineering during Two Days National Level Workshop on "Control Techniques for Mechanical and Electronic systems" held at J.J. Magdum College of Engineering Jaysingpur, during 19-20th January 2007.
- **14.** Expert lecture on Energy Auditing during Two Days National Level Workshop on "Energy Management" held at **RIT Sakhrale**, during **16-18th March 2007**.
- 15. Expert lecture on "PSS design based on Multirate sliding mode Control Strategies" at University of Manitoba, Winnipeg, Canada, on 19th July 2007.
- 16. Expert lecture on "PSS design based on Multirate sliding mode Control Strategies" at University of Saskatchewan Saskatoon, Canada, on 25th July 2007.
- 17. Expert lecture on "Sliding mode Control and its Applicationsin Power Systems" in One Week STTP on "Applications of control Systems and

- Power electronics in Power Systems" held at **BATU Lonere**, during **26-30**th March **2007**.
- 18. Expert lecture on Signals & systems at RIT Sakhrale on 19th August 2007.
- **19.** Expert lecture on "**Sliding Mode Control**" at AISSMS College of Engineering **Pune** on **25**th **August 2007**.
- **20.** Expert lecture on "**Sliding Mode Control**" at PDVP's College of Engineering **Pravaranagar** during **20-22**nd **February 2008**.
- **21.** Expert lecture on "**Overview of Control Systems**" at College of Engineering Pimpri **Pune** on **20**th **September 2008.**
- **22.** Expert lecture on "**Signals &Systems**" in Two days' workshop held at **ADCOE Ashta** on **13**th **March 2009**.
- **23.** Expert lecture on "MATLAB Applications in Engineering" in Two days workshop held at BATU Lonere during 27-28th March 2009.
- **24.** Expert lecture on "**Electrical Systems**" during WIC-WIF training conducted by UNICEF, New Delhi at **DDHS Pune** (**India**)during**03-08**th **August 2009**.
- 25. Expert lecture on "Electrical Systems" during WIC-WIF training conducted by UNICEF, New Delhi at DDHS Pune (India)during17-22nd August 2009.
- **26.** Expert lecture on "**Electrical Systems**" during WIC-WIF training conducted by UNICEF, New Delhi at **DDHS Pune** (**India**)during**01-05**th **September 2009**.
- 27. Expert lecture on "Electrical Systems" during WIC-WIF training conducted by UNICEF, New Delhi at DDHS Pune (India)during15-19th September 2009.
- **28.** Expert lecture on "**Electrical Systems**" during WIC-WIF training conducted by UNICEF, New Delhi at **DDHS Pune (India)** during**05-10**th

October 2009.

- 29. Expert lecture on "Electrical Systems" during WIC-WIF training conducted by UNICEF, New Delhi at DDHS Pune (India) during26-31st October 2009.
- **30.** Expert lecture on "**Electrical Systems**" during WIC-WIF training conducted by UNICEF, New Delhi at **DDHS Pune** (**India**)during**09-14**th **November 2009.**
- **31.** Expert lecture on "**Electrical Systems**" during WIC-WIF training conducted by UNICEF, New Delhi at **DDHS Pune** (**India**)during**23**-28thNovember 2009.
- **32.** Expert lecture on Energy Auditing during Two Days National Level Workshop on "Energy Management" held at **AITRC Vita**, during **24-25**th December 2009.
- **33.** Expert lecture on "**Overview of Electrical Power Systems**" at NICMAR **Pune** during **4-5 January 2010**.
- **34.** Expert lecture on Energy Auditing during Two Days National Level Workshop on "Energy Management" held at **Govt. Polytechnic Pune**, during **05-06 February 2010**.
- **35.** Expert lecture on "**Overview of Control Systems**" at AISSMS College of Engineering **Pune** on 5th March 2010.
- **36.** Expert lecture on "**Sliding Mode Control**" at VPCOE **Ahmednagar** on **12**th **March 2010.**
- 37. Expert lecture on "Electrical Systems" during WIC-WIF training conducted by UNICEF, New Delhi at DDHS Pune (India) during 08-13th March 2010.
- **38.** Expert lecture on "Solar Photovoltaic Inverter systems: A case study" at Defence Engineering College Addis Ababa, Ethiopia during 28-29th

August 2010.

- **39.** Expert lecture on "**Research Methodology**" at National workshop held at Walchand College of Engineering **Sangli** on **26**th **September 2010**.
- **40.** Expert lecture on "**Network Theory**" at JSPM's College of Engg. **Pune** on **22**nd **March 2011.**
- **41.** Expert lecture on "Sustainability- Technology and Management" at IET's workshop at MUMBAI on 15th April 2011.
- **42.** Expert lecture on "**Research Methodology**" at Matoshri College of Engineering Nashik on 24th December 2011.
- **43.** Expert lecture on "MATLAB Applications in Engineering" in Two Weeks STTP on "MATLAB Applications in Engineering" held at K.J. Somaya College of Engineering, Mumbai during November 28 to December 09 2011.
- **44.** Expert lecture on "Smart Grid and Integration of Renewable Energy Sources" in National Conference held at Govt. Polytechnic, Latur, on 3rd March 2012.
- **45.** Expert lecture on "**Overview of Control Systems**" at Govt. College of Engineering **Karad** on **7**th **April 2012**.
- **46.** Expert lecture on "Electrical Systems" in SNCU training conducted by UNICEF, New Delhi at Jaipur (Rajasthan) during 15-18 and 21-25 May 2012.
- **47.** Expert lecture on "**Electrical Systems**" in SNCU training conducted by UNICEF, New Delhi at **Patna** (**Bihar**) during **26-30**th **November 2012**.
- **48.** Expert lecture on "**PSS design using Mulirate Sliding Mode Control Strategies**" during One week QIP course on "Variable Structure and Sliding Mode Control-Concept, Theory and Applications" at **IIT Bombay**, (Maharashtra) during **21-25**th **January 2013**.

- **49.** Expert lecture on "**Advances in Control Systems**" at Centre for Modelling and Simulation, **University of Pune**on **31**st **January 2013.**
- 50. Expert lecture on "Sliding Mode Control and its application to Power Systems" at K.K. Wagh College of Engineering Nashik, on 9th February 2013.
- 51. Expert lecture on "Electrical Systems" during SNCU training conducted by UNICEF, New Delhi at DDHS Pune (India) during 26-30th March 2013.
- **52.** Expert lecture on "MATLAB Applications in Engineering" in One Week TEQIP-FDP on "MATLAB Applications in Engineering" held at Govt. College of Engineering, Karad during 20-25th May 2013.
- 53. Expert lecture on "MATLAB Applications in Engineering" in Three-Days Workshop on "MATLAB Applications in Engineering" held at S.P. College of Engineering, Mumbai during 29-31st May 2013.
- **54.** Expert lecture on "**NBA-An Outcome Based Education Philosophy**" at YASHADA **Pune**, on **25**th **July 2013**.
- 55. Expert lecture on "Electrical Systems" during SNCU training conducted by UNICEF, New Delhi at DDHS Pune (India) during 05-09th August 2013.
- 56. Expert lecture on "NBA-An Outcome Based Education Philosophy" at Jayam College of Engineering, Dharampuri (Tamilnadu), on 24th August 2013.
- 57. Expert lecture on "Electrical Systems" during SNCU training conducted by UNICEF, New Delhi at DDHS Pune (India) during 23-27th September 2013.
- 58. Expert lecture on "NBA-An Outcome Based Education Philosophy" at K. J. College of Engineering Pune, on 28th September 2013.

- 59. Expert lecture on "Electrical Systems" during SNCU training conducted by UNICEF, New Delhi at DDHS Pune (India) during 30thSeptember-04th October 2013.
- 60. Expert lecture on "NBA-An Outcome Based Education Philosophy" at YASHADAPune, on 4th October 2013.
- **61.** Expert lecture on "**Discrete PID Controller**" in Two-Days Workshop on "Applications of Microcontroller in Electrical Engineering" held at B.S. College of Engineering, Narhe, **Pune** during **10-11**th **October 2013**.
- **62.** Expert lecture on "**NBA-An Outcome Based Education Philosophy**" at Jayam College of Engineering, **Dharampuri** (**Tamilnadu**), on **8-9**th **November 2013**.
- **63.** Expert lecture on "**Electrical Systems**" in SNCU training conducted by UNICEF, New Delhi at **Jaipur** (**Rajasthan**) during **11-13**th **November 2013**.
- **64.** Expert lecture on "**NBA-An Outcome Based Education Philosophy**" at Zeal College of Engineering Pune, on 27th November 2013.
- 65. Expert lecture on "PSS design based on Multirate sliding mode Control Strategies" at University of Putra MalaysiaKuala Lumpur, Malaysia, on 13th December 2013.
- 66. Expert lecture on "Electrical Systems" during Cold chain officers training conducted by UNICEF, New Delhi at DDHS Pune (India) during 16-20th December 2013.
- 67. Expert lecture on "PSS design using Mulirate Sliding Mode Control Strategies" during One week CEP/QIP course on "Advances in Control-System" at IIT Bombay, (Maharashtra) during 19- 23rd December 2013.
- **68.** Expert lecture on "**PSS design using Mulirate Sliding Mode Control Strategies**" during One week CEP/QIP course on "Advances in Control-System" conducted by **IIT Bombay**, (Maharashtra) at COE Pune during

30th December 2013 to 3rd January 2014.

- **69.** Expert lecture on "**Research Methodology**" at Bharati Vidypeeth's College of Engineering Kolhapur on 18th January 2014.
- 70. Expert lecture on "NBA-An Outcome Based Education Philosophy" at Anna University Trichy, (Tamilnadu), on 22nd January 2014.
- **71.** Expert lecture on "**Electrical Systems**" in SNCU training conducted by NHSRC, New Delhi at **Bangalore**during **17-23**rd **February 2014**.
- **72.** Expert lecture on "**Electrical Systems**" during Cold chain officers training conducted by UNICEF, New Delhi at **DDHS Pune** (**India**) during **24-28**th **February 2014.**
- 73. Expert Lecture on "Solar Photovoltaic Systems- A project Under NRHM Maharashtra" in two days Workshop on "Innovations in Health, Immunization & Cold Chain System in India" conducted at Patana, Bihar during 20-21st March 2014.
- 74. Expert lecture on "Electrical Systems" during International training of Cold chain officers conducted by UNICEF, New Delhi at DDHS Pune (India) during 24th March to 5th April 2014.
- 75. Expert lecture on "Electrical Systems" during International training of Cold chain officers conducted by UNICEF, New Delhi at DDHS Pune (India) during 21st April to 3rd May 2014.
- 76. Expert lecture on "Electrical Systems" during International training of Cold chain officers conducted by UNICEF, New Delhi at DDHS Pune (India) during 26th May to 31st May 2014.
- 77. Expert lecture on "Electrical Systems" during International training of Cold chain officers conducted by UNICEF, New Delhi at DDHS Pune (India) during 9th June to 14th June 2014.
- 78. Expert lecture on "NBA-An Outcome Based Education Philosophy" at

- AISSMS College of Engineering, Pune (Maharashtra), on 11th June 2014.
- 79. Expert lecture on "Electrical Systems" during International training of Cold chain officers conducted by UNICEF, New Delhi at NCCTC Pune (India) during 16th June to 21st June 2014.
- 80. Expert lecture on "Electrical Systems" during International training of Cold chain officers conducted by UNICEF, New Delhi at NCCTC Pune (India) during 23rd June to 28th June 2014.
- 81. Expert lecture on "Electrical Systems" during International training of Cold chain officers conducted by UNICEF, New Delhi at NCCTC Pune (India) during 14th July to 19th July 2014.
- 82. Expert lecture on "Electrical Systems" during International training of Cold chain officers conducted by UNICEF, New Delhi at NCCTC Pune (India) during 4th August to 9th August 2014.
- 83. Expert lecture on "NBA-An Outcome Based Education Philosophy" at Sant Gajanan Maharaj College of Engineering, Shegaon (Maharashtra), during 13-14th December 2014
- 84. Expert lecture in National Workshop On "The Significance of Curriculum Design and Delivery Process in Outcome Based Education (OBE)"at Nehru Arts and Science College, Coimbatore (Tamilnadu), on 2nd April 2015
- 85. Expert lecture on "An Outcome Based Education Philosophy" at Nehru Arts and Science College, Coimbatore (Tamilnadu),in Faculty Development program during 25-31st May 2015.
- 86. Expert Lecture on "An Outcome Based Education Philosophy" in two days Workshop on "NBA accreditation for Undergraduate Engineering Programs" conducted at Adarsh Institute of Engineering & Technology Vita-Sangli (Maharashtra), during 13-14th June 2015.

- 87. Expert Lecture on "An Outcome Based Education Philosophy" in two days Workshop on "NBA accreditation for Undergraduate Engineering Programs" conducted at Annasaheb Dange Institute of Technology, Ashta-Sangli (Maharashtra), during 11-12th July 2015.
- 88. Expert Lecture on "An Outcome Based Education Philosophy" in one day Workshop on "NBA accreditation for Undergraduate Engineering Programs" conducted at D.Y. Patil Institute of Engineering & Technology, Akurdi-Pune (Maharashtra), on 25th July 2015.
- 89. Expert Lecture on "An Outcome Based Education Philosophy" in one day Workshop on "NBA accreditation for Undergraduate Engineering Programs" conducted at Sinhgad College of Pharmacy, Kondhwa-Pune (Maharashtra), on 24thOctober 2015.
- 90. Expert Lecture on "An Outcome Based Education Philosophy" in one day Workshop on "NBA accreditation for Undergraduate Engineering Programs" conducted at Ashokrao Mane Institute of Engineering & Technology, PethVadgaon-Kolhapur (Maharashtra), on 8thNovember 2015.
- 91. Expert Lecture on "An Outcome Based Education Philosophy" in one day Workshop on "NBA accreditation for Undergraduate Engineering Programs" conducted at Sinhgad College of Pharmacy, Kondhwa-Pune (Maharashtra), on 22ndNovember 2015.
- 92. Expert Lecture on "An Outcome Based Education Philosophy" in one day Workshop on "NBA accreditation for Undergraduate Engineering Programs" conducted at St. Thomas College of Engineering & Technology, Kerala, on 28th November 2015.
- **93.** Expert lecture on "MATLAB Applications in Electrical Engineering" in Two-Days Workshop on "MATLAB Applications Electrical in

- Engineering" held at AnnashaebDange College of Engineering & Technology, Ashta (Sangli) during 25-26th December 2015.
- 94. Expert Lecture on "An Outcome Based Education Philosophy" in one day Workshop on "NBA accreditation for Undergraduate Engineering Programs" conducted at St. Thomas College of Engineering & Technology, Kerala, on 8th January 2016.
- 95. Expert Lecture on "An Outcome Based Education Philosophy" in one day Workshop on "NBA accreditation for Undergraduate Engineering Programs" conducted at Universal College of Engineering &Research, Sasewadi, Pune, on 23rd January 2016.
- **96.** Expert Lecture on "**An Outcome Based Education Philosophy**" on "NBA accreditation for Undergraduate Engineering Programs" conducted at **Govt. Polytechnic**, Awasari (Pune) on 5th February 2016.
- 97. Expert lecture on "Research Methodology" at One Day workshop held at Rayat Institute of Research & Development Satara on 6th February 2016.
- **98.** Expert Lecture on "An Outcome Based Education Philosophy" on "NBA accreditation for Undergraduate Engineering Programs" conducted at VIT Pune on 9th February 2016.
- 99. Expert lecture on "Research Methodology" at National level Technical Symposium held at Nehru Group of Institutions, Coimbatore (Tamilnadu) on 13th February 2016.
- 100. Expert lecture on "Research Methodology" at Two Days workshop held at SND College of Engineering and Research, Yeola (Nashik) on 19th February 2016.
- 101. Expert Lecture on "An Outcome Based Education Philosophy" on "NBA accreditation for Undergraduate Engineering Programs" conducted at Ashokrao Mane College of Engg, Wathar (Kolhapur) on

28th February 2016.

- 102. Expert lecture on "Approval Process Handbook 2016-17" at Govt.

 College of Engineering, Aurangabad on 7th March, 2016.
- 103. Expert lecture on "Approval Process Handbook 2016-17" at Sydneham College of Commerce and Economics, Mumbai on 9th March, 2016
- 104. Expert Lecture on "An Outcome Based Education Philosophy" in one day Workshop on "NBA accreditation for Polytechnic" conducted at Govt. College of Engineering, Pune on 10th May, 2016
- 105. Expert Lecture on "An Outcome Based Education Philosophy" in two days Workshop on "NBA accreditation for Undergraduate Engineering Programs" conducted at Vidya Academy College of Engg, Thrissur during 12-13th May 2016.
- 106. Expert Lecture on "Engineering Admission Process-2016-17" at D. Y.Patil College of Engg, Pune on 2nd June 2016.
- 107. Expert Lecture on "NAAC Orientation" during one day accreditation orientation workshop at Zeal College of Engg, Puneon 3rdJune 2016.
- 108. Expert Lecture on "An Outcome Based Education Philosophy" at College of Engg, Munnar on accreditation orientation workshop during 9-10th June 2016.
- 109. Expert Lecture on "Admission Process" at Regional office, Pune during training on 13-14th June 2016.
- 110. Expert Lecture on "An Outcome Based Education Philosophy" at Adarsh Institute of Technology and Research Centre, Vita during One Week STTP on "NBA Oriented Advanced Teaching-Learning Process" on 19th June 2016.

- 111. Expert Lecture on "An Outcome Based Education Philosophy" at Yashwantrao Chavan Academy of Development Administration (YASHADA), PUNE on 4th July 2016
- 112. Expert Lecture on ""Approval Process Handbook 2016-17"" at Yashwantrao Chavan Academy of Development Administration (YASHADA), PUNE on 5th July 2016
- 113. Expert Lecture on "An Outcome Based Education Philosophy" during two days FDP programme on "Accreditation Process" at Muthoot Institute of Technology and Science, Kochi, Kerala during 12-13th August 2016.
- 114. Expert Lecture on "NAAC Orientation" during one day accreditation orientation workshop at Dhole Patil College of Engg, Pune on 27th August 2016.
- 115. Expert Session on "Role of PV Solar Solutions to make India Energy self Sufficient" at CMIA's Solar and Lighting Conclave at Aurangabad on 31st August 2016.
- 116. Expert Lecture on "An Outcome Based Education Philosophy" on "NBA accreditation for Management Programs" conducted atZeal Institute of Management AND Computer Application, Pune on10th Sept 2016
- 117. Expert Lecture on "An Outcome Based Education Philosophy" at MIT Polytechnic, Pune on 15th Sept 2016
- 118. Expert Lecture on "NBA Assessment Assessor's Perspective" during NBA Accreditation ProcessFDP at GNVS Institute of Management, Mumbai on 24th Sept 2016.
- 119. Expert Lecture on "An Outcome Based Education Philosophy" during two days FDP programme at Tulsiramji Gaikwad-Patil College

of Engineering and Technology, Nagpur during 10-11th December 2016.

- **120.** Expert session on "NBA Evaluator's perspective" on **22**nd **December 2016** during MSBTE sponsored one week Faculty Development Training Programme on "Outcome Based Education System of NBA and SAR writing Techniques" from 19th Dec 2016 to 23rd Dec 2016 at **M.H.Saboo Siddik Polytechnic, Mumbai**.
- **121.** Expert session on "NBA Assessment Assessor's perspective for polytechnic Institutes" on 4th January 2017 at Pimpri Chinchwad Polytechnic, Pune.
- 122. Two days Short Term Training Programme On "Outcome Based Education(OBE) philosophy and NBA awareness for Diploma Engineering programmes (TIER-II)"during 11-12th January 2017 at Government Polytechnic, Pune
- 123. Expert Lecture on "Role of technical supporting staff in NBA" at Government Polytechnic Avasari, on 13th January, 2017.
- 124. Expert Lecture on "NBA preparation and GPK at Glance" at BVVS Polytechnic Bagalkot, on 6th April, 2017.
- 125. Expert lecture on "An Outcome Based Education Philosophy" at one day orientation workshop on Outcome Based Accreditation process and parameters for stakeholders, trustees, Head of the institutions and senior faculty of Engineering, MBA, MCA, Pharmacy, Polytechnic, at Sou Leena Kishor Mamidwar Institute of Management studies and Research, Kosara, Chandrapur on 13th April, 2017.
- 126. Expert session on "An Outcome Based Education Philosophy" at Vidylankar Polytechnic, Mumbai on 21st May 2017
- 127. Expert Lecture on "An Outcome Based Education Philosophy" during two days' workshop at Kalaignar karunanidhi Institute of

Technology, Coimbatore on 3rd June 2017.

- 128. Expert Lecture on "An Outcome Based Education Philosophy and SAR preparation" at Vartak Polytechnic Vasai, Mumbai on 24th June, 2017
- 129. Expert Lecture on "An Outcome Based Education Philosophy" during two days' workshop at Govt. Polytechnic Trivandrum, during 1-2nd July 2017.
- 130. Expert Lecture on "An Outcome Based Education Philosophy" at Dr. Daultrao Aher College of Engineering, Karad on 8th July 2017.
- 131. Expert Lecture on "An Outcome Based Education Philosophy" during one day workshop at Thakur College of Engineering Kandiwali, Mumbai, on 21st February 2018.
- **132.** Expert Lecture on "An Outcome Based Education Philosophy" during two days' workshop at NIT Meghalaya, during 22-23rd September 2018.
 - 133. Expert Lecture on "An Outcome Based Education Philosophy" during two days' workshop at CMSS Polytechnic, Aurangabad, Maharashtra during 8-9th April 2019.
 - 134. Expert Lecture about "AICTE/ UGC/NBA/RUSA/COI/PCI" during PRT training workshop at Regional Office, DTE Pune, during 5-6th June 2019.
- 135. Expert Lecture on "An Outcome Based Education Philosophy" during two days' workshop at MBS COE Jammu, during16-19th February 2020
- **136.** Expert Lecture on "An Outcome Based Education Philosophy" during two days' workshop at MMCOE, Puneduring18-19thJune 2020
- 137. Expert Lecture on "An Outcome Based Education Philosophy" at Kalsekar Technical Institute, Panvel (Mumbai) on 10th July 2020
- 138. Expert Lecture on "An Outcome Based Education Philosophy" during

- FDP at Walchand College of Engineering Sangli, on 14th August 2020
- **139.** Expert Lecture on **"An Outcome Based Education Philosophy"** during FDP at **Rajasthan Technical University**, **Kota** on **19**th **September 2020**
- **140.** Expert Lecture on **"An Outcome Based Education Philosophy"** during FDP at **MNIT Jaipur** on **19**th **October 2020**
- 141. Expert Lecture on "An Outcome Based Education Philosophy" during FDP at Institute of Pharmaceutical Education and Research, Wardhaon 8th December 2020
- 142. Expert Lecture on "NBA Accreditation Process- Review" at Yashwantrao Chavan Academy of Development Administration (YASHADA), PUNE on 1st July 2021
- 143. Expert Lecture on "NBA Accreditation Documentation- Review" at Yashwantrao Chavan Academy of Development Administration (YASHADA), PUNE on 1st July 2021
- 144. Expert Lecture on "OBE- AnOutcome Based Education Philosophy" at Yashwantrao Chavan Academy of Development Administration (YASHADA), PUNE on 13th July 2021
- 145. Expert Lecture on "NBA Accreditation Documentation- Review" at Yashwantrao Chavan Academy of Development Administration (YASHADA), PUNE on 12th July 2021
- 146. Expert Lecture on "Various Scholarship Schemes for Students Review" at YashwantraoChavan Academy of Development Administration (YASHADA), PUNE on 13th July 2021
- 147. Expert Lecture on "360 degree Feedback for Teachers Review" at YashwantraoChavan Academy of Development Administration (YASHADA), PUNE on 22nd July 2021
- 148. Expert Lecture on "National Education Policy 2020 Review" at

- YashwantraoChavan Academy of Development Administration (YASHADA), PUNE on 26th July 2021
- 149. Expert Lecture on "National Education Policy 2020 Review" at YashwantraoChavan Academy of Development Administration (YASHADA), PUNE on 3rd August 2021
- 150. Expert Lecture on "Various Scholarship Schemes for Students Review" at Yashwantrao Chavan Academy of Development Administration (YASHADA), PUNE on 4th August 2021
- 151. Expert Lecture on "OBE- AnOutcome Based Education Philosophy" at Yashwantrao Chavan Academy of Development Administration (YASHADA), PUNE on 5th August 2021
- 152. Expert Lecture on "An Outcome Based Education Philosophy" during FDP at MGM's College of Engineering & Technology, Navi Mumbaion 21st August 2021
- 153. Expert Lecture on "National Education Policy 2020 Review" at ASSAM

 TEXTILE INSTITUTE, GUWAHATI on 6th September 2021