Mrs. Shubha V. Patel Assistant Professor Department of Electronics and Communication Engineering BIET, Davangere [shubhapatel678@gmail.com]



# *Work Experience : 18* Years

- Worked as lecturer in the Department of E&CE, SJMIT, Chitradurga from November 2004 to January 2006.
- Worked as lecturer in the Department of Biomedical Engineering, Bapuji Institute of Engineering and Technology, Davangere from February 2006 to September 2012.
- Promoted as Assistant Professor in the Department of Biomedical Engineering, Bapuji Institute of Engineering and Technology, Davangere in October 2012.
- Transferred to Department of Electronics and Instrumentation Engineering, Bapuji Institute of Engineering and Technology, Davangere, on 24<sup>th</sup> November 2017.
- Transferred to Department of Electronics and Communication Engineering, Bapuji Institute of Engineering and Technology, Davangere, on 17<sup>th</sup> February 2021.

# Educational Qualification:

- Submitted Ph.D., Thesis to VTU on 29<sup>th</sup> December 2022..
- M.Tech [Biomedical Instrumentation] from SJCE, Mysore, Mysore University, 1998 with First Class.
- B.E [E & C] from Bapuji Institute of Engineering and Technology, Mysore University, 1993 with Second Class.

### Title of the Research work:

"Analysis of Muscular Paralysis using Bio Signals"

### Dissertation Details (M.Tech):

"ECG Transmission over Telephone"

### Roles and Responsibilities:

- BOE Member for EI/BM/ML/IT Board, VTU for academic year 2021-22.
- Member for Women Cell BIET.
- Editorial Board Member for EC VOICE News Letter
- AICTE Activity Points Program Coordinator for E&IE Department
- Worked as Team Member for MoU of Institute with PROLIFIC SYSTEMS AND TECHNOLOGIES PV Bangalore on 12-09-2019. *PROLIFIC SYSTEMS AND TECHNOLOGIES PVT. LTD.*, ., Bangalore company dealing with automation solutions and advanced automation training on m Programmable Log Controllers (PLC's), Supervisory Control and Data Acquisition (SCADA), DCS (Distributed Contr Systems), Drives and Instrumentation basics.

• Worked as Team Member for MOU of Institute with Applied Cognition Systems Pvt. Ltd., Bangalore - a company dealing with Biomedical Instrumentation and Healthcare product development. R&D lab was established in the Department of Biomedical Engineering, 2014.

### Awards :

- Best Project Award' during the In house students project Exhibition cum Presentation hosted by Research & Development Cell, Bapuji Institute of Engineering and Technology, Davangere, for guiding the student Project on 25th May 2019.
- Secured the II Prize in the Quiz competition organized on the eve of World Women's Day-2019 on 19th Mar 2019 held at BIET Davangere.
- Secured 1st place in Kannada Padabandha Competition organized by NSS and CS&E Department on the eve of Kannada Rajyotsava, November 2016.
- Secured 1st place in the Quiz competition on the Eve of World Women's Day 2015 held at BIET, Davnagere in association with ISTE BIET, NSS BIET and Youth Red Cross Wing BIET on 8th March 2015.
- KSCST 'Project of the Year' Award during the Seminar and Exhibition held at Angadi Institute of Technology, Belgaum on 30th & 31st of August 2013, for guiding the student Project titled "AN IN-VECHILE DRIVER FATIGUE DETECTION AND ALARM SYSTEM", in the Student Project Programme during the year 2012-2013 (36th Series).
- KSCST 'Project of the Year' Award during the Seminar and Exhibition held at SDM Institute of Technology, Ujire on 13th & 14th of July 2012, for guiding the student Project titled "HUMAN FALL DETECTION USING MEMS ACCELOROMETER", in the Student Project Programme during the year 2011-2012 (35th Series).
- Certified for Successfully Completing the "Mission 10x Learning Approach Practitioners Certificate", from WIPRO & ISTE on April 2010.
- Best Project Award' during the Inhouse students project Exhibition held at Bapuji Institute of Engineering and Technology, Davangere, for guiding the student Project titled "PORTABLE OPTHALMIC PERIMETER BASED ON MICROCONTROLLER", for the year 2009-2010
- Best Teacher award for Cent-Percent result in the subject "Clinical Science-IV" of 8th semester during 2007-2008 examination.

### Membership:

Life Member of Indian Society for Technical Education. Number: LM70920

### Core Subjects Taught:

Digital Communication, Analog communication, Clinical Science-IV (Radiology & Radiotherapy), Communication Systems, Biosensors and Bioinstrumentation, Biomedical Equipments, DSP and Applications, Database Management Systems in Health Care, Biostatistics, Biomaterial and Artificial Organs, Computer Communication Networks, OOPs with C++, VLSI Design, Industrial Process Instrumentation, Digital Design and HDL

# Publications:

1. Published the research paper titled "Segmentation of Brain Tumor using Multiple Threshold Techniques", International Journal of Health Technology and Innovation, An Official Journal of Kalam Institute of Health Technology, IJHTI, Volume 2, Issue 1, April 2023, pp. 23-26.

2. Published the research paper titled "Analysis and Classification of Muscular Paralysis Disease using Electromyography Signal with Machine Learning", *International Journal of Health Technology and Innovation, An Official Journal of Kalam Institute of Health Technology, IJHTI, Volume 1, Issue 2, July-August 2022, pp. 35-42.* 

https://ijht.org.in/index.php/ijhti/article/view/41

3. Published the research paper titled "Performance Analysis of Paralysis Disease using Machine Learning", Asian Journal of Computer Science and Technology, ISSN: 2249-0701 Vol.11 No.1, 2022, pp.21-34, The Research Publication, <u>www.trp.org.in</u>. DOI: <u>https://doi.org/10.51983/ajcst-2022.11.1.3242</u>.

https://ojs.trp.org.in/index.php/ajcst/article/view/3242/2557

- Published the research paper titled "Analysis of Muscular Paralysis using EMG Signal with Wavelet Decomposition Approach", *Asian Journal of Computer Science and Technology, ISSN:* 2249-0701 Vol.11 No.1, 2022, pp.5-16, The Research Publication, <u>www.trp.org.in</u>. DOI: <u>https://doi.org/10.51983/ajcst-2022.11.1.3241</u>. https://ojs.trp.org.in/index.php/ajcst/article/view/3241/2549
- Published the research paper titled "Prediction and Analysis of Muscular Paralysis Disease Using Daubechies Wavelet Approach", Asian Journal of Electrical Sciences, ISSN: 2249-6297, AJES Vol.10 No.2 July-December 2021, pp:6-15 DOI:https://doi.org/10.51983/ajes-2021.10.2.3036.

https://ojs.trp.org.in/index.php/ajes/article/view/3036/2444

 Published the research paper titled "Review on EMG Signal Analysis for Paralyzed Muscles", International Journal of Current Research, Vol.11, Issue, 02, February 2019. pp:1523-1527, ISSN: 0975-833X.DOI: https://doi.org/10.24941/ijcr.34082.02.2019

http://www.journalcra.com/article/review-emg-signal-analysis-paralysed-muscles

- Published the research paper titled "Design and Development of Versatile Drop Foot 6. Stimulator for Hemiplegic Drop Foot" in GIS SCIENCE JOURNAL ,an UGC-CARE Approved Group II Journal,, Volume 8, Issue 7, July – 2021, ISSN NO: 1869-9391, pp: 1041-1048.
- 8. Published the research paper titled "Design and Development of Lie Detector" In IJERT, Volume 9, Issue 6, June 2020.
- 9. Published the paper titled "Review on EMG Signal Analysis for Paralyzed Muscles", in International Journal of Current Research, Vol.11, Issue, 02, February 2019.
- Published paper titled "Design and development of Microcontroller based Ophthalmic Perimeter" in 6th National Conference on Information Sciences – NCIS 2015 conducted by School of Information Sciences, Manipal University on 27th – 28th March 2015.
- 11. Published a paper titled "Design & Development of Stress Detector & Sleep Inducer" in International Journal of Engineering Research & Technology (IJERT), Vol 3, Issue 5, May 2014, ISSN 2278-0181, PP.1328-1330.
- 12. Published a paper titled "Human Fall Detection using MEMS Accelerometer" in International Journal of Emerging Technology & Advanced Engineering (IJETAE), Vol 4, Issue 5, May 2014, pp.370-373.ISSN 2250-2459,ISO 9001:2008.Certified Journal.
- 13. Published the paper titled "Remote Access of Radiological Images using Android" in International Journal of Health system & Disaster Management, Vol 1., Issue 4, Oct-Dec 2013, PP.208-211.
- 14. Published the paper titled "Design and Development Of Virtual Eye System For Visually Challenged", in proceedings of "National Conference On Recent Advances in Electrical And Electronics Engineering NCRAEEE – 2013", organized by UBDT College Of Engineering Davangere, on 17th – 18th of June 2013.
- 15. Published the paper titled "Design and Development of Hand Talk System for Deaf and Dumb", in 'The special issue of International Journal IJESC (ISSN: 22501371)', 2013.
- 16. Published the paper titled "Design and Development of Hand Talk System for Deaf and Dumb", in The Proceedings of National Conference on "Recent Advances in Biomedical Electronics Engineering and their Impact on Society (RABEEIS-13)", held from 16th 18th May 2013, Organized by Department of Instrumentation Technology, PDA College of Engineering, Gulbarga.
- 17. Presented a paper in poster presentation on displaying innovative teaching-learning methodology on the topic "Cardiac Valve Prostheses" at the "Wipro's Mission 10X Conclave 2011" held at DSCE, Bengaluru on 17th August 2011.

18. Presented Paper "Image Analysis of Dental Tissue and Alveolar Bone Loss for Diagnostic and Therapeutic use" at Symposium on "Bio-resources in the development of Medicine" and 28th Annual Conference of Indian Association of Biomedical Scientist organized by Bharathidasan University at Tiruchirapalli on 20th – 22nd September, 2007 and published in conference proceedings.

#### **Online** Courses:

- 1. Completed the 4- Weeks NPTEL Online Course on "Design Thinking-A Primer" from February to March 2022.
- 2. Completed the 8- Weeks NPTEL Online Course on "System Design through Verilog" from August to September 2021.
- 3. Completed the online course on "Foundations of Wavelets and Multirate Digital Signal Processing", offered by NPTEL, IIT Bombay for the period March April 2016. This course is funded by MHRD, Government of India.
- Completed online course on "Signals and Systems EE210XS16", offered by IIT BOMBAYX, an online Learning Initiative of Indian Institute of Technology, Bombay, conducted between 7<sup>th</sup> January 30<sup>t</sup> April, 2016. (12 weeks course).

# Online FDP:

- 1. Completed NPTEL-AICTE (1/2) of One Week FDP on "Design Thinking-A Primer" in March 2022.
- 2. Completed NPTEL-AICTE One Week FDP on "System Design through VERILOG" in September 2021.
- 3. Participated in IP Awareness/Training program under "NATIONAL INTELLECTUAL PROPERTY AWARENESS MISSION", on 28<sup>th</sup> January 2022, organized by Intellectual Property Office, India.
- 4. Completed the AICTE-ISTE approved Orientation/Refresher Programme on "Electronic Assistive Devices", held during 07.01.2022 to 13.01.2022, organized by Bapuji Institute of Engineering and Technology, Davangere, Karnataka.
- Participated in Two- Days Workshop on "Implementation of National Education Policy 2020", organized by Bapuji Institute of Engineering and Technology, Davangere in association with Visvesvaraya Technological University, Belagavi on 10<sup>th</sup> and 11<sup>th</sup> of December 2021.
- 6. Completed NPTEL-AICTE Full FDP of One Week on "System Design through VERILOG" in September 2021.
- 7. Participated & completed AICTE Training And Learning (ATAL) Academy Online FDP on "Sensors Applications through Internet of Things" from 20/09/2021 to 24/09/2021 at UNIVERSITY B D T COLLEGE OF ENGINEERING.
- Participated & completed AICTE Training And Learning (ATAL) Academy Online FDP on "ASIC DESIGN FOR DRIVING DIGITAL INNOVATIONS IN NEXTGEN PLATFORM" from 23/08/2021 to 27/08/2021 at Acharya Institute of Technology.
- 9. Participated in National Level One Week Online Faculty Development Program on "Introduction to Microchip FPGA" from 19th to 23rd July 2021, organized by Department of Electronics & Communication Engineering, Bapuji Institute of Engineering and Technology, Davangere in association with Tecnomic Components Pvt. Ltd. Bengaluru, ISTE Faculty Chapter BIET and IETE Shivamogga Center.
- 10. Participated & completed AICTE Training And Learning (ATAL) Academy Online FDP on "Telemedicine", from 2021-2-15 to 2021-2-19 at Model Engineering College.
- 11. Participated & completed AICTE Training And Learning (ATAL) Academy Online FDP on "Internet of

Things (IoT)" from 2021-1-4 to 2021-1-8 at Jawaharlal Nehru National College Of Engineering.

- 12. Participated & completed AICTE Training And Learning (ATAL) Academy Online FDP on "Artificial Intelligence and Machine Learning Applications in Biomedical Engineering" from 2020-9-21 to 2020-9-25 at University BDT College of Engineering.
- 13. Participated in the One Week Online Faculty Development Programme on "Concepts, Methods, Challenges and Future directions in Medical image analysis using Machine learning", organised by the Department of Electronics and Instrumentation, SJCE, JSS S&TU, Mysuru, from 10 th to 14 th August 2020, under TEQIP Phase III.
- 14. Participated in a One Week Online Faculty Development Program on "Research Avenues in Healthcare Technology" organized by the Department of Electronics and Instrumentation during 21st to 25th of July 2020 under TEQIP Phase III.
- 15. Participated AICTE Sponsored Six Days Short Term Training Programme on "Soft Computing Techniques in Engineering Applications" organized by Department of Electronics And Communication Engineering, Syed Ammal Engineering College, Ramanathapuram during 20.07.2020 25.07.2020.
- 16. Participated in One Week Faculty Development Program on "Recent Advances in Biomedical Applications and Communication Networks" organized by Department of Electronics & Communication Engineering, GMR Institute of Technology, Andhra Pradesh, from 13-07-2020 to 18-07-2020.
- 17. Participated in five-day international online Faculty Development Program on ADVANCEMENT IN COMMUNICATION ENGINEERING TECHNOLOGIES WITH SIMULATION TOOLS organized by Department of Electronics & Communication Engineering, Vishnu Institute of Technology, Bhimavaram from 01-07-2020 to 05-07-2020.
- Participated in Two Week Online Faculty Development Program on Python jointly organized by Department of Electronics & Communication Engineering, JSS Academy of Technical Education, Noida and Spoken Tutorial Project, IIT Bombay funded by NMEICT, MHRD, Govt. of India from 22-06-2020 to 04-07-2020.
- 19. Participated in Two Week Faculty Development Program on R Language &RStudio organized by Department of Computer Science and Engineering, Cambridge Institute of Technology in association with IIT Bombay Spoken Tutorial from 22-06-2020 to 05-07-2020.
- 20. Participated in National-Level Faculty Development Program on NBA Preparation & CO-PO Mapping organized by Department of Mechanical Engineering, SVPM's COE Malegaon Bk, Baramati, in association with ISTE on 28-06-2020.
- 21. Participated in TEQIP-III sponsored 3 Days online Faculty Development Program on RECENT ADVANCES IN AUTOMATION AND NETWORKING organized by Department of Electronics and Communication Engineering, Basaveshwar Engineering College, Bagalkot from 18-06-2020 to 20-06=2020.
- 22. Participated in 5 Days Faculty Development Program on Artificial Intelligence and Data Science organized by Department of Information Technology, Oriental Institute of Science & Technology, Bhopal, from 10-06-2020 to 14-06-2020.
- 23. Participated in One Week Faculty Development Program on Recent trends in Computer Architecture, VLSI and Embedded Systems organized by Department of Electronics and Communication Engineering, GRIET from 08-06-2020 to 13-062020.

### Seminars/Workshops/Events Organized:

- 1. Organized a State Level "STROKE REHABILITATION AWARENESS & SCREENING CAMP" in association with Stroke Rehabilitation Foundation, Bangalore and Youth Red Cross Wing, BIET from April 28th 29th, 2007.
- 2. Organized Extension Lecture Programs on "Lasers & Applications" on 22nd September 2007, and "X-rays in Biomedical Field" on 29th September 2007.
- 3. Organized National Level Student Symposium on "Emerging areas in Biomedical Engineering 2nd BME EXPLORE-2009" on 18th April, 2009.
- 4. Organized an invited talk on "Healthcare Technology Reaching the un-reached" on 6th October, 2009.

- 5. Organized 3rd National Level Student Symposium on "Emerging areas in Biomedical Engineering BME EXPLORE-2010" on 20th March, 2010.
- 6. Organized a workshop on demonstration of "Latest Biomedical Instruments" on 2nd September 2010.
- 7. Organized a talk on "Health Screening: Importance of Blood and Urine Investigation" on 28th September, 2010.
- 8. Organized 4th National Level Technical Student Symposium on "Emerging areas in Biomedical Engineering "BME EXPLORE-2011" on 9th April 2011.
- 9. Organized an invited talk on "Recent trends in Radiology & Radiodiagnostics" on 24th February 2012.
- 10. Organized two days workshop for students on the topic "Medical Image Processing Tools" from 24th 25th February 2012.
- 11. Organized 5th National Level Student Symposium on "Emerging Areas in Biomedical Engineering BME-EXPLORE-2012" on 26th March 2012.
- 12. Organized "Voluntary Blood Donation & Blood Group Testing Camp" on 22nd March 2013.
- 13. Organized 6th National Level Students' Technical Symposium "BME Explore-2013" on 9th April 2013
- 14. Organized Shuttle Badminton Tournament "BM CUP-2013" from 27th 29th April 2013
- 15. Organized the Two days Workshop on "Signals and Systems" from 20th 21st September, 2013
- 16. Organized an invited talk on "Information Communication Technology for Elderly Care" on 6th December, 2013.
- 17. Organized one day workshop on "New Challenges and Opportunities in Health Care", in association with Applied Cognition Systems, Bangalore on 15th February 2014.
- Organized Two-Day Workshop on "Smart Sensors", in association with Department of E&IE, BIET, Davangere and Applied Cognition Systems Private Limited, Bengaluru on 17th and 18th February 2016.
- 19. Organized a talk on "Scope and Opportunities of Biomedical Engineering" by Mr. Praveen Gowda, CEO and Co-founder, Arera Technology, Bengaluru, on 29th August 2016.
- 20. Organized an "Interdepartmental Shuttle Badminton Tournament BM CUP 2017", during 10th April to 13th April 2017.
- 21. Organized an invited talk by T.G.K. Murthy, ISRO scientist (Retired) and Paramapujya Mataji Yoganandamayi, Sadhana Ashrama, Davangere on the topics "Science of Human Excellence" and "Channelizing Youth Power" on 21st Apr 2017.
- 22. Organized an invited talk by Nandish S., Assistant Professor, School of Information Sciences, Manipal on the topic "Opportunities and Challenges in Biomedical Imaging" on 27th May 2017.
- 23. Organized Essay writing competition for Girl Students of BIET on 7th March 2018 on the occasion of International women's day on the topic "Contributions of women in Mass Media Newspaper, Radio, TV and Film Industry".
- 24. Organized BM Cup -2018 on 11th -13th April 2018. Students and faculty from various department participated in the event.

#### Seminar/ Workshops Attended :

- 1. Attended workshop on "Tanner Tools Programme (A complete VLSI design)" on 16<sup>th</sup> November 2006 organized by Dept. of E & C BIET, Davangere, ISTE Chapter BIET and Sovereign Technologies, Bengaluru.
- 2. Attended workshop on "Application Workshops for High-Performance Electronic Design" organized by ANSOFT &VISTECH GROUP on 11<sup>th</sup> September 2007 at Bangalore.
- 3. Attended seminar on "Recent Trends in Nanotechnology" organized by ISTE Students' Chapter and Industry Institute Partnership Cell, BIET, Davangere on 20<sup>th</sup> September 2008.
- 4. Attended workshop on "Mechatronics and Microprocessors" organized by ISTE Local Chapter, Industry Institute Partnership Cell & Prod-Mech Forum, BIET, Davangere on 7<sup>th</sup> March 2009.
- Attended three days workshop on "Digital System Design using HDL Synthesis & Simulation using test Benches" organized by Department of E & C in association with ISTE Chapter, BIET, Davangere from 16<sup>th</sup> - 18<sup>th</sup> April, 2009.

- Attended National Conference on Nanobiotechnology: Applications in Medicine "NANOBIOTECH 2009", organized by S.S.Institute of Medical Sciences & Research Centre, Dept of Biotechnology, B.I.E.T., Davangere & Research Centre for Nanosciences and Technology, Davangere University at S.S.Institute of Medical Sciences & Research Centre Davangere from 28<sup>th</sup> 30<sup>th</sup> November 2009.
- 7. Attended two days workshop on "High Impact Teaching Skills", organized by WIPRO, Dale Carnegie & Associates, at B.I.E.T, Davanagere from 2nd 3rd February 2010.
- 8. Attended five day workshop "MISSION 10X", organized by WIPRO & ISTE, at B.I.E.T, Davanagere from 2nd February to 6th February 2010.
- Attended two days advanced workshop organized by WIPRO & ISTE, at B.I.E.T, Davangere on 19<sup>th</sup> – 20<sup>th</sup> April February 2010.
- 10. Attended "Train The Trainer Workshop"-Campus Connect STAR PRIME in June 2011 at Infosys, Bangalore.
- 11. Attended two days workshop on "MEDICAL SIGNAL & IMAGE PROCESSING", organized by Department of Biotechnology & Medical Engineering, National Institute of Technology, Rourkela on 21<sup>st</sup> 22<sup>nd</sup> of December 2012.
- 12. Attended "Ramanujan Mathematics Awareness Programme", held on 1<sup>st</sup> March 2013, at B.I.E.T, Davangere, organized by Department of Mathematics, ISTE Students & Faculty Chapter, BIET and sponsored by ISTE, New Delhi.
- 13. Attended one day workshop (Theory and lab session) on "LaTeX for Documentation" organized by Department of E&CE in association with VTU, Belgaum held on 9<sup>th</sup> November 2013 at GMIT, Davangere.
- 14. Attended a technical talk on "Tomosynthesis using Graphic Processor Unit" by Dr. U.C. Niranjan, Director, Manipal Dot Net, Manipal, organized by the Department of Biomedical Engineering on 19<sup>th</sup> February 2014.
- 15. Participated in the two days workshop on "Women Empowerment" held on 18th & 19th Dec 2014, organized by IS &E Dept, BIET jointly under WPLP programme of ISTE, Delhi.
- 16. Participated in one day "Workshop on Research Methodology" organized by Research and Development cell of BIET, jointly with ISTE-BIET chapter, Davangere on 28th October 2015
- 17. Participated in Three-Day Workshop on "Research Methodology & Latex" organized by VTU e-Learning Centre, Mysuru from 18th to 20th February 2016 at BLDEA's Dr. P. G. Halakatti College of Engineering & Technology, Vijayapura.
- 18. Attended one day seminar on "Role of Woman in Societal Reforms" organized by Dept. of IS&E in association with ISTE Faculty Chapter, NSS, YRCW, BIET, Davangere on 10th March 2017.
- 19. Attended Two day AICTE sponsored National level seminar on "IoTs in Transforming Rural Healthcare System & Point of care Testing" on 8th and 9th December 2017, organized by the Department of Electronics & Instrumentation Engineering, University BDT College of Engineering, Davangere.
- 20. Attended an invited talk on "Education in today's scenario and Role of Educators" by Dr. Gururaj Karajagi, Chairman, Academy of creative teaching, on 19th December 2017 at BIET, Davangere.
- 21. Attended one day Seminar on "WIRELESS COMMUNICATION TECHNOLOGIES IN 5G", organized at Navodaya Institute of Technology, Raichur on 1st March 2019.
- 22. Attended one day workshop on "eSim, a First Course in the IoT Series for Teachers" on 21st September 2019, held at Bapuji Institute of Engineering and Technology, Davangere organized by Teaching Learning Centre ICT, IIT Bombay, funded by Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT), MHRD, Govt. of India.
- 23. Attended Three Days Workshop on "PLC and SCADA", organized by the Department of Electronics and Instrumentation Engineering, Bapuji Institute of Engineering and Technology, Davangere, in association with Prolific Systems and Technologies Pvt Ltd, Bengaluru and ISTE Students Chapter BIET, from 23<sup>rd</sup> October 2019 to 25<sup>th</sup> October 2019.

#### Faculty Development Programs (FDP)/Training Programs attended:

- 1. Attended six days Faculty Development Program (FDP) on "Applications of LabVIEW in Engineering & Research" conducted by VI Solutions organized by Department of Electronics and Communication Engineering, held from 28<sup>th</sup> January to 2<sup>nd</sup> February 2019 at BIET, Davangere.
- 2. Attended four days faculty development programme (FDP) on topic "Advances in Biomedical instrumentation for quality Healthcare" from 23rd 26th July 2014 in the department of E & IE, UBDTCE Davangere sponsored by VTU Belgaum & VGST, Government of Karnataka.
- Attended two week workshop on "Signals and systems" conducted by IIT Kharagpur under the National Mission on Education through ICT (MHRD, Govt. of India) at University BDT College of Engineering, Davangere from 2<sup>nd</sup> – 12<sup>th</sup> January 2014.
- 4. Attended two days Faculty Development Program on "LOW POWER EMBEDDED SYSTEMS USING MSP430 MICROCONTROLLER", held from 23<sup>rd</sup> – 24<sup>th</sup> of January 2012, organized by Board of Studies, VTU Belgaum, Texas Instruments, Cranes Software, and Electronics and Communication Engineering Department of Srinivas Institute Of Technology, Mangalore.
- 5. Attended five days workshop on "MISSION 10X", organized by WIPRO & ISTE, at B.I.E.T, Davangere from 2<sup>nd</sup> 6<sup>th</sup> February 2010.