



BIO-DATA

1. Name : **Dr. KARROLLA BUSCHIAIAH**
2. Designation : **I.E./ Scientist**
3. Date of Birth : 02.03.1971
4. Department : Mechanical Engineering
5. Field of Specialization : Production Engineering
6. Address for Correspondence : Dept. Mechanical Engg., UCE, O.U.
7. Academic Qualifications : Ph.D.(O.U.)

8. **Employment Record:**

(a) *Teaching Experience* :

Organization	Designation	Period	
		From	To
Osmania University	Academic Consultant (Part-time)	2004	Till date

(b) *Industrial / Institute Experience*

Organization	Designation	Period	
		From	To
Flowell Pump Industries, Balanagar	Quality Inspector	1991	1992
Nuclear Fuel Complex	Technician Apprentice	1992	1993
Bharat Dynamics Limited	Technical Assistant	1993	1994
Osmania University	Laboratory Assistant	1994	2010
Osmania University	I.E. / Scientist	2010	Till date

9. Number of Publications : **40 (11 IJ + 14 IC + 15 NC)** – List enclosed
10. Number of Ph.Ds Guided : **6** (ongoing)
11. Courses taught at PG and UG : **13**

Sl. No.	PG Course	UG Course
1	Tool Engineering	Material Science and Metallurgy
2	Experimental Techniques and Data Analysis	Tool Design
3	Metallurgy of Metal Casting and Welding	Unconventional Methods of Machining and Forming
4	Metal Forming Science	Metal Cutting and Machine Tools
5	Advanced Metrology	
6	Product Design and Process Planning	
7	Non-Destructive Evaluation and Testing	
8	Automation	
9	Flexible Manufacturing Systems	

12. Membership in Professional Bodies : **3 (ISTE LM 83480), (MIE 1457165) and (FISME 201507091040)**

13. Seminars/Conferences/Workshops/STTP//Training Programmes etc. attended: **52** - List enclosed

14. Seminars/Conferences/Workshops/STTP//Training Programmes etc. organized: **09** - List enclosed

15. Contributions to the Department : In general involved in every developmental activity of the Mech.Engg.Dept. and in particular,

- ◆ Establishment and Development of CAD/CAM lab.
- ◆ Establishment and Development of CNC machines lab.
- ◆ Establishment and Development of RPT centre.

16. Administrative Experience : **In-charge**, Stores MED,UCE (April 2014 to May2017)

List of publications

Number of Publications : 40 (11 IJ + 14 IC + 15 NC)

International Journals:

1. **K.Buschaiah**, P.Laxminarayana and V.S.R.Murti “Some Anomalies in the Experimental Results of EDM”, *International Journal of Manufacturing Technology and Management*, Vol. 24, Nos. 1/2/3/4, pp 57-70, 2011.
2. **K.Buschaiah**, A.Parshuramulu and P.Laxminarayana “Integrity of EDM_{ed} Job Surfaces”, *International Journal of Advances in Management, Technology & Engineering Sciences*, ISSN:2249-7455, Vol. II, Issue 7(I), pp 15-19, April 2013.
3. A.Parshuramulu, **K.Buschaiah**, and P.Laxminarayana “A Study on Influence of Polarity on the Machining Characteristics of Sinker EDM”, *International Journal of Advanced Research in Engineering and Technology (IJARET)*, ISSN: 0976-6480, Vol. 4, Issue 3, pp 158-162, April 2013.
4. **K.Buschaiah**, M.Jagadeeswara Rao and M.Chandra Sekhar Reddy “Optimization of Machining Parameter for EDM using Taguchi Method on Incoloy-800”, *International Journal of Research in Engineering and Applied Sciences*, ISSN:2349-6525, Vol. 6, Issue 11, pp 119-133, November 2016.
5. **K.Buschaiah**, A.Chandrakanth and S.Gajanana “Experimental Investigation of Metal Removal Rate on EDM for variable Tool Materials”, *International Journal of Engineering Sciences & Research Technology*, ISSN: 2277-9655, Vol. 5(12), pp 282-286, December 2016.
6. **K.Buschaiah**, A.Parshuramulu and P.Laxminarayana “Influence of Tool Geometry and Performance Characteristics of EN-19 Steel by EDM Using Taguchi Method”, *IOSR Journal of Mechanical and Civil Engineering (IOSR-JMCE)*, e-ISSN: 2278-1684, p-ISSN: 2320-334X Vol. 14, Issue 4, Ver. I (Jul-Aug.2017) pp 28-35.
7. Syed Azeem Pasha, Ravinder Reddy P, Laxminarayana P, **Buschaiah K** “Influence of Process Parameters on Micro hardness of AA7075/MWCNT Surface Composites Fabricated through Friction Stir Processing” *International Journal of Innovative Research in Technology (IJIRT)*, ISSN:2349-6002, Volume 4, Issue 7, Dec.2017, pp 665-670.
8. **Buschaiah Karrolla**, JagadeeswaraRao Maddu and Riyaaaz Uddien Shaik “Electrical Discharge Machining: A Comparative Surface Integrity Study for Incoloy-800” *January 2020 Materials Today: Proceedings 22(1):3286-3296 DOI: [10.1016/j.matpr.2020.03.290](https://doi.org/10.1016/j.matpr.2020.03.290)*.
9. S. Narasimha, **Buschaiah Karrolla** and G. Venkata Rao “Frequency Variation in Turbine Blades with Temperature and Operational Speed Using Incremental Method” *HTL Journal*, ISSN No.1006-6748, Volume 27, Issue 6, June 2021.
10. JagadeeswaraRao Maddu, **Buschaiah Karrolla**, Srikanth Vuppala, and Riyaaaz Uddien Shaik “Formation and Optimization of Electrical Discharge Coatings Using Conventional Electrodes” *Energies 14(18):5691-September 2021 DOI: [10.3390/en14185691](https://doi.org/10.3390/en14185691)*.

11. JagadeeswaraRao Maddu, **Buschaiah Karrolla**, Riyaz Uddien Shaik and Srikanth Vuppala “Comparative Study of Optimization Models for Evaluation of EDM Process Parameters on Ti-6Al-4V” , *Modelling 2021,2*, 555-566, <https://doi.org/10.3390/modelling2040029>.

International Conferences:

1. **K.Buschaiah**, P.Laxminarayana and V.S.R.Murti “Inconsistent Results on Machining Rates in EDM and the Associated Noise Factors”, *Proc. of International Conf. on Advances in Manufacturing Engineering(ICAME-2007) Oct.24-26, 2007, MIT, Manipal.*
2. **K.Buschaiah**, P.Laxminarayana and V.S.R.Murti “Some Anomalies in the Experimental Results of EDM”, *Proc. of the 3rd International & 24th AIMTDR Conference – 2010 at College of Engineering (A), Andhra University, Visakhapatnam during Dec.13 – 15, 2010.*
3. A.Parshuramulu, **K.Buschaiah** and P.Laxminarayana. “Some Studies on Relative Characteristics of Straight and Reverse Polarities in the Fleet of EDM”, *Proc. of 2nd International Conference on Advancements in Engineering & Management (ICAEM -2013), ISBN 978-93-5104-586-1, Feb. 27-28, 2013, RITS, RR Dist.*
4. **K.Buschaiah**, P.Laxminarayana and A.Parshuramulu “Inconsistent Nature of Machining Characteristics of EDM”, *Proc. of International Conference on Advancements in Polymeric Materials, March 1-3, 2013, CIPET, Lucknow.*
5. **K.Buschaiah**, A.Parshuramulu, A.Kumar and P.Laxminarayana “Integrity of EDM Resultant Surfaces”, *Proc. of International Conference on Advances in Design and Manufacturing (ICAD&M-2014), ISBN 9 789384 743130, Dec. 5-7, 2014, NIT,Tiruchirappalli.*
6. A.Parshuramulu, **K.Buschaiah**, U.Ashok Kumar, and P.Laxminarayana “Modern Electro Discharge Machining (EDM) Processes for Diverse Applications”, *Proc. of International Conference on Advances in Production and Industrial Engineering (INCAPIE-2015), Feb. 20-21, 2015, NIT,Tiruchirappalli.*
7. M.Jagadeeswara Rao, **K.Buschaiah** and M.Chandra Sekhar Reddy “Experimental Optimization of EDM Process Parameters for Machining Incolloy 800 Using Composite Electrode by applying Taguchi Method”, *Proc. of 1st International Conference on Recent Innovations in Engineering and Technology (ICRIEAT-2016), ISBN:978-1-5396-2645-9, Organized by Aurora’s Scientific Technological and Research Academy, Hyderabad during Dec 22-23, 2016.*
8. M.Jagadeeswara Rao, **K.Buschaiah** “Optimization of EDM Process Parameters for Copper Electrode on Incoloy-800 by Taguchi Method” *Proc. of 1st International and 18th ISME conference on Enabling Sustainable Development in Mechanical at NIT Warangal, during Feb.23-25, 2017.*

9. **K.Buschaiah**, M.Jagadeeswara Rao and A.Krishnaiah “Investigation on the Influence of EDM Parameters on Machining Characteristics for AISI 304”, *Proc. of 7th International Conference on Materials Processing and Characterisation – 2017 (ICMPC-2017) at GRIET, Bachupally, Hyderabad during March 17 – 19, 2017.*
10. B.Kishan, Dr.Sudheer Premkumar, Dr.S.Gajanana, **Dr.K.Buschaiah** and M.A.Gaffer “Development of Mathematical Model for Metal Removal Rate on EDM using Copper & Brass Electrodes”, *Proc. of 7th International Conference on Materials Processing and Characterisation – 2017 (ICMPC-2017) at GRIET, Bachupally, Hyderabad during March 17 – 19, 2017.*
11. M.Jagadeeswara Rao, Riyaz Uddien Shaik and **K.Buschaiah** “Grey Relational Analysis of EDM Process Parameters for Incoloy-800”, *Proc. of International Conference on Emerging Trends in Engineering (ICETE) held at UCE, O.U., during March 22-23, 2019.*
12. M.Jagadeeswara Rao, Riyaz Uddien Shaik and **K.Buschaiah** “Electrical Discharge Machining: A Comparative Surface Integrity Study for Incoloy-800” *Proc. of 2nd International Conference on Materials, Manufacturing and Modelling (ICMMM-2019) jointly organized by VIT, Vellore, Mopko National University, Korea and Zhengzhou University, China held at VIT, Vellore during March 29-31, 2019.*
13. JagadeeswaraRao Maddu, **Buschaiah Karrolla**, Riyaz Uddien Shaik and Krishnaiah Arkanti “Optimization of EDM Process Parameters using ANOVA and GRA on Stainless Steel-304” *Proc. of 34th Indian Engineering Congress organized by IE(I) and hosted by Telangana State Centre Hyderabad, India during 27-29 December 2019.*
14. **Buschaiah Karrolla**, JagadeeswaraRao Maddu, and Riyaz Uddien Shaik “Electrical Discharge Coating (EDC) and its Multi-Optimization Techniques: A Review on the State-of-the-Art” *Proc. of International Conference on Materials, Mechanical and Energy Engineering (ICMME 2021) during 7 – 8 May 2021 held at Department of Mechanical Engineering, Bapatla Engineering College, Bapatla, A.P.*

National Conferences:

1. V.S.R.Murti, V.Narsimha Rao, P.Laxminarayana and **K.Buschaiah** “The effect of pulse parameters on the surface finish of spark eroded surfaces”, *Proc. of National Conf. on reliability and quality in Aerospace Technologies, Nov. 28-29, 2003, ADA, Bangalore.*
2. **K.Buschaiah** and V.Narsimha Rao “Mechanism of sparking and surface generation in EDM”, *Proc. of National Conf. on emerging trends in the field of Mechanical Engineering, Jan. 23-24, 2004, SVITS, Mahabubnagar.*
3. N.N.Ramesh, V.Narsimha Rao and **K.Buschaiah** “Analysis of electro discharge sawing, a modified EDM process”, *Proc. of National Conf. on recent trends in manufacturing, modeling and analysis, Feb.2-3, 2004, St. Joseph’s College of Engineering, Chennai.*

4. N.N.Ramesh, **K.Buschaiah** and V.Chittaranjan das “Hiatuses in the knowledge base of electro discharge machining” *Proc. of National Conf. on state of the art of technologies in Mechanical Engineering(NCSAME)2004, JNTU, Hyderabad.*
5. V.S.R.Murti, M.A.Aleem Sadiq, N.N.Ramesh and **K.Buschaiah** “Microhole drilling by a variant EDM process”, *Proc. of National Conf. on competitive manufacturing technologies and management for global marketing Jan.7-8, 2005, B.S.Abdur Rahman Crescent Engineering College, Chennai.*
6. **K.Buschaiah** “Spatial and shape characteristics of engineering surfaces”, *Proc. of National Conf. on Computational methods in Mechanical Engineering September16-17, 2005, MED, UCE, OU, Hyderabad.*
7. N.N.Ramesh and **K.Buschaiah** “Effect of typical process parameters on the machining characteristics of electro discharge sawing”, *Proc. of National Conf. on state of the art of technologies in Mechanical Engineering(NCSAME) May 5-6, 2006, JNTU, Hyderabad*
8. A.Parshuramulu, **K.Buschaiah**, P.Laxminarayana and V.S.R.Murti “Processing of Ceramics and Metal Matrix Composites with Electro Discharge Machining”, *Proc. of National Symposium on Advances in Chemical Engineering (ChemE) Nov.22-24, 2007, UCT, OU, Hyderabad.*
9. A.Krishnaiah, J.Deepa and **K.Buschaiah** “Influences of Process Parameters on Machining of 304 Stainless Steel and Aluminium by EDM”, *Proc.of National Conference on Recent Trends in Manufacturing Technology (RTMT-2011), March 11-12, 2011, Anna University, Chennai.*
10. **K.Buschaiah**, A.Parshuramulu and P.Laxminarayana. “Some Grey Areas in the Knowledge Base of EDM”, *Proc. of National Conference on Recent Advances in Mechanical Engineering (RAME-2012) March 16-17, 2012, MED, OU, Hyderabad.*
11. A.Parshuramulu, **K.Buschaiah** and P.Laxminarayana. “Surface generation mechanism in EDM”, *Proc. of National Conference on Recent Advances in Mechanical Engineering (RAME-2012) March 16-17, 2012, MED, OU, Hyderabad.*
12. A.Parshuramulu, P.Laxminarayana, **K.Buschaiah** and U.Ashok Kumar. “Optimising the Control Parameters in Electrical Discharge Machining”, *Proc. of National Conference on Recent Advances in Mechanical Engineering (RAME-2012) March 16-17, 2012, MED, OU, Hyderabad.*
13. **K.Buschaiah**, A.Parshuramulu and P.Laxminarayana. “Analysis of the Process Parameters on the Surface Roughness of EDM Surfaces”, *Proc. of National Conference on Emerging Trends in Mechanical Engineering (ETIME-2014) Dec. 29-30, 2014, MED, OU, Hyderabad.*
14. U.Ashok Kumar, P.Laxminarayana, **K.Buschaiah** and Syed Azeem Pasha “Surface Roughness Optimization of EDM Machined SS316 Material by Burnishing Process”, *Proc. of National Conference on Emerging Trends in Mechanical Engineering (ETIME-2014) Dec. 29-30, 2014, MED, OU, Hyderabad.*

15. M.Jagadeeswara Rao, **K.Buschaiah** and Shaik Riyaz Uddien “Comparable Studies on the Multivariate Linear Regression Relationship of EDM Process Parameters”, *Proc. of National Conference on Advances in Materials and Manufacturing Techniques (NCAMMT'17) at SRM University, Chennai, during March 24-25, 2017.*

Seminars/Conferences/Workshops/STTP/SDP/IPs / TPs etc. attended : 52

Seminar

- Participated in One Day Seminar on Advanced manufacturing Systems (AMS'09) at MED, OU, Hyderabad (July 30, 2009).
- Participated in One day Seminar on Trends in Non-traditional Machining at Institution of Engineers (I), Hyderabad (January 5th, 2013).

International Conferences

- Participated in International conference on Quality and reliability in aerospace systems organized by DRDO, Hyderabad (January 15-17, 2006).
- Participated and presented a technical paper in International conference on Advances in Manufacturing Engineering at MIT, Manipal (Oct.24-26, 2007).
- Participated and presented a technical paper in the 3rd International & 24th AIMTDR Conference – 2010 at University College of Engineering (A), Andhra University, Visakhapatnam during Dec.13 – 15, 2010.
- Participated and presented a technical paper in the 2nd International Conference – 2013 at Royal Institute of Technology & Science, RR Dist., Hyderabad during Feb.27 – 28, 2013.
- Participated and presented a technical paper in International Interdisciplinary Research Symposium on Global Meltdown: It's Impact on Business, Management, Engineering, Technology, Social Sciences and Environmental issues held on 6-7 April, 2013 at Hotel Tuli imperial, Nagpur.
- Participated and presented a technical paper in the International Conference on Advances in Design & Manufacturing 2014 at National Institute of Technology – Tiruchirappalli during Dec.5 – 7, 2014.
- Participated and presented a technical paper in the International Conference on Advances in production and Industrial Engineering 2015 at National Institute of Technology – Tiruchirappalli during Feb.20-21, 2015.
- Participated in International conference on Advances in Materials and Manufacturing (ICAMM-2016) organized by MED, OU and DRDL (DRDO), Hyderabad (Dec. 8-10, 2016).
- Participated and presented a technical paper in the first International Conference on Recent Innovations in Engineering and Technology (ICRIEAT-2016) at Aurora's Scientific Technological and Research Academy, Chandrayan gutta, Hyderabad during Dec.22-23, 2016.
- Participated and presented a technical paper in the 7th International Conference on Materials Processing and Characterisation ICMPC-2017) at Gokaraju Rangaraju Institute of Engineering and Technology (GRIET), Hyderabad during March 17-19, 2017.

National Conferences

- Participated and presented a technical paper in National level Technical Conference on ETME at SVITS, Mahabubnagar (January 23-24, 2004).
- Participated and presented a technical paper in National level Conference on RTMMA at St.Joseph's College of Engineering, Chennai (February 2-3, 2004).

- Participated and presented a technical paper in National Conference on AIM at Vasavi College of Engineering, Hyderabad (May 13-14, 2005).
- Participated and presented a technical paper in National Conference on COMPUTIME at MED, University College of Engineering, OU, Hyderabad (September 16-17, 2005).
- Participated and presented a technical paper in National Conference on RAME at MED, University College of Engineering, OU, Hyderabad (March 16-17, 2012).
- Participated and presented a technical paper in National Conference on ETIME-2014 at MED, University College of Engineering, OU, Hyderabad (Dec 29-30, 2014).
- Participated and presented a technical paper in National Conference on Advances in Materials and Manufacturing Techniques (NCAMMT'17) held at SRM University, Vadapalani Campus, Chennai (March 24-25, 2017).

Workshops

- Participated in National workshop on Research methodologies and report writing at MED, OU, Hyderabad (June 27-28, 2003).
- Participated in National workshop on Finite Element Methods at MED, VITS, Hyderabad (December 3-4, 2005).
- Participated in National workshop on COSMECFLOWS at MED, OU, Hyderabad (December 5, 2005).
- Participated in the TEQIP National workshop on “Industry institution interaction at Taj Residency, Hyderabad (July 20-21, 2006).
- Participated in 2 day workshop on “Non-destructive testing” at MED, OU, Hyderabad (September 23-24, 2006).
- Participated in 2 day workshop and training programme on “Inventing into future” at UCE, OU, Hyderabad (November 9-10, 2006).
- Participated in 2 day workshop on “Prospective areas of research in Mechanical Engineering and related approaches” at SVITS, Mahabubnagar (Feb.15-16, 2008).
- Participated in 3 day workshop on “Advances in Manufacturing Processes” at MED, NIT, Warangal (August 8-10, 2008).
- Participated in 2 day National workshop on “Micromachining and Nanofabrication” at Production Engineering Department, **Jadavpur University**, Kolkata (August 29-30, 2008).
- Participated in 3 day workshop on “Computational Fluid Dynamics – theory and Practice” at MED, O.U., Hyderabad (March 7-9, 2009).
- Participated in 2 day workshop on “Nano Technology and its Applications” at MED, CBIT, Hyderabad (Feb.27 - 28, 2012).
- Participated in 1 day workshop on “Training on CNC Machining: Tools and Techniques” at MED, OU., Hyderabad (Feb.12, 2013).
- Participated in 5 day workshop on “Navigating New Frontiers in Materials” at NITW, Warangal (July 02-06, 2013).
- Participated in 1 day workshop on “Industry-Institute and Defence Labs Interaction” at MED, OU., Hyderabad (Aug.30, 2014).

Refresher course

1. Participated in the refresher course on “Computer Aided Engineering” at MVSR Engineering College, Hyderabad (July 3-7, 2006).

Short term training programme (STTP)

- Participated in AICTE-ISTE funded STTP on “Computer applications in manufacturing technology” at MED, OU, Hyderabad (May 27-June 1, 2002).
- Participated in the Five day QIP STTP on “Micromachining and Micro fabrication” at **IIT Bombay**, (June 8-12, 2009).
- Participated in 5-Day short course on “Experimental Designs for Optimization” at MED, OU, Hyderabad (May 19-23, 2014).
- Participated in the 5 day Continuing Professional Development Programme on “Welding Technologies and NDT Techniques” at **ESCI**, Hyderabad (May 26-30, 2014).
- Participated in the 5 day National Programme for Training Scientists and Technologists on “Creativity & Innovation Management in Research” at **ESCI**, Hyderabad (Nov.17-21, 2014).

Training programmes(TPs)

- Participated in National training program on “System Engineering in solar hot water systems” at NISIET, Hyderabad (April 26-May 2, 1995).
- Participated in training program on “Power tools usage” at MICO BOSCH, Bangalore (April 3-5, 2006).
- Participated in 2 week advanced training on “CNC programming and operation (VMC)” at ATI, Hyderabad (December 11-22, 2006).
- Participated in 5 day advanced training on “CNC programming and operation (VMC)” at M/s.3 CEES Technologies, Hyderabad (January 16-20, 2007).
- Participated in 2 day training on “CNC programming and operation” at Mechanical Engineering Department, O.U., Hyderabad (March 23-24, 2007).
- Participated in 5 day training on “CATIA V5 Basic plus Advanced Mechanical Design & Sheet metal design” from M/s.EDS Technologies Pvt. Ltd., Bangalore at Mechanical Engineering Department, O.U., Hyderabad (Nov.20-30, 2007 for 5 days).
- Participated in 5 day training on “Unigraphics NX4 Manufacturing Module” from M/s. TATA Consultancy Services Ltd., Hyderabad at Mechanical Engineering Department, O.U., Hyderabad (July 7-12, 2008).

Staff Development Programmes

- Participated in staff development programme sponsored by AICTE, New Delhi on “Plastics product manufacturing techniques and its advancements” at CIPET, Hyderabad (Nov.19-30, 2007).
- Participated in staff development programme sponsored by AICTE, New Delhi on “Technological improvements in plastics processing and testing” at CIPET, Hyderabad (Aug. 9-20, 2010).
- Participated in faculty development programme in Entrepreneurship, sponsored by NSTEDB, DST, New Delhi at UCE, O.U., Hyderabad (Aug.26 – Sept.9, 2010).
- Participated in faculty development programme on Advances in Manufacturing Technology – Hard & Soft”, sponsored by AICTE, New Delhi at IPE, O.U., Hyderabad (Feb. 4-16, 2013).
- Participated in faculty development programme in Entrepreneurship, sponsored by NSTEDB, DST, New Delhi at UCE, O.U., Hyderabad (Feb.2-14, 2015).

Induction Programmes (IPs)

1. Participated in One Day Induction Program at UCE, OU, Hyderabad (Jan 20, 2018).

Seminars / Workshops / STTP / Conferences etc. conducted/organized

Sl. No.	Name of the programme	Type of programme	Organizing Dept./ Institute	Month & Year	Remarks
1	Non-Destructive Testing (TEQIP-II sponsored)	2-Day workshop	MED, UCE, OU	April 22-23, 2016	Organized
2	Advanced Welding Techniques (TEQIP-II sponsored)	2-Day workshop	MED, UCE, OU	Oct.21-22, 2016	Organized
3	Recent Trends in Production Engineering (TEQIP-II sponsored)	1-Day Seminar	MED, UCE, OU	Jan.18, 2017	Organized
4	Engineering Research Methodology	4-Day short term course	MED, UCE, OU	Dec.11-14, 2017	Organized
5	Surface Coating Technologies (TEQIP-III sponsored)	1-Day National Seminar	MED, UCE, OU	March 16, 2018	Organized
6	Engineering Research Methodology	5-Day short term course	MED, UCE, OU	June 18-22, 2018	Organized
7	Engineering Colleges-Induction Programme	3-Day Induction programme	Office of the Dean, FoE, UCE, OU	July 13-15, 2018	Organized
8	Engineering Research Methodology	5-Day short term course	MED, UCE, OU	April 15-20, 2019	Organized
9	Experimental Techniques and Data Analysis (TEQIP-III sponsored)	5-Day short term course	MED, UCE, OU	April 22-26, 2019	Organized

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