

## CURRICULUM VITAE

**Dr. Balbir Singh, FIE, Chartered Engineer (I)**  
**Professor, School of Mechanical Engineering**  
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### 1. Educational Qualification

#### a. Academic:

Sl. No.	Exam.	Year of passing	University/Board
1.	Matric	1982	J&K Board
2.	Higher Secondary	1984	J&K Board
3.	BA	1987	Jammu University
4.	MA (Pol. Sc.)	1992	Osmania University
5.	DBM	1997	Pune University

#### b. Technical:

1.	Diploma in Mechanical Engg	1989	MTI, IAF Chennai
2.	AMIE	1996	IE (I) Kolkata
3.	M.Tech. in Mechanical (Production)	2002	P.T.U Jalandhar, Punjab
4.	Ph.D. (Mechanical)	2016	NIT Kurukshetra, Haryana

#### c. On line Courses (MOOCs):

- i. ET601Tx: **Educational Technology for Engineering Teachers**, 07 Jan - 07 Mar, 2016 from IIT Bombay.
- ii. edX : TUMx's QPLS1x **Six Sigma : Define and Measure**, 08 week Course from w.e.f. 01Jun 2017 from Technical University of Munich (TUM), Germany.
- iii. edX : TUMx's QPLS2x **Six Sigma : Analyze, Improve, control**, 08 week Course from w.e.f. 01Oct 2017 from Technical University of Munich (TUM), Germany.
- iv. edx: TUMx's QPLS3x: **Lean Production**, 06 week Course from w.e.f. 01 Feb 2018 from Technical University of Munich, Germany.
- v. Completed "Technical University of Munich Lean Six Sigma Yellow Belt" after completing 22 weeks Professional Series of course on "**Six Sigma and Lean: Quantitative Tools for Quality and Productivity**" through the edX, Apr 2018.
- vi. IITBombayX: FDP101x **Foundation Program in ICT for Education**, Apr 2018
- vii. NPTEL MOOC 12 week Course: **Industrial Safety Engineering**, Jul-Oct 2018
- viii. NPTEL MOOC 4 Week Course: **Inspection and Quality in Manufacturing**, Jan-May 2019, organized by IIT Roorkee .
- ix. SWAYAM-NPTEL 8 Week Course during Jul- Nov 2019 session on "**Toyota Production System**".
- x. Edx MOOC on "**Industry4.0: How to revolutionize your business**" organized by The Hong Kong Polytechnic University.
- xi. SWAYAM-NPTEL 12 Week Course during Sep-Dec 2020 session "**Automation in Manufacturing**" organized by IIT Guwahati.
- xii. SWAYAM-NPTEL 8 Week Course during Jul –Sep 2021 session on "**Accreditation and Outcome Based Learning**" organized by IIT Kharagpur.

- xiii. SWAYAM-NPTEL 8 Week Course during Jan-Mar 2022 session on “**Mechatronics**” organized by IIT Roorkee.
- xiv. SWAYAM-NPTEL 4 Week Course during Jan- Feb 2023 session on “**Designing Learner-Centric MOOCs**” organized by IIT Bombay.

**d. Professional Certification:**

- i. Six Sigma Green Belt (Indian Statistical Institute, New Delhi)
- ii. Internal Auditor for QMS, EMS, OHSMS (NITS BIS, Noida)
- iii. Ultrasonic Testing Level-II (MSME TDC Agra)
- iv. ZED Master Trainer, Quality Council of India (QCI)
- v. Technical University of Munich Lean Six Sigma Yellow Belt

- e. BOSCH Internship:** Two weeks Industry Academia Orientation program, 3<sup>rd</sup> -14<sup>th</sup> June, 2019, Bidadi Plant, Bosch India, Bangalore.

**2. Work Experience**

Sl. No	Organization	Designation	Period	Nature of Work
1.	Indian Air Force	Sergeant	16 Jul 1984- 04 Sep 2000	Maintenance of Avionics equipment
2.	Lingaya’s Institute of Mgt. & Tech., (LIMAT), Faridabad , Haryana	Lecturer	08 Jan 2001- 18 Dec 2004 17 Jan 2005- 16 Jul 2006	Teaching UG
3.	M.B.S college of Engg. & Tech. Jammu	Lecturer	02 Jan 2004 - 16 Jan 2005	Teaching UG
4.	Gold Field Institute of Tech. & Mgt., GFITM) Faridabad , Haryana	Asst. Professor	17 Jul 2006- 03 Apr 2007	-Teaching UG <b>-HoD</b>
5.	Shri Mata Vaishno Devi University (SMVDU), Katra, Jammu	Asst. Professor	04 Apr 2007 – 28 Feb 2017	-Teaching UG and PG <b>-HoD, 3 Times</b>
6.	Shri Mata Vaishno Devi University, (SMVDU), Katra, Jammu	Associate Professor	01 Mar 2017- 29 Feb 2020	-Teaching UG and PG <b>-HoD,</b> -
7.	Shri Mata Vaishno Devi University, (SMVDU), Katra, Jammu	Professor	01 Mar 2020	- Teaching UG and PG <b>-Ex-Dean Student Welfare</b> <b>-Ex-Faculty In-charge Exam</b> <b>(Controller of Examination)</b> <b>- Dean. Academic Affairs</b>

### 3. Subjects Taken

Level	Field	Subjects
B.Tech. (Mechanical Engg.)	Production	-Manufacturing Process -Machining Processes -Material Science and Engineering -Engineering Graphics - Machine Drawing -Automobile Engineering -Statistical Quality Control
B.Tech. (Mechanical Engg.)	Thermal	-Thermodynamics - Thermal Engineering - IC Engine - Fluid Mechanic
B.Tech. (Mechanical Engg.)	Electives	- Automobile Engineering - Maintenance Engineering - Computer Integrated Manufacturing System (CIMS) -Quality Management - Industrial Automation
M.Tech. (Manufacturing & Automation)	Production	- Maintenance Engineering - Advanced Machining Processes - Quality and Reliability Engineering - Foundry Technology - Industrial Automation - Computer Integrated Manufacturing System - (CIMS)
Ph.D. Course Work	Production	- Micro Machining Processes - Advanced Machining Processes

### 4. Short Term Course/Seminar/Workshop attended

Sl. No.	Course Description	Hosting Institution	Time Period
1.	Experimentation Methods & Analysis	Applied Mech. Deptt., IIT Delhi	01- 12 Jul 2002
2.	Development of Attitude, Behaviour & Non Technical Competencies in Engineering Students	Technical Teachers' Training Institute, Chandigarh	06 - 10 Jan 2003
3.	Non Traditional Machining Processes	Mech. Deptt., Thapar Institute of Engg. & Tech, Patiala, Punjab	17-18 Mar 2006
4.	Emerging Trends in Modern Manufacturing	Beant College of Engg. & Tech., Gurdaspur, Punjab	26-30 May 2008
5.	Micro and Nano Composite Materials	Mech. Deptt. NIT Hamirpur, HP	28 Dec 2009 - 01 Jan 2010
6.	Perspectives of Metal Cutting : Present and Future	Ind. & Production Engg. Deptt., NIT Jalandhar, Punjab	12-16 Jul 2010

7.	Introduction to MATLAB and Matrox Imaging Library (MIL) with Emphasis on hands on Practice (WMMIL'11)	School of Electronics and Communication Engineering, SMVDU	16-29 Dec 2011
8.	Innovation in Maintenance Management	Mech. Engg. Deptt., IIT Delhi	21-25 May 2012
9.	Introduction to Research Methodology	National Mission on Education through ICT (NMEICT) (MHRD, GOI) Conducted by IIT Bombay at SMVDU	25 Jun – 04 Jul 2012
10.	Aakash for Education	Two day ISTE workshop by IIT Bombay under NMEICT conducted at SMVDU	10-12 Nov 2012
11.	Condition Monitoring of Plant and Machinery	TEQIP sponsored STC at Mech. Deptt., NIT Hamirpur, HP	17-21 Jul 2013
12.	Engineering Mechanics	NMEICT (MHRD, GOI) Conducted by IIT Bombay at SMVDU	26 Nov-06 Dec 2013
13.	Optimization Techniques	NITTTTR, Chandigarh	11-15 Aug 2014
14.	Advanced Material Characterization	Applied Mechanics Deptt., IIT, Delhi.	12-14 May 2015
15.	Product Design and Innovation Workshop	IIT Mandi, HP	18-19 Dec 2015
16.	CNC Machines: Operation and Programming	NITTTTR Chandigarh	18-22 Jan 2016
17.	New trends in Industrial Engineering (NITE 2016, TEQIP-II)	NIT Surat	1-5 Jul 2016
18.	11 National Quality Conclave on 'Improving Quality for our 1.2 billion citizens	Quality Council India, New Delhi	19-20 Aug 2016
19.	Nature Inspired Optimization'	Department of Electronics and Communication, MNIT Jaipur	21-23 Oct 2016
20.	DST-NIMAT sponsored FDP on Entrepreneurship Development	EDC, SMVDU, Katra	12-24 Dec 2016
21.	Sig Sigma Green Belt Training Program	Indian Statistical Institute, New Delhi	24-26 May 2017
22.	Internal Audit Training Programme on Integrated Management System(QMS, EMS, OHSMS)	NITS, Noida Bureau of Indian Standard	11-13 Jul 2017
23.	NBA Accreditation workshop by ESCI, Hyderabad	IE(I) Jammu Chapter, Channi Himmat Jammu	8 <sup>th</sup> -10 <sup>th</sup> Dec 2017
24.	Ultrasonic Testing Level-II	MSME TDC, Agra at SMVDU, Kakryal	13 <sup>th</sup> -17 <sup>th</sup> Dec 2017
25.	University Enterprise Architecture Framework, Regional Workshop	NIC at ICSSR Panjab University, Chandigarh	12 <sup>th</sup> Jan 2018
26.	ZED Master Trainer Training	QCI empanelled Allied Boston at Topic Institute, Gurugram, Haryana	15 <sup>th</sup> -19 <sup>th</sup> Jan 2018

27	TEQIP-III sponsored FDP on Sustainable Design and Manufacturing (SDM-2018)	School of Mechanical Engineering, SMVDU, Kakryal, J&K	12 <sup>th</sup> -16 <sup>th</sup> Feb 2018
28	TEQIP-III sponsored 2 days' workshop on "NBA Accreditation"	SMVDU, Kakryal, J&K	23 <sup>th</sup> -24 <sup>th</sup> Feb, 2018
29	TEQIP-III sponsored 5 days Professional Development Training Program	IIM Udaipur	14 <sup>th</sup> -18 <sup>th</sup> May, 2018
30	Summer Training program on Active Learning Workshop under TEQIP Initiative (KITE) of the MHRD	IIT Bombay.	11 <sup>th</sup> -15 <sup>th</sup> Jun 2018
31	FICCI Higher Education Summit	Vigyan Bhawan, New Delhi	30 <sup>th</sup> Oct – 01 <sup>st</sup> Nov 2018
32	One day National training Programme on 'ICT enable Hybrid Learning(MOOCs)' under PMMMNMTT scheme of MHRD	FDC, SMVDU, Kakryal, J&K	19 <sup>th</sup> Jan 2019
33	National Conference on 'Equity: Achievements and Challenges in India'	NPIU, MHRD, GOI, New Delhi and SPIU, Maharashtra state at College of Engineering, Pune	15 <sup>th</sup> -16 <sup>th</sup> Mar, 2019
34	One day workshop on ' Virtual Laboratory'	IIT Jammu	29 <sup>th</sup> May 2019
35	Attended TEQIP-III sponsored STC on "Automation & IoT for Smart Manufacturing" organized by IIT Delhi	IIT Delhi conducted at Sonapat Campus, Haryana	10 <sup>th</sup> -14 <sup>th</sup> December, 2019,
36	Attended Faculty Development Program for Student Induction Program (SIP) on Universal Human Values (UHV).	AICTE-TEQIP-III sponsored Punjab Univ. Chandigarh	17 <sup>th</sup> Jan to 23 <sup>rd</sup> Jan, 2020
37	Online Faculty Development Program on "Internet of Things (IoT) using Amazon Web Services (AWS)	Finland Labs (A Unit of Revert Technology Private Ltd.) in Association with National Social Summit, IIT Roorkee	15 <sup>th</sup> – 19 <sup>th</sup> June 2020
38	Workplace Assessment for Safety and Hygiene (WASH) Standard	ZED Division, Quality Council of India, New Delhi	11 <sup>th</sup> Jul 2020
39	AICTE sponsored one week online STTP "Innovations and Challenges in Industry4.0 Automation and Smart Manufacturing	Department of Mechanical Engineering, kallam Haranadhareddy Institute of Technology, Guntur, AP	28 <sup>th</sup> June- 03 <sup>rd</sup> July, 2021
40	Self-Learning Programme on 'Industrial Automation Driving Industry 4.0	IITD-AIA Foundation for Smart Manufacturing	23 <sup>rd</sup> Feb to 27 <sup>th</sup> Feb 2022
41	UGC approved Short Term PDP on 'Implementation of NEP-2020 for University and College Teachers'	IGNOU, Staff Training and Research Institute of Distance Education, New Delhi	23 <sup>rd</sup> Feb to 03 <sup>rd</sup> Mar 2023

42	One day workshop on 'Institutional Development Plan (IDP)	Organized by UGC at Kaushal Bhawan, Moti Nagar, New Delhi	23th Apr 2024
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## 5. National Conference/Conclave/Workshop/Summer Internship Organized

- i. 5 days ICT based workshop on '**Recent Trends in Automobile Engineering**' from 29 Feb 16 to 04 Mar 2016 from NITTR Chandigarh in Department of Mechanical Engineering, SMVDU. (Participants: 65)
- ii. **Teachers Day Celebration on 05 Sep 2016** at University level for faculty members and section heads of SMVDU (Participants: 130).
- iii. One day workshop on '**Professional Development Program on Enhancement of Computer Skills**' for Non-Teaching staff of SMVD on 15 Oct 2016. (Participants: 67)
- iv. **National Conference on Innovative Trends in Mechanical Engineering-NCITME 2017** in association with Indian Institution of Industrial Engineering, Navi Mumbai in Department of Mechanical Engineering, SMVDU, March 3-4, 2017.
- v. **Industrial Academia Conclave (IAC-2017)** conducted in SMVDU, March 04, 2017
- vi. Skill Development 5 Days MSME Workshop on '**Ultrasonic Testing Level-II** in Department of Mechanical Engineering, SMVDU, 13<sup>th</sup> – 17<sup>th</sup> Dec 2017.
- vii. Coordinated 2<sup>nd</sup> **Industrial Academia Conclave (IAC-2018)** in SMVDU, 27 April, 2018.
- viii. Conducted one week TEQIP-III sponsored FDP '**Best Manufacturing Practices in Industries**' 17<sup>th</sup> – 21<sup>st</sup> Dec, 2019 in School of Mechanical Engineer, SMVDU.
- ix. Coordinated **TEQIP-III sponsored 3<sup>rd</sup> Industrial Academia Conclave (IAC-2019)** on 08<sup>th</sup> -9<sup>th</sup> Jan, 2019 during NAAC visit to SMVDU.
- x. Coordinated one week workshop on '**Professional Ethics and Human Values**' from 11<sup>th</sup> Mar- 15<sup>th</sup> March, 2019 under Faculty Development Centre, SMVDU.
- xi. Co-coordinated Two week **Winter School for faculty** from Engineering Stream, Feb, 2019 under FDC, SMVDU
- xii. Co-ordinated One month **Faculty Induction Program**, 2<sup>nd</sup> Jan- 1<sup>st</sup> Feb 2019 approved under PMMMNTT under FDC at SMVDU
- xiii. Coordinated TEQIP-III sponsored **3<sup>rd</sup> Industrial Academia Conclave (IAC-2019)** on 8<sup>th</sup> -9<sup>th</sup> January, 2019 in SMVDU
- xiv. Coordinated one week TEQIP-III sponsored '**Art of Living**' workshop, 22-27 April, 2019, for students of SMVDU.
- xv. Coordinated one week **Indo- US Workshop** conducted in SMVDU in collaboration with IIIE(I) with **03 Professors (Experts) came from America (University of South Florida, University of Pittsburgh & Oklahoma State University)** and also conducted first CEO Conference in SMVDU, 5<sup>th</sup> – 9<sup>th</sup> August, 2019.
- xvi. Coordinated Student Induction Program (**UHV-SIP**) on Universal Human Values for 1<sup>st</sup> year students, Oct 2021.
- xvii. Coordinated one day Online Webinar "**Overview of Smart Manufacturing Systems**" on 03 Dec 2021 organized by School of Mechanical Engineering, SMVDU.
- xviii. Coordinated One-Day Online Workshop on "**Waste Management in Residential Society**" on 17<sup>th</sup> December 2021 organized by Faculty Development Centre, SMVDU in collaboration with School of Mechanical Engineering under PMMMNTT scheme.
- xix. Coordinated 05 days online Faculty Development Program on "**Research Avenues and Challenges in Industry 4.0**" organized by Faculty Development Centre

- (FDC) in collaboration with School of Mechanical Engineering (SoME) from 31 Jan 22 to 04 Feb 2022 at Shri Mata Vaishno Devi University.
- xx. Coordinated 05 days skill development workshop **“Hands On Workshop on Industrial Automation”** from 24<sup>th</sup> Dec 2022 to 28<sup>th</sup> Dec 2022 for students of AET club in collaboration with , INDWELL Automation, Pune in SMVDU.
  - xxi. Organized **Student Induction Program (UHV-I)** as convener for newly admitted students in academic year 2023-24
  - xxii. Coordinated **‘World Students Day’** on 15<sup>th</sup> Oct 2023 and organized 4 days Exhibition on Life of Dr. APJ Abdul Kalam from 15<sup>th</sup> Oct – 18<sup>th</sup> Oct 2023.
  - xxiii. Coordinated one day workshop on **‘ Aeromodelling’** on 2 Dec 2023 in SMVDU.
  - xxiv. Conducted 4 weeks Summer Internship on **“Basics of Automation”** for students from 3<sup>rd</sup> Jun to 28<sup>th</sup> Jun 2024 at SMVDU.
  - xxv. Conducted 4 weeks Summer Internship on **“Advanced Machining Processes”** for students from 12<sup>th</sup> Jun to 05<sup>th</sup> Jul 2024 at SMVDU.

## 6. Expert Lecture Delivered

- i. Delivered expert lecture on Topic **“Teaching how to teach (Introduction to EKLAVYA Technology Channel)** on 29<sup>th</sup> May 2008 during AICTE-ISTE sponsored Short Term Training Programme on **“Emerging Trends in Modern Manufacturing”** from 26<sup>th</sup>-30<sup>th</sup> May 2008 at Beant College of Engg. & Tech., Gurdaspur, Punjab.
- ii. Wood craft and Technology: guest lecture taken in one day workshop on Human Resource Development Scheme on 11 May 2009, sponsored by Ministry of Textile.
- iii. Delivered lecture on **“Appropriate Climate: Responsive technologies for inclusive growth and sustainable development”** on the theme given by Institution of Engineers, Kolkata for the year 2012 on Engineer’s day celebrated on 14 Sep 2012 at SMVDU.
- iv. Lecture delivered on **“Quality Improvement in Higher Educational Institution”** on Teachers Day Celebration at university level on 05 Sep 2016.
- v. Lecture delivered on **“How to Improve Performance in Office”** in one day IQAC, SMVDU workshop on **‘Enhancement of Soft Skills’** for Non-Teaching Staff on 05 Nov 2016.
- vi. Lecture delivered on **“Project Planning”** at DST-NIMAT Project Sponsored National Entrepreneurship Development Program, 27<sup>th</sup> Nov- 23<sup>rd</sup> Dec, 2017 at SMVDU.
- vii. Lecture delivered on **“Quality Control”** at DST-NIMAT Project Sponsored National Entrepreneurship Development Program, 27<sup>th</sup> Nov- 23<sup>rd</sup> Dec, 2017 at SMVDU.
- viii. Lecture delivered on **“Quality Control Trends in Industries”** in FDP on Sustainable Design and Manufacturing (SDM-2018), 12<sup>th</sup> Feb – 16<sup>th</sup> Feb 2018.
- ix. Lecture delivered on **“Challenges for teachers in Higher Education”** on 09 Jan 2019 in One Month Residential Faculty Induction Program, 02 Jan-01 Feb, 2019, organized by Faculty Development Centre at SMVDU, Kakryal, J&K.
- x. Lecture delivered on **‘Managerial Skills for Teachers’** on 17 Jan 2019 in One Month Residential Faculty Induction Program, 02 Jan-01 Feb, 2019 organized by Faculty Development Centre at SMVDU, Kakryal, J&K.
- xi. Lecture delivered on **‘Safety and Accident in Life & Work’** on 18 Jan 2019 in One Month Residential Faculty Induction Program, 02 Jan-01 Feb, 2019 organized by Faculty Development Centre at SMVDU, Kakryal, J&K.
- xii. Lecture on delivered on **‘Disaster Impact and Mitigation’** on 21 Jan 2019 in five days’ workshop **‘Disaster Management and Risk Reduction Initiatives through Forestry and Others’**, January 21-25, 2019’ for forest officers at SMVDU.
- xiii. Lecture delivered on **“Safety Engineering Practices in Industries”** on 19 Dec 2018 in TEQIP-III sponsored One week Faculty Development Program on **‘Best**

- Manufacturing Practices’ 17-21 December, 2019, organized by School of Mechanical Engineering, SMVDU, Kakryal, Jammu, J&K.
- xiv. Lecture delivered on “Safety and Accident in Life & Work” on 27 Feb 2019 in ‘Two Week Winter School for Faculty from Engineering Streams’, 16 Feb- 01 Mar, 2019, organized by Faculty Development Centre at SMVDU, Kakryal, J&K.
  - xv. Lecture delivered on ‘Bright Avenues for Mechanical Engineers’ for students of Mechanical Engineering on 19 Apr, 2019 in Lingayas Vidyapeeth, Faridabad, Haryana.
  - xvi. Lecture on “Bright Avenues for Graduate Engineers” delivered on 04 May, 2019 in Rajiv Gandhi Government Engineering College, Kangra, HP.
  - xvii. Online Lecture delivered on “Wash Standards For Covid 19 (Workplace Assessment For Safety And Hygiene) on 21<sup>ST</sup> July 2020 in Short Term Course on “Tribology for Sustainable Development” held online 20th-24th July, 2020. Organized by SME, SMVDU
  - xviii. Online Expert Lecture on “Basic of Machining Processes” on 18<sup>th</sup> April, 2020 for students of Sandip University, Sijoul Campus, Madhubani, Bihar.
  - xix. Online Lecture on “Introduction to Universal Human Values” in UHV Student Induction Program SIP for 1<sup>st</sup> year students (2021-22) on 13 Oct 2021.
  - xx. Expert lecture “Research Trends in Hybrid EDM Process” delivered on 5<sup>th</sup> Aug, 2021 in FDP on “Novel Prospective of Smart Materials, Hybrid Machining, and Additive Manufacturing (NPSHAM-2021), 26<sup>th</sup> July-6<sup>th</sup> Aug 2021, organized by Mechanical Engineering Department, IPEC, Ghaziabad.
  - xxi. Expert lecture on “An overview and major contributions of various Industrial Revolutions” delivered on 31<sup>st</sup> Jan 2021 in 5 days online FDP "Research Avenues and Challenges in Industry 4.0" organized by Faculty Development Centre (FDC) in collaboration with School of Mechanical Engineering (SoME) from 31 Jan 22 to 04 Feb 2022 at Shri Mata Vaishno Devi University.
  - xxii. Online Session on ‘Career Counseling with theme on Bright Avenues for Mechanical Engineers’ for students on 25<sup>th</sup> Mar 2022, in a Webinar organized by Mechanical Engineering Department, GNIOT, Greater Noida, UP.
  - xxiii. Lecture delivered on ‘Smart Manufacturing: Latest Industrial Trends’ in one day workshop on Industrial Challenges and Opportunities on 15<sup>th</sup> Mar 2023, SMVDU
  - xxiv. Online Lecture delivered on ‘NEP2020: Challenges and Opportunities for Teachers of Higher Education Institutions’ in FDP on ‘Innovating and Emerging Thrust Areas of Civil, Electrical and Mechanical Engineering’, 03-08 April, 2023 organized by Shri Ram Polytechnic Sijoul, Madhubani, Bihar.
  - xxv. Universal Human Values Lecture on ‘Basic Aspiration’ in Students Induction Program, Sep 2023 at SMVDU.
  - xxvi. Online Lecture on “Students Diversity and Inclusive Education” in ‘NEP 2020 Orientation and Sensitization Programme’ 25.12.23 to 04.01.24, organized by MMTTC GNDU, Amritsar.
  - xxvii. Online Lecture on “Students Diversity and Inclusive Education” in ‘NEP 2020 Orientation and Sensitization Programme’ 22.01.24 to 31.01..24, organized by MMTTC GNDU, Amritsar.
  - xxviii. Two Online Lectures on “Outcome Based Education” in ‘NEP 2020 Orientation and Sensitization Programme’ 12<sup>th</sup> to 22<sup>nd</sup> Feb 2024 and 17<sup>th</sup> to 22<sup>nd</sup> Jun 2024, organized by MMTTC SMVDU, Katra, Jammu.



## 7. Publications- International Journal

- i. Mohd. Junaid Mir, Khalid Sheikh, Balbir Singh and Navdeep Malhotra, “Modeling and analysis of machining parameters for surface roughness in powder mixed EDM using RSM approach” International Journal of Engineering, Science and Technology Vol. 4, No. 3, 2012, pp. 45-52.
- ii. Balbir Singh, Jatinder Kumar and Sudhir Kumar, “Investigating the influence of Process Parameters of ZNC EDM on Machinability of A6061/10% SIC composite” Advances in Materials Science and Engineering, Volume 2013, doi.org/10.1155/2013/173427. ISSN: 1687-8442 (SCI indexed, Hindawi Publishing).
- iii. Balbir Singh , Jatinder Kumar & Sudhir Kumar, “Experimental Investigation on Surface Characteristics in Powder-Mixed Electro discharge Machining of AA6061/10%SiC Composite” Materials and Manufacturing Processes, 29: 287–297, 2014 (SCI indexed , Taylor & Francis Group).
- iv. Balbir Singh, Jatinder Kumar & Sudhir Kumar, “Influences of Process Parameters on MRR Improvement in Simple and Powder Mixed EDM of AA6061/10%SiC” Materials and Manufacturing Processes, DOI:10.1080/10426914.2014.93088 (SCI indexed , Taylor & Francis Group).
- v. Balbir Singh, Jatinder Kumar and Sudhir Kumar, “Optimization and surface modification in electrical discharge machining of AA 6061/SiC<sub>p</sub> composite using Cu- W electrode. Proc I MechE Part L: Journal of Materials: Design and Applications 0(0) 1-17 DOI: 10.1177/1464420715596544” (SCI indexed, SAGE Publication).
- vi. Balbir Singh, Jatinder Kumar, and Sudhir Kumar, “Investigation of the Tool Wear Rate in Tungsten Powder-Mixed Electric Discharge Machining of AA6061/10%SiC<sub>p</sub> Composite” Materials and Manufacturing Processes, 0: 1–11, 2015, DOI: 10.1080/10426914.2015.1025965, (SCI indexed, Impact factor : 1.486, Taylor & Francis Group).
- vii. Akshay Bhat, Ashutosh Jha, Balbir Singh and Deepak Byotra, “Optimization of Machining Parameters in Turning Operation of EN13 Steel using Response Surface Methodology” International Journal of Engineering Technology, Management and Applied Sciences, March 2015, Volume 3 Special Issue, ISSN 2349-4476, www.ijetmas.com.
- viii. Vineet Dubey , Balbir Singh, “To investigate the influence of process parameters on material removal rate in Electric Discharge Machining of HCHCr Steel” BLB-International Journal of Science & Technology, Special Issue November 2015 (ISSN 0976-3074).
- ix. Sanjay Mohan, Sehijpal Singh, Balbir Singh, Mohd Javaid, Mohammad Asjad, “Some Investigations On Low Back Pain Amongst Workers Involved In Lifting Tasks” International Journal of Procurement Management (in press), August 2015.
- x. Varun Dutta, Sanjay Sharma, Kapil Chopra and Balbir Singh, “Hybrid Electric Discharge Machining Processes for Hard Materials: A Review”, American Scientific Journal, Vol. 5, pp. 202–208, 2016, ISSN: 2169-429X.
- xi. Pranav Dev Srivyas, Sahil Singh, Balbir Singh, “Study of various maintenance approaches types of failure and failure detection techniques used in hydraulic pumps: A Review”, Industrial Engineering Journal, Vol. X & Issue No. 5 May – 2017, pp: 27- 35. ISSN-0970-2555.
- xii. Balbir Singh, Sudhir Kumar and Jatinder Kumar, “Multi-Objective Optimization in

- Electrical Discharge Machining of 6061 Al/SiC<sub>p</sub> using RSM and NSGA-II”, Key Engineering Materials Vol. 748, pp 207-211(Socup Indexed), ISSN: 1662-9795.
- xiii. Vineet Dubey and Balbir Singh, “Study of Material Removal Rate in Powder Mixed EDM of AA7075/B<sub>4</sub>C Composite” Materials Today: Proceedings 5 (2018) 7466–7475, Elsevier Publication, Socup Indexed. ISSN: 2214-7853.
  - xiv. Rajesh Kumar, Vivek Kumar, Sushil Kumar Singh, Vineet Dubey and Balbir Singh, ‘Comparative Study of Machining Parameters on Electrical Discharge Machining of Inconel 718 Using Copper and Copper Tungsten Electrode’, International Journal of Metallurgy and Alloys, Vol. 4: Issue 1, 2018. eISSN: 2456-5113. (UGC approved list Journal), American Scientific Publishers.
  - xv. Akhil Khajuria, Raman Bedi, Balbir Singh, Modassir Akhtar, “EDM machinability and parametric optimization of 2014Al/Al<sub>2</sub>O<sub>3</sub> composite by RSM”, International Journal of Machining and Machinability of Material, vol. 20, No.6, 2018. Inderscience Publication.
  - xvi. Mandeep Singh and Balbir Singh, (2019), “A Review on the Parametric Optimization in MIG Welding using Taguchi Method” International Journal of Science and Research (IJSR) ISSN: 2319-7064 Impact Factor (2018): 7.426 Volume 8 Issue 3, March 2019
  - xvii. Vivudh Gupta, Balbir Singh, Mishra RK, “Machining of Titanium and Titanium Alloys by Electric Discharge Machining Process: A Review” International Journal of Machining and Machinability of Materials- Inderscience Publications (Scopus Indexed).
  - xviii. Akhil Khajuria, Modassir Akhtar, Manish Kumar Pandey, Mayur Pratap Singh, Ankush Raina, Raman Bedi, Balbir Singh, “Influence of ceramic Al<sub>2</sub>O<sub>3</sub> particulates on performance measures and surface characteristics during sinker EDM of stir cast AMMCs”, World Journal of Engineering, : <https://doi.org/10.1108/WJE-01-2019-0015>, Emerald Publishing Limited, ISSN: 1708-5284, (Scopus Indexed).
  - xix. Pawandeep Singh, Vivudh Gupta, R.K. Mishra and Balbir Singh, “Effect of micro filler reinforcement on mechanical and wear characteristics of metal matrix composites: A review”. AIP Conference Proceedings 2148, 030011(2019): <https://doi.org/10.1063/1.5123933>.
  - xx. Vivudh Gupta, Pawandeep Singh, R.K. Mishra and Balbir Singh, “Wear behavior of AA7075 based composites: A state of the art survey”. AIP Conference Proceedings 2148, 030011(2019): <https://doi.org/10.1063/1.5123935>.
  - xxi. Varun Dutta, Lalit Thakur , Balbir Singh, “A study on the effect of Friction Stir Processing technique for the marine applications”, Materials Today: Proceedings 18 (2019) 5048–5056.
  - xxii. Vivudh Gupta, Balbir Singh, R. K. Mishra, and Pawandeep Singh ‘Tribological characterization of AA7075 composites reinforced with rice husk ash and carbonized eggshells’ Proceedings of the Institution of Mechanical Engineers, Part L: Journal of Materials: Design and Applications” in SCI-E indexed journals.
  - xxiii. Vivudh Gupta, Balbir Singh, R. K. Mishra, and Pawandeep Singh ‘Microstructural and mechanical characterization of AA7075 composites reinforced with rice husk ash and carbonized eggshells’ Proceedings of the Institution of Mechanical Engineers, Part L: Journal of Materials: Design and Applications” in SCI-E indexed journals.
  - xxiv. Pawandeep Singh, R. K. Mishra, Balbir Singh & Vivudh Gupta, “Microstructural and mechanical characterization of lamb bone ash and boron carbide reinforced ZA-27 hybrid metal matrix composites" in Proceedings of the Institution of Mechanical Engineers, Part L: Journal of Materials: Design and Applications. Volume 235, Issue 11, April 2021.(SCIE)
  - xxv. Pawandeep Singh, R. K. Mishra, Balbir Singh & Vivudh Gupta, “Mechanical characterization of eggshell ash and boron carbide reinforced ZA-27 hybrid metal matrix composites" in Journal of Mechanical Engineering Science (SCI/SCI-E indexed journal).
  - xxvi. Dubey, Vineet; Sharma, Anuj; Singh, Balbir, “Optimization of Machining parameters in

- Chromium Additive mixed EDM of AA7075/5%B4C composite" Part E: Journal of Process Mechanical Engineering. Part E, SAGE Publication (SCI).
- xxvii. Pawandeep Singh, R. K. Mishra, Balbir Singh "Tribological behaviour of eggshell ash and boron carbide reinforced ZA-27 hybrid metal matrix composites under dry sliding conditions" *Surface Topography: Metrology and Properties*, Vol.9 No.3 (2021). (SCI-E).
- xxviii. Pawandeep Singh, R K Mishra and Balbir Singh, "Tribological behaviour of lamb bone ash and boron carbide reinforced ZA-27 hybrid metal matrix composites under dry sliding conditions" *Surface Topography: Metrology and Properties*, Volume 9, Number 4, Published 26 November, 2021 IOP Publishing Ltd ( SCIE)
- xxix. Pawandeep Singh, Vivudh Gupta, R. K. Mishra and Balbir Singh, "Mechanical and Tribological behaviour of aluminium based functionally graded materials: A review". *Material Today Proceeding*, online 18 Mar 2022, Science Direct (Scopus).
- xxx. Vivudh Gupta, Pawandeep Singh, Balbir Singh and R. K. Mishra, " Vegetable oil based dielectric fluids for electrical discharge Machining Process: Advancements and challenges". *Materials Today Proceeding*, Volume 62, Part 6, 2022, Pages 3129-3132, Science Direct (Scopus).
- xxxi. Varun Dutta, Lalit Thakur , Balbir Singh and Hitesh Vasudev, "A Study of Erosion–Corrosion Behaviour of Friction Stir-Processed Chromium-Reinforced NiAl Bronze Composite" *Materials*, *Materials* 2022, 15(15), 5401, Published 5 Aug 2022. MDPI (SCI-E).
- xxxii. Varun Dutta , Lalit Thakur , Balbir Singh, "Parametric optimization of friction stir process for developing high strength and wear-resistant chromium reinforced NiAl bronze composite", *Materials Research Express*, Volume 9, Number 9, Published 23 September 2022. (SCI-E).
- xxxiii. Varun Dutta, Balbir Singh, Shalok Bharti, Pardeep Singh and Suresh Jangotra "Reinforcement of different particulates in aluminum alloy by friction stir process technique – A review" ; *AIP Conf. Proc.* 2986, 030106, 2024, (Scopus) <https://doi.org/10.1063/5.0196282>.
- xxxiv. Akhil Sharma, Balbir Singh and Prabir Sarkar , "Proceeding Paper Internet of Things Enabled Adjustable Ramp System for Productivity Enhancement of Micro, Small and Medium Enterprises", *Eng. Proc.(MDPI)* 2024, 66, 4. (Scopus). <https://doi.org/10.3390/engproc2024066004>

## 8. Publications- National Conference

- i. Balbir Singh, Six Sigma: An Emerging Quality Control & Value Added Tool in Industry" National Conference-2006 on Theme – Technology Management, March 25, 2006 at GJ-IMT, Mohali, Chandigarh.
- ii. Balbir Singh , Navdeep Malhotra 2008 "Study of Effect of Powder Mixed Dielectric Fluid on the Surface Finish and Material Removal Rate of Electro-Discharge Machining" NCETET 2008, Murthal, May 26-27, 2008.
- iii. Balbir Singh, "Relationship study of powder mixed Electro discharge machining parameters and performance characteristics", National Conference on Mechanism Science and Technologies: from Theory to Applications, NCMSTA-08 November 13-14, 2008, NIT, Hamirpur, Himachal Pradesh.
- iv. Ritesh Sharma, Balbir Singh, Navdeep Malhotra & Abhijit Saini, "Study of Total Productive Maintenance and its applications in the industries", National Conference on Advanced Manufacturing Techniques (NCAMT-2009) November 5-6, 2009 at SMVDU, Katra.
- v. Balbir Singh, Sudhir Kumar and Jatinder Kumar "Study of various challenges in the Electro-discharge Machining process (EDM)", National Conference on Emerging trends

- in computational Science and Engineering , ETCSE-2010, Mar 27-28, 2010,KEC Ghaziabad.
- vi. Balbir Singh, Jatinder Kumar and Sudhir Kumar “Experimental Study of Machining Characteristics during Electrical Discharge Machining of EN-8 Carbon Steel” National Conference on Recent Advances in Manufacturing, July 19-21, 2010, Deptt. of Mechanical Engg. SVNIT Surat.
  - vii. Balbir Singh and Sanjay Mohan Sharma “ Various challenges in Maintenance of complex equipment in industry” National Conference on Recent Trends in Mechanical Engineering, NCRTME -2011, September 7-8,2011, Department of Mechanical Engineering, Lingaya’s University, Faridabad.
  - viii. Balbir Singh, Sanjay Mohan and Varun Dutta “Study of Challenges and Strategies to Sustain Manufacturing Sector in Business Recession” UGC sponsored National Conference on “Contemporary Issues in Business with reference to Global Economic Meltdown” on 29<sup>th</sup> March, 2013 at College of Management, SMVDU.
  - ix. Balbir Singh, “Study on Research Trends in Micro-Electrical Discharge Machining - A Review”, National Conference on Recent Trends in Mechanical Engineering, RTME-2016, June 24-25, 2016, Beant College of Engineering and Technology, Gurdaspur, Punjab.
  - x. Anush Charak and Balbir Singh, “An experimental study of electrical discharge machining on AA7075/B<sub>4</sub>C<sub>p</sub> composite using Taguchi Approach”, National Conference on Recent Trends in Mechanical Engineering, RTME-2016, June 24-25, 2016, Beant College of Engineering and Technology, Gurdaspur, Punjab.
  - xi. Sahil Thappa, Pranav Dev Srivyas, Balbir Singh, “Wire Electrical Discharge Machining Research Insights and Its Applications – A Review”, National Conference on Innovative Trends in Mechanical Engineering – NCITME 2017, March 03-04, 2017, SMVDU, Katra.
  - xii. Sahil Singh, Sahil Thappa, Balbir Singh, “Research Insights in Micro-Electrical Discharge Machining – A Review” National Conference on Innovative Trends in Mechanical Engineering – NCITME 2017, March 03-04, 2017, SMVDU, Katra.
  - xiii. Pranav Dev Srivyas, Sahil Singh, Balbir Singh, “Past and Current Status of Hybrid Electric Discharge Machining (H-EDM) Processes”, National Conference on Innovative Trends in Mechanical Engineering – NCITME 2017, March 03-04, 2017, SMVDU, Katra.

## 9. Publications- International Conference

- i. Balbir Singh, “Education : An Emerging Service Sector”, 2<sup>nd</sup> PCMA International Conference-2006 Theme “Service Sector- The Next Wave”, February 25-27, 2006 at DAV College Jalandhar.
- ii. Balbir Singh, Sudhir Kumar and Jatinder Kumar “A Review of Electro-Discharge Machining of Aluminium Metal Matrix Composite” 3<sup>rd</sup> International Conference on Advances in Mechanical Engineering, Jan 4-6, 2010, SV NIT Surat.
- iii. Balbir Singh, Sudhir Kumar and Jatinder Kumar, “ Investigation of Machining Parameters on Surface Roughness in Electrical Discharge Machining of EN-8 Carbon Steel” 4<sup>th</sup> International Conference on Advances in Mechanical Engineering , September 23-25,2010 at SV NIT Surat.
- iv. Nityanand Jha, Yagyank Srivastava, Balbir Singh and Deepak Byotra, “Investigating the influencing process parameters in conventional Turning of AISI 1020 carbon steel using Taguchi approach”, International Conference on Newest Drifts in Mechanical Engineering, December 20-21, 2014 (ICNDME-2014), Deptt. of Mechanical Engg., MM University, Mullana, Ambala, Haryana.
- v. Vineet Dubey, Anush Charak, Balbir Singh and Sanjay Mohan Sharma, “A study of latest trends in Hybrid Electro Chemical Machining Process-Review” International Conference on Newest Drifts in Mechanical Engineering, December 20-21, 2014 (ICNDME-2014),

- Deptt. of Mechanical Engg., MM University, Mullana, Ambala, Haryana.
- vi. Anush Charak, Vineet Debey, Balbir Singh and Sanjay Mohan Sharma, “Study of Various Challenges in Machinability of Hard Materials using Abrasive Jet Machining” International Conference on Newest Drifts in Mechanical Engineering, December 20-21, 2014 (ICNDME-2014), Deptt. of Mechanical Engg., MM University, Mullana, Ambala, Haryana.
  - vii. Pranav Dev Srivyas, Sahil Thappa and Balbir Singh, “Study of Various challenges in Submerged Arc Welding- Review” International Conference on Newest Drifts in Mechanical Engineering, December 20-21, 2014 (ICNDME-2014), Deptt. of Mechanical Engg., MM University, Mullana, Ambala, Haryana.
  - viii. Avi Gupta, Rahul Sethi, Sanjay Mohan Sharma and Balbir Singh, “Metal Matrix Composites and their fabrication routes- A Review”, International Conference on Newest Drifts in Mechanical Engineering, December 20-21, 2014 (ICNDME-2014), Deptt. of Mechanical Engg., MM University, Mullana, Ambala, Haryana.
  - ix. Vineet DUBY, Balbir Singh, “Investigation of tool wear rate in electric discharge machining of AA2014/Al<sub>2</sub>O<sub>3</sub> composite”, International conference on Advanced Agile Manufacturing Systems, December 28-29, 2015 (ICAM-2015), Dept. of Mechanical Engineering, KNIT Sultanpur, UP.
  - x. Balbir Singh, Sudhir Kumar and Jatinder Kumar, “Multi-Objective Optimization in Electrical Discharge Machining of 6061 Al/SiC<sub>p</sub> using RSM and NSGA-II” 6<sup>th</sup> International Conference on ‘Advanced Materials and Engineering Materials (ICAMEM2017), March 11-12, 2017, Singapore sponsored by BOSIEDU.
  - xi. Balbir Singh, Tanvir Hussein, “Study of Critical to Quality Factors for Quality Improvement of Higher Education Institutions using Six Sigma approach” International Conference on Manufacturing and Industrial Engineering (ICMIE-2017) organized by MGM’s JNEC Aurangabad in association with IIIE, Aurangabad chapter, September 14-16, 2017.
  - xii. Umesh, Balbir Singh, “Reduction of defects in Automobile Filter Industry using Six Sigma Approach” International Conference on Technology and Trust (ICTT-2017), 28-29 Dec 2017, organized by Greater Noida Institute of Technology, Greater Noida, UP.
  - xiii. Rajat Kumar, Surag, Vivudh Gupta, Balbir Singh, “Experimental Investigation of Electrical Discharge Machining of AA2014/Al<sub>2</sub>O<sub>3</sub> composite using Taguchi Approach”, International Conference on Technology and Trust (ICTT-2017), 28-29 Dec 2017, organized by Greater Noida Institute of Technology, Greater Noida, UP
  - xiv. Imam Basori, Almalia Surocaena, Siska Titik Dwiwati, Yunita Sari, and Balbir Singh, “Microstructure and Mechanical Properties Analysis of Quenched and Tempered AISI 4340 Steel”, 3rd UNJ International Conference on Technical and Vocational Education and Training 2018, Indonesia, Volume 2019, Page: 675-680.
  - xv. Vivudh Gupta, Pawandeep Singh, Balbir Singh, Mishra RK, “Wear Behaviour of AA7075 based composites: A state of the Art Survey” at International Conference on Advances in Mechanical Engineering and Nanotechnology-2019 held at Manipal University, Jaipur from March 08 to 09, 2019.
  - xvi. Pawandeep Singh, Vivudh Gupta, Mishra RK, Balbir Singh, , “Effect of Micro Filler Reinforcement on Mechanical and Wear Characteristics of Metal Matrix Composites: A Review” at ICAMEN-2019 held at Manipal University, Jaipur from March 8-9, 2019
  - xvii. Abdul Rouf Ganai and Balbir Singh (2019) “Study of Microstructure, Hardness and Dimensional Accuracy in Al-6061 Centrifugally Cast Pipe” in 6th International Conference on Production & Industrial Engineering CPIE 2019 at NIT Jalandhar, Punjab. [https://link.springer.com/chapter/10.1007%2F978-981-15-4619-8\\_4](https://link.springer.com/chapter/10.1007%2F978-981-15-4619-8_4), Manufacturing Engineering pp. 51-60.
  - xviii. S. Gurpreet Singh, Gurbinder Singh, Balbir Singh, Amit Kumar Sinha, “Study of

Challenges for Implementing Autonomous Maintenance in Small Scale Manufacturing Industries”, 8th International Conference on Advancements in Engineering and Technology, March, 20-21, 2020, (ICAET-2020), BGIET, Sangrur. ISBN No: 978-81-924893-5-3, Page: 885-888.

- xix. Gurvinder Singh, S Gupreet Singh, Balbir Singh and Amit Kumar Sinha, Study of Toyota production system and its challenges for implementation in Indian SMEs”, 8th International Conference on Advancements in Engineering and Technology, March, 20-21, 2020, (ICAET-2020), BGIET, Sangrur. ISBN No: 978-81-924893-5-3, page: 817-822.

## 10. National Seminar

Sanjay Kumar, Balbir Singh “Study of Niosh Equation and its applications in Manual Load Lifting Jobs in Industries” All India Seminar on Ergonomics for Improved Productivity, Nov 21-22, 2009 at AMU, Aligarh.

## 11. Ph.D Guidance

Sl. No	Candidate Name	Ph.D. Title	Awarded/Continue
1.	Mr. Pawandeep Singh (SMVDU)	Investigation of Mechanical and Tribological Properties of Eggshell/B <sub>4</sub> C and Bone ash/B <sub>4</sub> C Reinforced ZA-27 Hybrid Metal Matrix Composites	Awarded 2022 (Co-Supervisor)
2.	Mr. Vivudh Gupta (SMVDU)	Characterization and Machinability Study of Eggshell and Rice Husk Ash Reinforced AA7075 Composites	Awarded, 2022 (Supervisor)
3.	Mr. Varun Dutta, Asst. Professor, (SMVDU)	Experimental Studies on Friction Stir Processed Chromium-Reinforced NiAl Bronze Composite for Marine Applications	Awarded, 2023 (Supervisor)

## 12. Patent Filed

- i. Titled “Reinforced aluminum matrix composites and method of preparation thereof” filed on 02-12-2020 bearing application no. 202011052574.

## 13. Project Undertaken/Undergoing:

- i. Vertical Vermicomposting of Mule dung at Shri Mata Vaishno Devi Shrine, Katra, project under RuTAG, IIT Delhi with project cost of 2,95,000/- 2019,Jun-2020, Jun. (Project Co-PI).
- ii. Co-Coordinator, Research Project -127. Establishment of Transdisciplinary Research and Innovation (TRI) Hub in SMVDU.

## 14. (a) Project Guided, M.Tech(Manufacturing & Automation)

- i. M.Tech 2010, Jyoti Sharma 2008EMA02, Automation of Cement Plant under joint supervision of Balbir Singh and Rajesh Bushan
- ii. M.Tech 2011, Mohd. Junaid Mir, Experimental Investigation of Power Mixed Electric

- Discharge Machining of AISI H11.
- iii. M.Tech 2013, Akhil Khajuria, Optimization of machining parameters in electrical discharge machining of 2014Al/Al<sub>2</sub>O<sub>3</sub> composite.
  - iv. M.Tech 2016, Vineet Dubey, Experimental study of machining parameters in powder mixed electrical discharge machining of AA7075/B4C composite
  - v. M.Tech 2016, Anush Charak, Study of electrical discharge machining on AA7075/B4C composite and optimizing the process parameters using Taguchi method
  - vi. M.Tech 2017, Rajesh Kumar, Experimental investigation on Machinability of Inconel 718 using ZNC EDM.
  - vii. M.Tech 2018, Umesh, Enhancing Productivity of Filter Industry using Six Sigma and ZED Approach, (Industrial Project under joint supervision with Mr. Taranvir Singh, MD, T. V. Super Filter Industry, Jammu)
  - viii. M.Tech 2019, Abdul Ganai, Study of Effects of Process Parameters on the Dimensional Accuracy of Aluminum Based Composite Pipes Fabricated by Centrifugal Casting.
  - ix. M.Tech 2019, Mandeep Singh, Parametric Optimization of MIG Welding for AISI 1020 Steel using Taguchi Approach.
  - x. M.Tech 2020, Gurvinder Singh, 18mma004 ‘Productivity Enhancement of Automobile Oil Filter Manufacturing Industry using Toyota Production System’, in TVS Filter Industry, Jammu.
  - xi. M.Tech. 2020, S. Gurpreet Singh Bali, 18mma007, ‘Improvement in ‘Overall Equipment Effectiveness using Autonomous Maintenance in Oil Filter Manufacturing Industry’, in TVS Filter Industry, Jammu.
- (b) Project Guided, M.Tech. (Mechanical Engineering)**
- xii. M.Tech. 2021, Akhil Sharma, 19mmn002. ‘Enhancement in productivity using adjustable ramp system’

### **15. Technical/Roundtable Session Chaired**

- i. Technical Session on ‘Quality & Engineering Economics’ at International Conference on Manufacturing and Industrial Engineering (ICMIE-2017) organized by MGM’s JNEC Aurangabad in association with IIIE, Aurangabad chapter, September 14-16, 2017.
- ii. Technical Session on ‘National Conference on Innovative Trends in Mechanical Engineering NCITME-2018’, at Shri Mata Vaishno Devi University, Katra.
- iii. Intern. Conference on Mechanical Engg. & Allied Sciences (ICMEAS-2018), 14-15, September 2018. School of Mechanical Engineering, SMVDU.
- iv. Participated in Roundtable session as Dean Academic Affairs, SMVDU on theme ‘Curriculum Structure: Challenges and Way forward’ in 3 days workshop (12<sup>th</sup> -14<sup>th</sup> March, 2024) on ‘Capacity Building and Leadership Development for Implementation of NEP-2020 organized by Jammu University of Jammu in collaboration with National Institute of Education Planning and Administration (NIEPA), New Delhi.

### **16. Reviewer of Journal Paper**

- i. Particulate Science and Technology, An International Journal, Taylor and Francis
- ii. International Journal of Research in Mechanical Engg. (IJRME), ISRD International Allied Journal.
- iii. Editorial Board Member of ‘International Journal of Multidisciplinary Domain’

### **17. Examination and Paper Setter and Evaluation of B.Tech and M.Tech**

- i. Routine paper setting and evaluation duties at SMVDU for B.Tech and M.Tech students

- ii. Paper setter for Thermal and Production subjects by University of Jammu and MM Mulana University, Haryana.

## 18. Appointment of External Examiner for evaluation of M.Tech Viva Voce

Punjab Technical University appointed external examiner for M.Tech final Viva Voce at BCET, Gurdaspur, Punjab.

## 19. Board of Study (BOS) Member

- Attended first meeting as BOS member in **Sandip University** on 21 Jul 2018 and 2<sup>nd</sup> meeting on 30<sup>th</sup> May 2019 at Sijoul campus, Madhubani, Bihar.
- BOS Member for School of Civil Engineering, SMVDU
- BOS Member for School of Mechanical Engineering, SMVDU

## 20. Book Chapters:

- i. Balbir Singh, Chapter “Wire Electrical Discharge Machining” published in Book ‘Modern Machining Processes’, ISSN:978-93-8676-183-5, Pub: Ane Books Pvt. Ltd, New Delhi.
- ii. Rajesh Kumar and Balbir Singh, Chapter on ‘Experimental Study for MRR and TWR on Machining of Inconel 718 using ZNC EDM’ in Strategic System Assurance and Business Analytics, Springer Nature Singapore Pte Ltd. 2020,Page:163-173, 2020, [https://doi.org/10.1007/978-981-15-3647-2\\_13](https://doi.org/10.1007/978-981-15-3647-2_13).
- iii. Gupta, Vivudh, Balbir Singh, R. K. Mishra, and Pawandeep Singh. " A critical assessment of electric discharge machining process: Variants and hybrid approaches." *Evincepub Publishing, India* (2020). (ISBN- 978-93-89988-70-3).
- iv. Gupta, Vivudh, Balbir Singh, R. K. Mishra, and Pawandeep Singh. "Tribological Studies on Titanium Alloys for Biomedical Applications." In *Tribology and Sustainability* (2021), pp. 323-332. CRC Press.
- v. Pawandeep Singh, R. K. Mishra, Balbir Singh, and Vivudh Gupta. "Tribological Properties of Green Hybrid Metal Matrix Composites Reinforced with Synthetic and Industrial–Agricultural Wastes." In *Tribology and Sustainability* (2021), pp. 65-71. CRC Press

## 21. Lab Development

- i. Development of Engineering Graphics and Machine Drawing wooden Models at LIMAT
- ii. Development of steam engine piston cylinder wooden teaching aid in LIMAT
- iii. Development of Fluid Mechanics and Fluid Machinery Lab at GFITM
- iv. Development of IC Engine Lab at GFITM
- v. Development of Fluid Mechanics and Fluid Machinery Lab at SMVDU
- vi. Development of Thermal Engineering Lab at SMVDU
- vii. Development of IC Engine Lab at SMVDU
- viii. Development of Automobile Lab at SMVDU
- ix. Designed and fabricated two stroke petrol engine test rig using scooter engine in central workshop, used as experimental teaching aid in IC Engine lab at SMVDU.
- x. Designed and fabricated two stroke petrol engine model of wood in central workshop and



- used as teaching aid in IC Engine Lab at SMVDU
- xi. Prepared car window lass raising –lowering mechanism model in central workshop at SMVDU as teaching aids.
- xii. Prepared drum brake model in workshop at SMVDU used as teaching aid.
- xiii. Prepared Ericsson Test Set used as experimental teaching aid in Material Sc. Lab
- xiv. Preparation of Lab Manual on Production Engineering Lab
- xv. Fabrication of Cantilever based Centrifugal Casting Set up under B.Tech Project, May 2018.

## 22. Administrative Experience

- i. LIMAT: Department Secretary, Member of Training and Placement cell and NSS
- ii. GFITM: **Head**, Department of Mechanical Engg.
- iii. SMVDU:
  - a) **HOD** Sep and Oct 2007
  - b) **HOD** from Aug 2010 to 19 Oct 2012
  - c) **HOD** from 1 Sep 2013 to 16 May 2014
  - d) **HOD** from 29 Jan 2017 to 25 Jan 2018
  - e) **Dean Students Welfare** 05 Oct 2020 to 04 Oct 2021
  - f) B.Tech and M.Tech Project I/c 2012-2013
  - g) Universal Human Values (UHV) **University Coordinator** for 2021
  - h) **University Coordinator, UHV Cell**, w.e.f 03 May 2023 onward.
  - i) **Faculty In-charge Examination, (Controller of Examination),Feb 2023-Jul 2023**
  - j) **Dean, Academic Affairs w.e.f. 18 Jul 2023 and continue.**
- iv. **Special Assignments:**
  - (a) As a **Centre Superintendent** with support of Deputy Centre Superintendent Mr. BK Bhatia, faculty and staff members conducted examination for recruitment of district cadre post of class-IV by J&K Service Selection Board at SMVDU Centre on 27, 28 Feb and 01 March 2021.
  - (b) As a **Nodal officer** with active support of Medical Aid Centre and other supporting staff members of SMVDU executed successfully 2 days **COVID Vaccination Drive** in the Campus for students, faculty and staff with their families, labour workers, housekeeping and security staff. First Drive: 27-28 May 2021 and 2<sup>nd</sup> Drive: 25-26 Aug 2021.
  - (c) **Chairman, SMVDU Centre (VC/HC) CSAB UG (B.Tech/B.Arch ) Admission for 2023-24 Academic Year.**
- v. **AICTE/J&K UT Level Assignment:**
  - (a) As Expert Member, Prepared technical evaluation report on shortlisting parties for exploration and exploitation of sapphire mines at village Paddar, Kishtwar, J&K under J&K Mineral Ltd., 2018.
  - (b) Member of Technical Examination committee to give report of “Feasibility Report for Passenger Ropeway between Katra to Adhkuwari, Katra, 2018.
  - (c) **Nodal Officer for AICTE- IMPACT** (Internship Mobilization & Promotion through Academia Corporate Tie-up) Scheme for Mentor (SMVDU) and Mentee (10 Institutions of J&K), May 2020.
  - (d) TEQIP Phase-III, **Nodal Officer (Academic)**
  - (e) TEQIP Phase-III, SMVDU **MIS Nodal Officer**

**vi. Member of Various Committees:**

- a) Department Purchase Committee
- b) Department Technical Expert Committee
- c) PG Admission Committee
- d) Academic Council, SMVDU
- e) Training and Placement 2007-2009
- f) Anti-Ragging Committee since 2013,2014
- g) IQAC, Administrative committee
- h) SMVDU, IQAC Member Secretary
- i) Ex-Coordinator, Equal Opportunity Cell, (EOC, UGC)
- j) TEQIP Phase-III, Nodal Officer (Academic)
- k) Waste Management in SMVDU
- l) Selection panel for Manager, TBIC.
- m) Faculty Development Centre
- n) SoME, School Research Committee
- o) **NEP Coordinator**
- p) **PM USHA, Coordinator**

**23. Industrial Visits for Students undertaken**

- Maruti Udyog Ltd, Gurgaon, Haryana
- HMT Pinjor, Punjab
- Thermal Plant Lehra Begga, Bhatinda, Punjab,2015 and 2016
- Railway Coach Factory, Kapurthala, Punjab, 2016
- Salal Hydel Project, Reasi, Jammu (02 times)
- Kashmir rolling Mills, Bari Brahamna, Jammu (05 times)
- Narbada Casting Unit, Bari Brahamna, Jammu (05 Times)
- Campa Cola, Hindustan Beverage Ltd, Gangyal, Jammu
- National Fertilizer Limited, Bhatinda, Punjab 16-17 Nov 2016
- Dabur Group, Bari Brahamna, Jammu, (M.Tech students) Apr 2017. (02 times)
- Shuvam Industries, Industrial Estate, Jammu, (M.Tech students) Apr 2017.
- Emcure Pharmaceutical and Sarveshwar Rice, Jammu, (M.Tech students), Mar 2018.
- Railway Station Maintenance Yard, Jammu Tawi (M.Tech Students), 23 Oct 2018
- Chenab Textile Mills, Kathua, Jammu for B.Tech 2<sup>nd</sup> Sem., April, 2019
- B.Tech 2<sup>nd</sup> semester Students (2019 batch) taken to Railway Construction site, Reasi on 03 Mar 2020
- Taken 03 students for Automation exposure to SMC Unit, Noida & IIT Delhi 14 Dec 2021
- B.Tech. 3<sup>rd</sup> year and 4<sup>th</sup> Years students to Baghliar Project, Ramban, 20 Oct 2022
- Taken students of AET club to Air Force Station, 3<sup>rd</sup> May 2023 to show maintenance of Helicopter.
- B.Tech. 2<sup>nd</sup> students to Kashmir Rolling Mills, Bari Brahmna, Jammu on 06 July 2023

**24. Mentoring 'Professional Club: Automation and Emerging Technology Club' (AET Club) inaugurated on 15<sup>th</sup> Sep 2022 for students of SMVDU.**

**25. Recognition/Award:**

- **Fellow Membership** awarded by Institution of Engineers (India) in 2018.
- **Chartered Engineer (I)** certificate awarded by Institution of Engineers (India) in 2019.
- **Letter of Appreciation** from **M/s T.V. Super Filter Industries, Jammu, J&K, India**, for technical support/ services in **ZED Certification, TQM, TPS** and Management system on 03 Nov 2019.

**26. Professional Society Memberships**

- IE(I) : F-124249-7
- ISTE : LM -42489
- IIIE (Mumbai): SM10647(99)
- QCI : LM/NR/5255
- Indian Red Cross Society: LM 1517

I certify that all the information mentioned above is true to my belief and understanding.

(Dr. Balbir Singh)  
Professor,  
SMVDU, Katra, J&K