




# R L JALAPPA INSTITUTE OF TECHNOLOGY

(Affiliated to Visvesvaraya Technological University, & Approved by AICTE)

Doddaballapura - 561203, Bangalore Rural District

## DEPARTMENT OF MECHANICAL ENGINEERING

<b>Faculty Name</b>	Dr. Sunil Kumar K	 HOTO
<b>Designation</b>	Associate Professor	
<b>Area of Interest</b>	Materials, Nano Composites, Production Technology ,Design, Supply Chain Management	
<b>Email ID</b>	sunilkumark@rljit.in	
<b>Research Identity</b>	Orcid Id:0000-0003-4273-1429 Scopus Id: sJR6Y-EAAAAJ&hl=en Google Scholar Id: Research gate Id: Vidwan Id:	

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### EDUCATION:

- ❖ **Ph.D from VTU Belagavi July-2020**
- ❖ **M.Tech(Product Design and Manufacturing) from SSAHE Tumkur -2012**
- ❖ **B.E (Mechanical) RLJIT, Doddaballapur -2009**

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### TECHNICAL SKILLS:

Processing of Metal Matrix Composites, SEM Analysis, Wear and Corrosion Behavior Mechanism

**SOFTWARE:** Hyper mesh, Solid Works, Auto CAD & CATIA

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### PROFESSIONAL WORK EXPERIENCE:

1. Worked as an Lecturer from 11<sup>th</sup> July 2011 to 09<sup>th</sup> July 2013 in the Department of Mechanical Engineering, M. S. Engineering College, Bangalore.

2. Worked as an Assistant Professor From 22<sup>nd</sup> July 2013 to 28/02/2021 in the Department of Mechanical Engineering, R.L.J.I.T. , Doddaballapur-561203.
3. Got Prompted and Working as an Associate Professor From 01/03/2021 To Till Date in the Department of Mechanical Engineering RLJIT Doddaballapur-561203.
4. Got Designated as Student Welfare Officer at R L Jalappa Institute of Technology Doddaballapur from 01/06/2021 to till date.

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**PUBLICATIONS:****JOURNAL;**

- Development of Standing Wave Thermo Acoustic Prime Mover”. International Journal Of Research In Advent Technology Vol.4 No.4, April 2016 E-ISSN: 2321-9637.
- “Design And Development Of Automated Suspension To Chassis Damage” International Journal Of Research In Advent Technology Vol.4 No.4, April 2016 E-ISSN: 2561-9762.
- Effect Of Heat Treatment On The Corrosion Behavior Of High Strength Aluminum Alloy International Journal Of Mechanical And Production Engineering, ISSN: 2320-2092, Volume- 5, Issue-10, Oct.-2017
- A Review On Microstructure And Corrosion Behaviour Of RRA Treated 7075 Al Alloy” International Journal Of Scientific Research Engineering & Technology (IJSRET), ISSN 2278 – 0882 Volume 6, Issue 9, September 2017.
- Design And Analysis Of A Turning Fixture For Oil Tank Cover MGB International Journal Of Recent Trends In Engineering & Research , ISSN 2455 – 1457 Impact Factor :3.344.
- Pneumatic Three Axis Modern Trailer International Journal For Research In Applied Science & Engineering Technology (IJRASET) Www.Ijraset.Com Volume 4 Issue V, May 2016 IC Value: 13.98 ISSN: 2321-9653.
- Study On Tribological Characterization Of RRA Treated Aluminium 7075 Alloy Jour Of Adv Research In Dynamical & Control Systems, Vol. 11, 02-Special Issue,

2019.

- Effect Of Retrogression And Re-Aging On Fatigue Crack Growth Behavior Of Al 7075 Alloy International Journal Of Innovative Technology And Exploring Engineering (IJITEE) ISSN: 2278-3075, Volume-8 Issue-10, August 2019.
- Retrogression And Re-Aging Of AL-7075 Microstructure And Corrosion Behavior Characterization international Journal of Engineering and Advanced Technology (IJEAT) ISSN: 2249 – 8958, Volume-9 Issue-1, October 2019.
- “The effect of heat and cryogenic treatment on wear properties of 6061 alloy” international journal of engineering and advanced technology ISSN: 2249-8958, volume -9, issue -6, august 2020.
- “ Tensile and Hardness behavior of RRA treated aluminum 7075 alloy” **Springer** Nature Singapore Pte Ltd .2021 A.Arockiarajan et al. (eds),Advances in industrial automation and smart manufacturing,Lecture Notes in Mechanical Engineering.
- “Influence of RRA on Fatigue Behaviour of AL 7075 Alloy” Journal of Pharmaceutical Negative Results” (Q-4) ISSN : 2229-7723,Volume-14,Issue -3 February 2023.
- “Effects of Various Heat Treatment Conditions on the Alloy’s Fatigue Behavior” Journal of Neuroquantology (Q-3) ISSN:1303-5150,Volume-21,Issue-2,February 2023

#### INTERNATIONAL CONFERENCE:

- “ Tensile and Hardness behavior of RRA treated aluminum 7075 alloy” **Springer** Nature Singapore Pte Ltd .2021 A.Arockiarajan et al. (eds),Advances in industrial automation and smart manufacturing,Lecture Notes in Mechanical Engineering

#### NATIONAL CONFERENCE:

- National Conference On "Emerging Trends in Mechanical Engineering" Held at NMAMIT College of Engineering, KARJKALA, Karnataka. From 12th and 13th april 2007. Title: RAPID PROTOTYPING.
- Symposium on “ Recent development in technologies dynamechs’08” Held at JNTU , ANANTHAPUR , AP. on 28 and 29<sup>th</sup> February 2008.TITLE: Rapid prototyping
- National Conference On "Mathematical Methods and Applications" Held at Basaveshwar Engineering College, Bagalkot, Karnataka. From 17th to 18th March 2008. Title: Convective Heat and Mass Transfer in a Visco-Elastic Fluid Flow Through a Porous Medium Over a Stretching Sheet.
- National Conference On "Modeling and Simulation" Held at Coimbatore Institute of Technology, Coimbatore, Tamil Nadu. From 27th to 29th August 2009, Title: Heat Transfer in a Non Newtonian Power Law Fluid Over a Non-Isothermal stretching Sheet.

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#### **TEXT BOOK AUTHORED:**

- ❖ Written a book on motivation “BORN TO WIN”.
- ❖ Written a book on motivation in language kannada “ Naa Kanda Prapancha” .
- ❖ Co-author for the book on learning to survive with covid-19 pandemic.
- ❖ Written a book on ,Studies on RRA of AL 7075 alloy
- ❖ written a book on RRA of Aluminium-Zinc-Magnesium 7075 Alloy

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#### **PATENTS:**

- My first ever Australian patent has been accepted, published and also granted in AP Australian government patent office “Fully autonomous smart manufacturing unit using intelligent feature recognition algorithm” Patent no: 2021102713 , dated 23<sup>rd</sup> June 2021.
- My second patent has been accepted, published in Indian government patent office “online reinforced learning of assembly sequence planning with interactive guidance system for industry” Waiting for grant. publication number -202141032004 dated 13/08/2021
- My third patent has been accepted, published in Indian government patent office “Nanotechnology utilization aspects in solar photovoltaic cells for efficient performance analysis and absorption rate of solar energy”. Waiting for grant publication number-202241015269. 2022

- My fourth patent has been accepted, published in Indian patent office “smart devices to automatically detect the strength of buildings and land during the construction of multistory buildings” waiting for the grant publication number-202241022416. 2022
- My fourth patent has been accepted, published in Indian patent office “smart devices to automatically detect the strength of buildings and land during the construction of multistory buildings” waiting for the grant publication number-202241022416. 2022
- My fifth patent has been accepted, published in Indian patent office “Analysis of site specific targetting of drugs through nanoparticle deliver system for treating atherothrombosis” waiting for the grant publication number-202341015520. 2023

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#### **FUNDED PROJECTS:**

- Applied a project to get funded from VTU as a co-principal investigator of the title microstructure and thermal behaviour of aluminium alloy (al7075) reinforced with silicon nitride ( $Si_3N_4$ ) metal matrix nano composites for automobile applications. on 28/02/2023.

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#### **INVITED TALKS:**

- ❖ Delivered a invited talk on “Requirements of Computer Skills “at Government high school ,Doddaballapur ,on 04/02/2015.
- ❖ Delivered a invited talk on “Personality Development “at Lavanya Educational PU College , Doddaballapur ,on 06/08/2016.
- ❖ Delivered a invited talk on “Personality Development “at Lavanya Educational high school , Doddaballapur ,on 20/08/2016.
- ❖ Delivered a invited talk on “Personality Development and Importance of Education “at Govt high school ,Thayamagondlu ,on 26/08/2016.
- ❖ Delivered a invited talk on “Requirements of Computer Skills and Class Room to Corporate” at Government high school ,Doddaballapur ,on 03/09/2016.
- ❖ Delivered a invited talk on “Importance of Plant Saplings “at Government high school Channaveerannahalli ,,Doddaballapur tq ,on 15/09/2016.
- ❖ Delivered a invited talk on “Advancing in Educational Standards “at MABL high school , Doddaballapur ,on 16/12/2016.
- ❖ Addressed Teachers in Faculty Development Program on “How to Attract Students by Effective Teaching” at SRS Vidyanikethana dobbspet on 18/02/2017.
- ❖ Delivered a invited talk on “Personality Development” at SRS Vidyanikethana dobbspet on 18/02/2017.

- ❖ Delivered a invited talk on “Importance of Education “at Lavanya Educational PU College , Doddaballapur ,on 12/03/2017.
- ❖ Delivered a invited talk on “Developments Engineering Arena” at Cambridge Institute of Technology Bangalore on 18/02/2019.
- ❖ Attended as subject expert for the post of assistant professor for ME department on 15/07/2019 at at Cambridge Institute of Technology Bangalore.
- ❖ Delivered a invited talk on “Class Room to Corporate” at at Cambridge Institute of Technology Bangalore on 17/08/2019.
- ❖ Delivered a invited talk on “Importance of Education ” organized Govt high school sakkaregollahalli ,Doddaballapur 23/08/2019
- ❖ Delivered a invited talk on “Evolution in Engineering Arena” at Oxford College of Engineering Bangalore on 24/08/2019.
- ❖ . Delivered a invited talk on “ Need of Leadership qualities in the Present Scenario ” at Oxford College of Engineering Bangalore on 12/02/2020.
- ❖ Delivered a invited talk on “ Importance of Engineering Field ” at Cambridge Institute of Technology Bangalore on 13/02/2020.
- ❖ Delivered a invited talk on “Evolution in Engineering Arena and Classroom to Corporate ” on 12/02/2020 at RLJIT doddaballapur.
- ❖ Delivered a invited talk “Continuous Improvement and Effective Leadership “ in webinar organized by department of ME RLJIT” on12/07/2020.
- ❖ Delivered a invited talk “Continuous Improvement and Effective Leadership” in webinar organized by department of ME, IIT Bangalore” on28/07/2020.
- ❖ Delivered a invited talk on “ Importance of Engineering Field ” at Cambridge Institute of Technology Bangalore on 15/12/2020
- ❖ Delivered a invited talk on “Skills Required to Become Entrepreneur” organized in association with MSMSE ,GIO WITH SVCE Bangalore ” on 08/03/2021 .
- ❖ Delivered a invited talk on “ Awareness on Covid-19” organized in association with NSS Dept ,SDUIM Doddaballapur on 17/03/2021 .
- ❖ Delivered a invited talk on “Importance of Online Education in Covid-19 Pandemic ” organized Govt high school Tubagere ,Doddaballapur on 19/03/2021 .

- ❖ Delivered a invited talk on “Classroom to Corporate “ for the 1<sup>st</sup> year students of BE as a part of the induction program conducted on 17/05/2021 at VIT Bangalore .
- ❖ Delivered a invited talk on “Classroom to Corporate” for the 1<sup>st</sup> year students of BE as a part of the induction program conducted on 19/05/2021 at RLJIT Doddaballapur.
- ❖ Delivered a invited talk on “Evolution in engineering arena” at at Cambridge Institute of Technology Bangalore on 20/12/2021.
- ❖ Delivered a invited talk on “Classroom to Corporate” for the 1<sup>st</sup> year students of BE as a part of the induction program conducted on 05/01/2022 at RLJIT Doddaballapur.
- ❖ Delivered a invited talk on “Importance of Education ” for the 10<sup>th</sup> standard students at Basetihalli Government high school doddaballapur Tq on 26/01/2022 .
- ❖ Delivered an invited talk on “Importance of Education in life ” for the polytechnic students at RLJP, doddaballapur on 15/07/2022 .
- ❖ Delivered an invited talk on “Evolution in engineering arena and class room to corporate ” for the 1<sup>st</sup> and 2<sup>nd</sup> PU at SDUPUC doddaballapur on 03/08/2022 .
- ❖ Delivered an invited talk on “Importance of Education” on 01/11/2022 at Konagatta PU College doddaballapur Tq.
- ❖ Delivered an invited talk on “Evolution in engineering arena and Leadership Qualities ”  
for 2<sup>nd</sup> ,3<sup>rd</sup> , and 4<sup>th</sup> year students of Mechanical Engineering on 16/11/2022 at Atria Institute of Technology bangalore.
- ❖ Delivered an invited talk on “Evolution in engineering arena and Leadership Qualities ”  
for 2<sup>nd</sup> ,3<sup>rd</sup> , and 4<sup>th</sup> year students of Mechanical Engineering on 20/12/2022 at KNSIT bangalore.
- ❖ Delivered an invited talk on “How to Face Examination ” on 10/03/2023 at Kadathipuru Govt High School . doddaballapur Tq.

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**FDP/WORKSHOP ATTENDED:**

- One Day workshop on “**NI-Lab View and Applications**” at R L Jalappa Institute of Technology, Doddaballapur, Bangalore held during 6<sup>th</sup> February 2017.
- one week workshop on research methodology conducted by VTU human resource development centre (VTU-HRDC) Vtu centre for post graduate studies bangalore region muddenahalli,chikkaballapur – 562101 on 30<sup>th</sup> july to 4<sup>th</sup> august 2018.
- An Invited Technical talk on “**Evolution In Engineering Arena**” by Dr. BATLURI TILAK CHANDRA, Professor Department of Mechnical Engineering, Sri Siddhartha Institute of Technology, Tumkur held at Mechanical Department, R L Jalappa Institute of Technology, Doddaballapur on 18th February 2019.

- TEQIP 1.3 sponsored Three Days Workshop on “**Realistic approach to wear Mechanism and Measurements**” at Cambridge Institute of Technology, Bangalore held during 21<sup>st</sup> to 23<sup>rd</sup> September 2019.
- The Institution of Engineers (India) sponsored Two days all india seminar on Application of “**Green Manufacturing Technology in Mechanical Processing**” (AGMTMP-2019) at R L Jalappa Institute of Technology, Doddaballapur held during 13<sup>th</sup> to 14<sup>th</sup> September 2019.
- One week online Faculty Development Programme (FDP) on “**Mechanical Engineering Virtual Labs**” at Nagarjuna College of Engineering and Technology in association with **Virtual Labs, NITK, Suratkal** held during 6<sup>th</sup> to 13<sup>th</sup> May 2020.
- One week Faculty Development Programme (FDP) on “**Materials and Its Characterizations**” at Acharya Institute of Technology, Bangalore held during 22<sup>nd</sup> to 26<sup>th</sup> June 2020.
- One week National level Faculty Development Programme (FDP) on “**Research Methodology and LaTeX with Hands-on**” at SVCE, Bangalore held during 6<sup>th</sup> July to 11<sup>th</sup> July 2020
- Five Days Faculty Development Programme (FDP) on “**Recent Advances in Smart Materials for Sensors and Energy Applications**” at BMS Institute of Technology and Management held during 6<sup>th</sup> to 10<sup>th</sup> July 2020
- One week Faculty Development Programme (FDP) on “**Research Proposal Writing and Opportunities in the field of Science, Engineering and management**” at Bangalore Institute of Technology, Bangalore held during 6<sup>th</sup> to 11<sup>th</sup> July 2020
- Five Days Virtual Faculty Development Programme (FDP) on “**Agile Methodology**” at REVA University, Bangalore held during 14<sup>th</sup> to 18<sup>th</sup> July 2020
- Five Days National level Faculty Development Programme (FDP) on “**Finite Element Analysis Practice and MATLAB**” at Tontadarya College of Engineering, Gadag held during 13<sup>th</sup> to 17<sup>th</sup> July 2020
- One week Faculty Development Programme (FDP) on “**Recent Advances and trends in Mechanical Engineering and Material Science**” at K.S. Institute of Technology, Bangalore held during 27<sup>th</sup> to 31<sup>st</sup> July 2020
- Five Days Faculty Development Programme (FDP) on “**Advancements and Futuristic Trends in Materials and Mechanical Engineering**” at Bangalore Institute of Technology Bangalore held during 27<sup>th</sup> to 31<sup>st</sup> July
- Five Days Virtual Faculty Development Programme (FDP) on “**Materials Processing & Characterization: Current Perspectives**” at Bangalore Institute of Technology, Bangalore held during 31<sup>st</sup> August to 4<sup>th</sup> September 2020.
- Five Days Faculty Development Programme (FDP) on “**IP Rights and Patenting**” at Nitte Meenakshi Institute of Technology, Bangalore held during 5<sup>th</sup> to 10<sup>th</sup> October 2020.



- One Day webinar on “**Millennial Gurus**” at Nagarjuna College of Engineering and Technology, Bangalore held during 21<sup>th</sup> May 2020
- One Day webinar on “**Continuous Improvement and Effective leadership**” at R L Jalappa Institute of Technology, Bangalore held during 24<sup>th</sup> May 2020
- One Week webinar on “**Industry 4.0**” at Nagarjuna College of Engineering and Technology, Bangalore held during 8<sup>th</sup> June to 12<sup>th</sup> June 2020
- One Day Workshop on “**Virtual Labs**” at Sri Venkateshwara College of Engineering, Bangalore held during 2<sup>nd</sup> June 2020
- One week Workshop on “**Materials Characterization using DMA**” at Acharya Institute of Technology ,Bangalore held during 6<sup>th</sup> to 10<sup>th</sup> July
- Five Days Online Workshop on “**Thermal Characterization Techniques and Its Analysis**” at Acharya Institute of Technology, Bangalore held during 22<sup>nd</sup> to 26<sup>th</sup> July 2020.
- One day webinar on “interrogation in MEMS,NEMS,and Nanotechnology” held on 05 june 2020 at cambridge institute of technology bangalore.
- one day national webinar on “stock waves and its applications”by IQAC,GFDC & PG Centre ,chinatamani held on 08<sup>th</sup> june 2020.
- One day webinar on “IOT Simulation using tinkerCAD” held on 09 june 2020 at cambridge institute of technology bangalore.
- One day webinar on “Glimpse on Nanotechnology” held on 05 june 2020 at cambridge institute of technology bangalore.
- one day webinar on “Agile Teaching-Learning Methods Mapping the changing scenarios” organized by institutional quality assurance cell (IQAC) on june 6<sup>th</sup> ,2020.
- one day webinar on” polymer composite –tribology testing methods “ organized by department of mechanical engineering sai vidya institute of technology bangalore held on 23<sup>rd</sup> july 2020.
- one day workshop on “ continuous improvement and effective leadership “ on 28/07/2020 organized by dept of me Islamiah institute of technology bangalore.
- three days webinar on “Recent advances in composite materials and its applications” held on 27 july to 29<sup>th</sup> july 2020 at cambridge institute of technology bangalore.
- one day webinar “ Risk management in institute & industries” by dept of me SVCE bangalore on 05/08/2020.
- one day webinar “awereness on IPR for new business GOI ,” by dept of me SVCE bangalore on 06/08/2020.
- One day webinar on “ Teaching Methodologies “ by Sky leadership foundation on ,05/09/2020.

- Attended TEQIP-III Sponsored one week faculty development programme (FDP) on concepts and applications of composite materials, on 23<sup>rd</sup> to 27<sup>th</sup> February 2021. organized b department of mechanical engineering IGIT, Sarang Dhenkanal-759146,Odisha.
- Attended one 5days faculty development programme (FDP) “Modern Trends in Engineering Technology”, on 4<sup>th</sup> to 8<sup>th</sup> june 2021.organized b department of mechanical engineering HKBK, College of engineering Bangalore.
- one day workshop on “ Sources of Research Grants and Art of Writing a Research Paper “ on 03/06/2021 organized by dept of ME R L Jalappa Institute Of Technology Bangalore
- One week Faculty Development Programme (FDP) on “**Advances in Manufacturing (AIM-2021)**” organized by Dept of ME bit Sringri,Dhanbad in collaboration with TEQIP –III from 15<sup>th</sup> June to 19<sup>th</sup> June 2021.
- one day workshop on “ sustainable manufacturing“ on 05/04/2022 organized by dept of ME ,NSCET ,Vadapudupatti,annanji,Theni,in association with ISTE.
- Attended one day webinar “Advances in Tribology” by department of ME ,the assam kaziranga university on 23<sup>rd</sup> may ,2022.

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**CONFERENCE/FDP/WORKSHOP CONDUCTED:**

1. Convener for one day workshop organized by department of ME on “**Sources of Research Grants and Art of Writing a Research Paper**” on 03/06/2021.
2. Convener for one day workshop organized by department of ME on “**EVOLUTION IN ENGINEERING ARENA**” on 18/02/2019.
3. Coordinator for one day workshop organized by department of ME on “**Intellectual Property Rights and Innovations/Patents in Engineering**” on 21/10/2022

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**UNIVERSITY RESPONSIBILITIES:**

- ❖ External Deputy Chief Superintendent.

- ❖ Internal Deputy Chief Superintendent.
  - ❖ Valuator for university examination.
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#### **OTHER RESPONSIBILITIES:**

- ❖ COLLEGE LEVEL: Student Welfare Officer, General Secretary Alumni Association , Cultural Coordinator, Member of e- suddi (News letters of RLJIT ), NAAC Coordinator.
  - ❖ DEPARTMENT LEVEL: Project Coordinator, class coordinator, NAAC Coordinator, LG Coordinator, FDP coordinator.
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#### **PROFESSIONAL MEMBERSHIPS:**

1. Life time member, Associate Member of Institution of Engineers, India (AMIE).
  2. Life time member (MISTE).
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#### **HONORS/AWARDS:**

- Awarded two times “ACADEMIC EXCELLENCE” for given 100% Result in MSEC.
  - Got best faculty award in 2012 at M S Engineering College.
  - Got topper award in M Tech 1<sup>st</sup> SEM.
  - Got 9 best teacher awards at different association in Doddaballapur.
  - Got more number of honors, for my achievement in different arena.
  - Got best teacher district award in 2019.
  - Dr. Abdul Kalam National award Gold Medal for Excellence in different arena.
  - Got best young scientist award from novel research academy on 1<sup>st</sup> march 2021.
  - Got eminent personality award in the field of environmental impact on 26/01/2023 at republic day parade at doddaballapur by government of Karnataka through taluk administration.
  - Received narishakthi award for my overall achievements in different platform from muthyalamma karasanga on 12/03/2023.
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#### **OTHER SIGNIFICANT ACHIEVEMENTS (if any):**

- ❖ Presented more than 850 motivational talks at different schools and colleges.
- ❖ Founder of challengers youth forum association .
- ❖ Editor for IJSTEM an international journal.
- ❖ CEO and founder Sky leadership Foundation.
- ❖ Director for Deeksha Academy.

❖ General Manager for G Rajeswari Industries.

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**CONTACT DETAILS:**

**Dr.Sunil Kumar K,  
S/o Krishna Murthy D M,  
#258 ,Mylaralingeswara nilaya ,  
mukthambika nagara 1<sup>st</sup> cross  
doddaballapur-561203  
Ph:7019962016**