

WELCOME TO NAAC PEER TEAM



**Department of Metallurgical Engineering
AU College of Engineering
Andhra University - Visakhapatnam**



DEPARTMENT OF METALLURGICAL ENGINEERING



DEPARTMENT PROFILE :



1. This department is a 42 years old; It was established in the year 1981 to cater the needs of Visakhapatnam Steel Plant, Visakhapatnam.
2. This is the only department in entire Andhra Pradesh offering: B. Tech, M. Tech and Ph. D in Metallurgical Engg.
 - Department is accredited by National Board of Accreditation (NBA) for both UG and PG programs for 5 years.
 - Highly demand and most preferring Department with >95% campus placement in Core Industries.
3. Industry-Institute- Interaction & Collaboration
 - Major Industries:
 - Visakhapatnam Steel Plant, Visakhapatnam: Joint Research Projects:
 - Research results implemented in their captive foundry for replacement of Moulding Sand with their Blast Furnace Slag.
 - Jindal Steel Works (JSW), Bellary: Students Internships
 - Major recruitment from this department (29 students out of 33 in 2022-23).
 - Research Laboratories
 - DMRL- Hyderabad : Joint research projects since 20 years and Joint Research with Ph. D students.
 - Dept. has contributed to design and developments of welds of various steels and Aluminium alloys which are crucial in defence related applications such as Missiles, Armor tanks, Torpedoes, Ship hulls and Aero space Industry.
 - National Metallurgical Laboratory (NML)- Jamshedpur, IGCAR- Kalpakkam and ARCI- Hyderabad for Students Internships and project works.

4. Research Aspects

- Research Projects Completed : 24 with a worth of grants received: Rs.4.14 Cr.
 - For the Last 5 Years (2017-22): Research Projects Completed : 4 Total Grants received: Rs.58.0 lakhs
 - Total number of Journal papers published: 167 (Department H Index :11)
 - Publications for the last five years (2017-2022) : 60
- Research Areas : 02
 - 1. Corrosion & Welding studies
 - 2. Industrial Solid waste utilization, Metal Casting & Nano Composites



5. Alumni contribution in International and National:

1 Prof. Seeram Rama krishna- Vice President- NUS Singapore

2 Prof Rama Murthy Upadrashta- IISc- Bangalore
(Alumnus 1985 - 89) received the prestigious Shanthi Swarup Bhatnagar award for the year 2011.

3 Dr. Sree Harsha Lalam, Vice President and Principle Tech. development Engineer, Atkore

4 Sri. M. Venkata Rao, Entrepreneur - Fenix Process Technologies, Pune- 100 crores turn over

5 Dr. SVS Narayana Murthy - Head, Materials group, VSSC-ISRO - Trivandrum - Involved in Design and Manufacturing of Rover and Lander of Recently launched Chandrayan III project.

6 Many more Alumni's are working in Industries, Research and Academic Institutions in Abroad and India as GMs, Scientists and Faculties (IITs, NITs) at various capacities.



Sree Harsha L. - 2nd
Principal Technology Development Engineer



Narayana Murthy SVS
General Manager, Liquid Propulsion



OVER VIEW

- Vision & Mission
- Department Profile/History/Achievement
- Teaching & learning
- Research, Innovation and Extensions
- Curricular Aspects
- Infrastructure and learning resources
- Students support and Progression
- Governance, leadership and Management
- Institutional values and best practices
- Progressive Plan



Vision & Mission



VISION: Undertake quality related:

- Teaching, Research studies, Consultancy and Training programmes.

MISSION:

- Foster global competencies among students and inculcate value system in them.
- Department Vision and Mission is aligned with the Andhra University Vision and Mission



- **QUALITY POLICY:**
- The Andhra University is committed to achieving excellence in teaching, research & consultancy
 - by imparting globally focused education
 - by creating world class professionals
 - by establishing synergic relationships with industry and society
 - by developing state of art infrastructure and well-endowed faculty
 - by imparting knowledge through team work and incessant efforts.

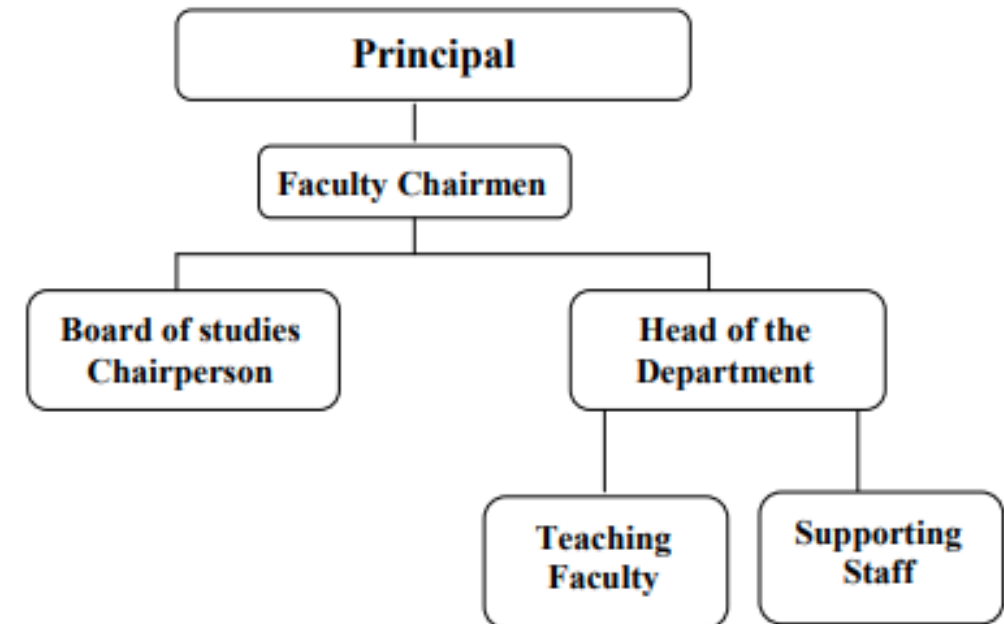
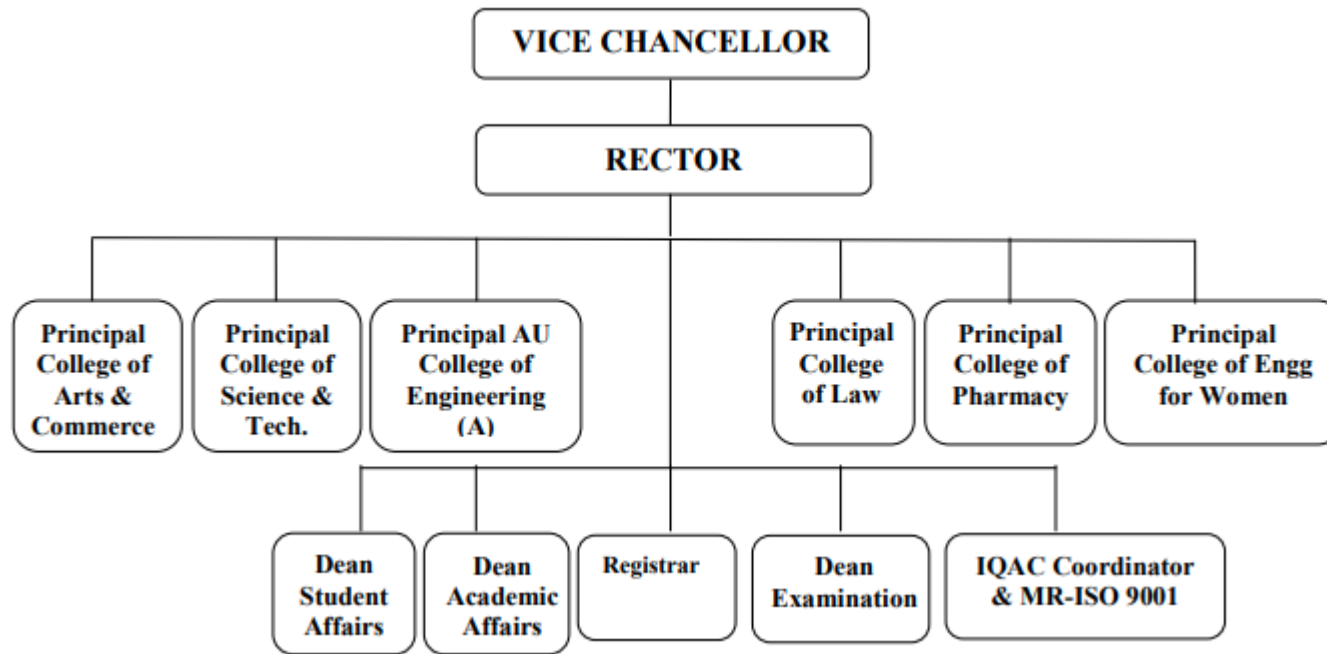
List of Programmes offered

S. No	Title of the Programme	Level (UG, PG, PhD)	Duration (Years)	Year of starting	AICTE Sanctioned Annual Intake	Total Student strength
1	B. Tech. (Metallurgical Engineering)	UG	4	1981	30	30
2	M. Tech (Industrial Metallurgy)	PG	2	2007	18	18
3	Ph. D (Met. Engg.)	Ph D				6 Full time & 12 Part Time

Teaching, Learning and Evaluation



AU Organization Chart



Teaching, Learning and Evaluation Faculty Profile (2017-22) Students faculty ratio (SFR): 15

S. No	Name of the Faculty	Designation	Qualifications	Experience
1	<u>Prof. NBR Mohana Rao</u>	Professor	Ph. D	36 years
2	<u>Prof. K. Srinivasa Rao</u>	Professor & Chairman, BOS	Ph. D	31 years
3	<u>Prof. Babu Rao Jinugu</u>	Professor & HOD	Ph. D	28 years
4	Dr. Ch. Venkata Rao	Assistant Professor	Ph. D	15 years
5	Er. N. Srinivasa Rao	Ex. Director, Visakhapatnam Steel Plant & Professor of Practice	M. Tech	35 years
6	Dr. G. Madhusudhana Reddy	Ex. Director, DMRL - Hyderabad & Honorary Professor	Ph. D	35 years
7	Dr. N. Eswara Prasad	Ex. Director, - DMSRDE- DRDO, Kanpur & AICTE INAE Professor	Ph. D	35 years
8	Dr. I. Narasimha Murthy	Faculty on Contract	Ph. D	5 years
9	Dr. Y. Ravikanth	Faculty on Contract	Ph. D	5 years
10	Dr. G. Siva Prasad	Faculty on Contract	Ph. D	5 years
11	Dr. Badari Srinivas	Faculty on Contract	Ph. D	5 years
12	Mr. Kishore Chandra Mouli	Faculty on Contract	M. Tech	5 years
13	Mr. S. Nagappa	Faculty on Contract	M. Tech	5 years
14	Ms. B. Lakshmi Saranya	Faculty on Contract	M. Tech	5 years
15	Mr. J. Jagadish	Faculty on Contract	M. Tech	5 years



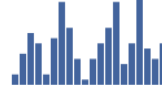
Vidwan-ID : 230768

Edit Profile

Prof Srinivasa Rao Kotipalli

Professor
Andhra University

Publications 2002 - 2021



Publications

70 Journal Articles | 92 Conference Proceedings | 9 Projects | 2 | 18

Citations / H-Index



392
CITATIONS



9
H-INDEX



551
CITATIONS

Profile

- Personal Information
- Expertise Information
- Experience
- Education Qualification
- Honours and Awards
- Doctoral Theses



Vidwan-ID : 244185

Edit Profile

Dr Dr.Chilaka Venkata Rao

Assistant Professor
Andhra University

Publications 2015 - 2019



Publications

5 Journal Articles | 1 Conference Proceedings

Citations / H-Index



144
CITATIONS



3
H-INDEX



193
CITATIONS

Profile

- Personal Information
- Expertise Information
- Experience
- Education Qualification
- Professional Bodies
- Publications



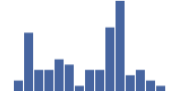
Vidwan-ID : 223418

Edit Profile

Prof Babu Rao Jinugu

Head of the Department
Andhra University

Publications 2007 - 2023



Publications

64 Journal Articles | 21 Conference Proceedings | 10 Projects

Citations / H-Index



358
CITATIONS



9
H-INDEX



363
CITATIONS

Profile

- Personal Information
- Expertise Information
- Experience
- Education Qualification
- Honours and Awards
- Doctoral Theses
- Professional Bodies

Type here to search





G. Madhusudhan Reddy

B.Tech (Mechanical Engineering), M.E (Welding Engineering), Ph.D (Metallurgical Engineering)

About

Publications **341**

Network

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About

341

Publications

101,949

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8,993

Citations

Introduction

Skills and Expertise

Materials Engineering

Manufacturing Engineering

Mechanical Engineering

Aluminum Alloys

Mechanical Properties

Citations since 2017



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Dr. NAMBURI ESWARA PRASAD

[FOLLOW](#)

Former Outstanding Scientist / Sc. H of DRDP and Ex-Director, DMSRDE, [DRDO](#), Kanpur

Verified email at dmsrde.drdo.in

[Engineering Materials](#) [Mechanical Behavior](#) [Fatigue and Fracture](#) [Life Extension](#)

TITLE

CITED BY

YEAR

[Aluminum-lithium alloys: processing, properties, and applications](#)

NE Prasad, A Gokhale, RJH Wanhill
Butterworth-Heinemann

300

2013

[Aluminium alloys for aerospace applications](#)

P Rambabu, N Eswara Prasad, VV Kutumbarao, RJH Wanhill
Aerospace Materials and Material Technologies: Volume 1: Aerospace Materials ...

267

2017

[Aerospace materials and material technologies](#)

NE Prasad, RJH Wanhill
Springer 1, 29-52

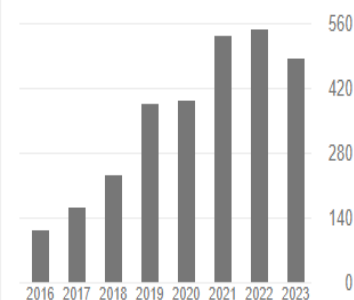
239

2017

Cited by

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	All	Since 2018
Citations	3522	2580
h-index	28	22
i10-index	94	67



S. No	Name of the Faculty	Designation
1	Prof. NBR Mohan Rao	<ul style="list-style-type: none"> Former - Chairman, BOS, Met Engg. Former - Asst. Principal, AUCE Former - Coordinator- TEQIP-1 Former - Registrar, Adikavi Nannayya University- Rajahmundry Former - Coordinator -Planning & Monitoring, AU, Vice Chairman, APSFRMC- Vijayawada
2	Prof. K. Srinivasa Rao	<ul style="list-style-type: none"> Chairman, BOS Anti Ragging Committee Member - AUCE Joint Secretary- Indian Welding Society (IWS)- Vizag Chapter
3	Prof. Babu Rao Jinugu	<ul style="list-style-type: none"> Head of the Department Former- Chief Warden- AU Engg. College Hostels Vice- Chairman- IIM - Vizag Chapter
4	Dr. Ch. Venkata Rao	<ul style="list-style-type: none"> Anti Ragging Committee Member - AUCE
5	Er. N. Srinivasa Rao	<ul style="list-style-type: none"> Ex. Director, Visakhapatnam Steel Plant & Professor of Practice
6	Dr. G. Madhusudhana Reddy	<ul style="list-style-type: none"> Ex. Director, DMRL - Hyderabad & Honorary Professor
7	Dr. N. Eswara Prasad	<ul style="list-style-type: none"> Ex. Director, - DMSRDE- DRDO, Kanpur & AICTE INAE Professor



- **Recognitions received by teachers:.**

- **Prof. K. Srinivasa Rao**

- Best Ph. D thesis award at IIT Madras
- Young scientist fellowship of APCOST
- Best paper award at ICRAMMCE 2017
- Venus wires Award-IC2017, Chennai
- I.T. Mirchandani Memorial Research Award -2017 for best Research paper
- International Welding Technologist awarded by International Institute of Welding

- **Prof. Babu Rao Jinugu**

- Young Scientist - SERC Fast Track scheme by DST - New Delhi
- Young Teacher - Career Award by AICTE - New Delhi
- Best paper award at AMALGAM at IIT Madras, Tamil Nadu.
- Certificate of Merit - AU Research Forum, Andhra University, for delivering an expert talk on Nano Composites, at Andhra University, Visakhapatnam, India

Research, Innovations and Extensions (Contd.): Faculty Achievements



Research Projects Completed : 24

- Total Research Grants received: Rs.4.14 Cr.
 - Prof. NBR Mohana Rao - 6 no. (1.0 Cr.)
 - Prof. K. Srinivasa Rao - 9 no. (2.11 Cr)
 - Prof. Babu Rao Jinugu - 9 no. (1.03 Cr)
- For the Last 5 Years (2017-22):
 - Research Projects Completed : 4
 - Total Research Grants received: Rs.58.0 lakhs

Prof. NBR Mohana Rao- 6 no. (1.0 Cr)

S No	Title	Duration	Amount Rs lakhs	Agency	Status	Director
1	Production of Al strips by continuous casting using rheological techniques	1988-91	5.0	MHRD New Delhi	Completed	Prof NBR
2	Metal-metal composites: An innovative way for multiple strengthening.	1999-02	7.5	AICTE New Delhi	Completed	Prof NBR
3	High strain rate deformation of ship steels	2001-03	3.5	NSTL Visakhapatnam	Completed	Prof NBR
4	Studies on On-board structures and development of composite materials	2003-05	14.5	NSTL Visakhapatnam	Completed	Prof NBR
5	Studies on Foundation structures and development of composite materials	2005-07	19.0	NSTL Visakhapatnam	Completed	Prof NBR
6	Optimization studies of Foundation structures and development of composite materials	2007-10	24.0	NSTL Visakhapatnam	Completed	Prof NBR

Prof. K. Srinivasa Rao - 9 no. (2.11 Cr)

S.No.	Name of Agency	Title of project	Total Amount (In Lakhs)	Period of support
1	Naval Research Board, New Delhi	Improvement of Corrosion resistance of Aluminum alloy welds	29.006	2007-2010
2	DRDO-ERIP	Stress corrosion cracking of Maraging steel and its welds	33.00	2008-2011
3	AR&DB	Corrosion of Friction stir Aluminium Alloy welds	20.337	2009-2012
4	ARMREB	Enhancement of ballistic performance of Armour grade Aluminium alloys by PTA Hardfacing	21.043	2010-2013
5	Naval Research Board, New Delhi Joint project with IIT-Madras	Surfacing of DMR 249A steel with austenitic stainless steel by cold metal transfer process (Joint project)	5.06	2012-2014
6	DRDO-ERIP	Friction stir processing of cast Aluminium alloys	34.57	2012-2015
7	Naval Research Board, New Delhi	Stress corrosion cracking of DMR-249 steel and its welds	24.44	2012-2015
8	DRDO-ERIP	Corrosion Behaviour of High nitrogen steel and its welds	33.96	2015-2018
9	TEQIP-AU	Development of Nickel/Nanocomposite surface coatings using electrodeposition technique for automobile applications	5.007	Jan 2021 - March 2022

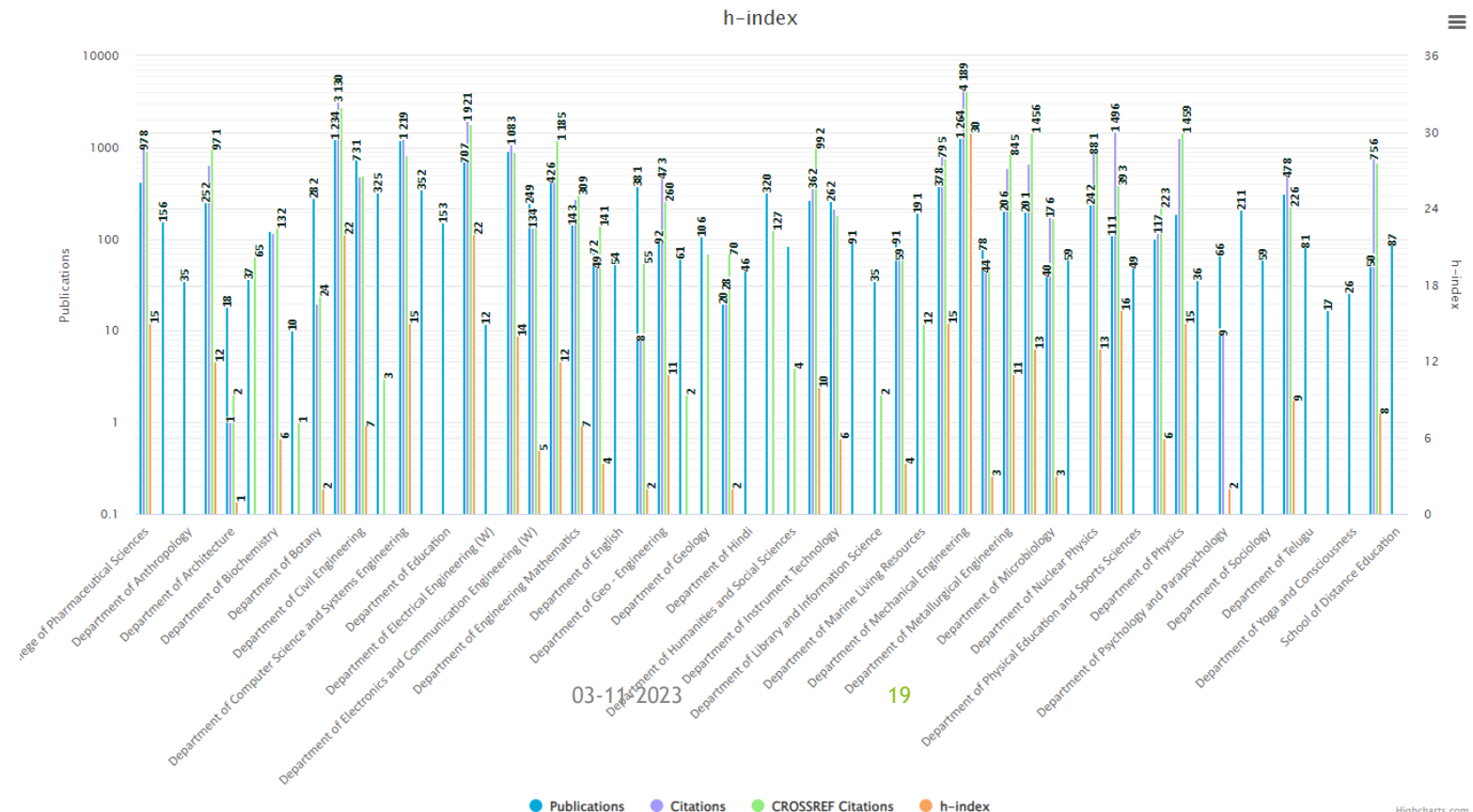
Prof. Babu Rao Jinugu - 9 no. (1.03 Cr)

S No	Name of the funding Agency	Name of the Scheme	Project Title	Year of sanction of grant	Duration	Amount Sanctioned	Status (Completed/ Ongoing)
1	AU Nano Center	Nano research seed project	Development of High entropy particulates reinforced AA7075 nano composites	2021	Two months (Feb - March 2021)	Rs.3.0 lakhs	Project Completed
2	AICTE New Delhi	Research Promotion Scheme	Development of High performance A356 Aluminium - Alumina Nano Composites for automobile Industry	2013 File No:20/AICTE/RIFD/RPS (Policy-II) 2012-13	3 Years (2013-2016)	Rs. 16.0 lakhs	Project Completed
3	DST New Delhi	Fly Ash Unit	Studies o suitability of Industrial waste of fly ash for foundry applications	2013 No. FAU / DST / 600 (52) / 2012-13	2 years 2013-15	Rs. 24.30 lakhs	Project Completed
4	DST New Delhi	SERC Fast Track Scheme for Young Scientists	Development of Eco friendly nano grained solders for electronic applications	2011 File No. SR/FTP/ETA-104/2010	3 Years (2011-2014)	Rs.23.76 lakhs	Project Completed
5	DST New Delhi	DST-PURSE Programme	Development of Eco-friendly high strength Nano Composite Solders for Electronic Industry	2011 No. A.V (5) /DST/Purse Programme / 2009; Dt.03-11-2011	2 Years (2011-2013)	Rs.3.70 lakhs	Project Completed
6	RINL Visakhapatnam Steel Plant, Visakhapatnam	Industry - Institute Interaction	Utilization of Industrial waste of RINL Blast Furnace slag for foundry applications	2011 File No. MOU/AU - VSP/1/2011	1 year (2011-2012)	Rs.9.0 lakhs	Project Completed
7	UGC New Delhi	Major Research Project	Synthesis and Characterization of Al-Fly Ash Nano Composites	2008 File No:34 -396/2008 (SR)	3 Years (2009-2012)	Rs 11.68 lakhs	Project Completed
8	AICTE New Delhi	Career Award for Young Teacher	Studies on flow behaviour of Al, Al-Cu and Al-Cu-Mg alloys using vision systems during cold upsetting	2007 (File No:1-51/FD/CA/(19)2006-2007	3 Years (2007-2010)	Rs 10.50 lakhs	Project completed
9	UGC New Delhi	Minor Research Project	Multiple strengthening of Al-Cu alloys-An Innovative way	2000 File No. U4 / 1682000 / 2000-2001 dt 07-03-2001	1 Year (2000-2001)	Rs 1.5 lakhs	Project completed

Research, Innovations and Extensions (Contd.): Faculty Achievements

1. Total number of Journal papers published: 167
2. Publications for the last five years (2017-2022) : 60
 - ▶ International Journals: 50
 - ▶ National Journals: 10
3. Conference papers for the last five years (2017-2022): 24

Department H-index : 11





Original Article

Correlation between SDAS and mechanical properties of Al-Si alloy made in Sand and Slag moulds

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^b Department of Metallurgy & Materials Engineering, AFJ Abdul Karim IIT Ongole, RGUKT-AP, India

ARTICLE INFO

Article history:
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Keywords:

CO₂ process
 silica sand
 GBF slag
 Fe-Cr slag
 A356 alloy

ABSTRACT

Investigations have been carried out to evaluate the correlations between microstructure and mechanical properties of cast products made by Ferro chrome (Fe-Cr) slag and Granulated blast Furnace (GBF) slag moulds in tune with silica sand moulds. A356 alloy castings were performed on all these three moulds with cylindrical pattern. The obtained castings were evaluated for its metallurgical and mechanical properties at as cast and peak ageing conditions. In all the castings, improved mechanical properties were noticed in peak ageing condition; further Fe-Cr slag cast products shows enhanced properties than either GBF slag or silica sand mould cast products. Fe-Cr slag mould cast products shows lower SDAS values than rest of the two moulds. Improved mechanical properties were observed with lower SDAS values. Correlations between individual and combined microstructural features with mechanical properties were established. Improved and reliable correlations were established by considering combined microstructural features.

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1. Introduction

In casting techniques, microstructural parameters, includ-

Journal of Alloys and Compounds 471 (2009) 128–136



Contents lists available at ScienceDirect

Journal of Alloys and Compounds

Journal homepage: www.elsevier.com/locate/jalcom



Deformation behavior of Al–4Cu–2Mg alloy during cold upset forging

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^b GZM College of Engineering, Visakhapatnam 530 065, India

^c RVN College of Engineering, Cuttack 753 019, India

ARTICLE INFO

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Friction
 Metal Forming
 Machine Vision system
 Finite element analysis

ABSTRACT

Upsetting of cylinders is a standard test which determines the ability of material to be forged either in cold or warm worked condition without cracking. In the present work, cylindrical specimens of aluminum–4% copper–2% magnesium alloy are upset between flat platens to study the metal flow at room temperature. Lubrication at the interface of the die/work piece and the specimen aspect ratio (H_0/D_0) are studied as process parameters. Lubrication minimized the barreling of lateral free surface. Microstructural studies reveal the non-uniform deformation within the specimen. This effect is pronounced with high friction and low aspect ratio. Machine Vision system using PC-based video recording with CCD camera is used to study the pre-drawn square grid deformation at the equatorial plane of the specimen. The system is used to measure the axial and circumferential strain components during deformation. Finite element analysis of cold upsetting process is carried out in both dry and lubricated conditions with aspect ratios of 1.0 and 1.5. Rapid-flexible contact analysis is performed for the forming process. When the stress values obtained from finite element analysis are compared to the measurement of grids using the Machine Vision system it is found that they are in close proximity.

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1. Introduction

Copper is one of the most important alloying elements for aluminum, because of its appreciable solubility and strengthening effect. Many commercial alloys contain copper as the major addition or the principal alloying element up to 10%. Most of the commercial alloys contain both copper and magnesium as major additions. The addition of magnesium increases the strength and hardness of the alloys while lowering the ductility and impact resistance. The typical applications of Al–Cu–Mg alloys are aircraft structures, rivets, hardware, truck wheels and screw-machine products [1].

Stresses in most of the metal forming processes, such as cold heading, riveting etc. are compressive in nature. Upset test at room temperature gives a representative behavior during metal forming [2–4]. Friction and lubrication affect the detailed material flow

work piece contact, contributing to longer tool life and better quality control [5–9]. Ring test, developed by Male and Cockcroft [10], has the greatest capability for quantitatively measuring friction under normal processing conditions.

Adoption of a vision system to analyze the flow behavior of materials during upsetting has been proposed in the present work. The advantage of this method is that the experiment need not be intermittently stopped after certain deformation to measure the strains from grid. When the experiment is stopped intermittently, elastic deflections in specimen and tooling may be relieved causing inaccuracies in the next step of deformation. By use of a vision system, the experiment need not be stopped during deformation process. The measurements and analysis can be done offline later. Surface strain data can be used effectively to diagnose production problems, and identify potential failure sites [11]. The non-contact and non-destructive methods can represent a real

J. Sustain. Metall. (2017) 3:495–514

DOI: 10.1007/s40031-016-0111-3

RESEARCH ARTICLE

Granulated Blast Furnace Slag: Potential Sustainable Material for Foundry Applications

I. Narasimha Murthy^a · J. Babu Rao^a

Published online: 29 December 2016

© The Minerals, Metals & Materials Society (TMS) 2016

Abstract Investigations were carried out on the suitability of granulated blast furnace slag as a mold material for either full or partial replacement of existing silica sand in the foundry industry. The sodium silicate–CO₂ process was adopted for evaluating the same. A series of sand tests were performed on silica sand and slag individually and in combination. Three types of molds were prepared with 4 kg and silica sand individually and in combination with 10% sodium silicate and 20 s of CO₂ gassing time. A356 alloy and cast iron castings were performed on these newly developed slag molds. Both laboratory and industrial castings were performed. Results reveal that the mold properties of slag make them a suitable candidate for either partial or full replacement of molding sand. During casting, neither flaking, nor dripping, nor collapse of the mold walls was observed. Castings with good surface finish, no surface defects, and without porosity were made by slag molds.

Keywords Silica sand · GBF slag · CO₂ process · Mold properties · Ferrous and non-ferrous castings

Introduction

Silica sand is traditionally used in the foundry applications as a molding material. Due to the depletion of natural materials, there is a need to find suitable alternative

material, which will replace the conventional materials. The large-scale industrialization has resulted in the accumulation of a huge amount of industrial wastes, endangering the environment in terms of land, air, and water pollution. In order to use the industrial waste in huge quantities, efforts are being made to use the same as a substitute of natural resources. Various efforts have been made to use industrial solid wastes like fly ash, red mud, blast furnace (BF) slag, etc., in civil and construction works.

BF slag is an industrial solid waste generated from the iron and steel industries. More than 10 million tons of BF slag is produced in India annually as a byproduct of the iron and steel industries. Granulated BF (GBF) slag is obtained by quenching molten iron slag (a byproduct of iron making) from a BF in water or steam, to produce a glassy and granular product. This slag is composed of silicates and aluminosilicates of lime and other bases. It has been observed that the produced GBF slag in huge quantities is dumped in the dump yard and then used for laying roads mostly in the plant itself, but this practical purpose is only limited in its consumption of slag. In view of the large quantity of slag availability, having similar physical and chemical properties with silica sand and non-availability of literature on GBF slag usage in foundry industry, the present investigations are focused on evaluating the suitability of GBF slag as an alternative mold material in both ferrous and non-ferrous foundries.

The development of the sodium silicate–CO₂ process of mold making about 30 years ago marked the advent of an epoch-making era in foundry practice [1, 2]. Owing to its superiority, the sodium silicate–CO₂ process was adopted for evaluating the suitability of GBF slag as a mold material for either full or partial replacement of existing silica sand. Percentages of sodium silicate and CO₂ gassing

The contributing editor for this article was I. Sohn.

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International Journal of Minerals, Metallurgy and Materials
 Volume 24, Number 7, July 2017, Page 784
 DOI: 10.1007/s12613-017-1462-x

Evaluation of the microstructure, secondary dendrite arm spacing, and mechanical properties of Al–Si alloy castings made in sand and Fe–Cr slag molds

I. Narasimha Murthy and J. Babu Rao

Department of Metallurgical Engineering, Andhra University, Visakhapatnam 530003, India

(Received: 19 November 2016; revised: 13 January 2017; accepted: 16 January 2017)

Abstract: The microstructure and mechanical properties of as-cast A356 (Al–Si) alloy castings were investigated. A356 alloy was cast into three different molds composed of sand, ferrochrome (Fe–Cr) slag, and a mixture of sand and Fe–Cr. A sodium silicate–CO₂ process was used to make the necessary molds. Cylindrical-shaped castings were prepared. Cast products with no porosity and a good surface finish were achieved in all of the molds. These castings were evaluated for their metallography, secondary dendrite arm spacing (SDAS), and mechanical properties, including hardness, compression, tensile, and impact properties. Furthermore, the tensile and impact samples were analyzed by fractography. The results show that faster heat transfer in the Fe–Cr slag molds than in either the silica sand or mixed molds led to lower SDAS values with a refined microstructure in the products cast in Fe–Cr slag molds. Consistent and enhanced mechanical properties were observed in the slag mold products than in the castings obtained from either sand or mixed molds. The fracture surface of the slag mold castings shows a dimple fracture morphology with a transgranular fracture nature. However, the fracture surfaces of the sand mold castings display brittle fracture. In conclusion, products cast in Fe–Cr slag molds exhibit an improved surface finish and enhanced mechanical properties compared to those of products cast in sand and mixed molds.

Keywords: silica sand; ferrochrome slag; alloy castings; secondary dendrite arm spacing; mechanical properties

1. Introduction

Silica sand is the major molding material used in the foundry industry. Large-scale industrialization and mechanized production methods have led to increased sand consumption, which has resulted in scarcity in the quality and quantity of available sand. The annual global production of silica sand varies. In addition, the production levels differ among countries and continents. The total global silica sand production in 2007 was approximately 122.0 million metric tons. Overall, production and consumption of industrial sand decreased in 2009 because of the global recession that, beginning in 2008, slowed economic activity. The production of silica sand had decreased in 2008 and 2009 to 118.1 and 111.5 million tons, successively [1–3]. Hence, a need exists to identify suitable alternatives for silica sand in foundry applications.

Industrial wastes and by-products are often undesired materials formed during the processing of raw materials for industrial or other useful endeavors. Many of these materials, if not properly handled, can be harmful and/or strenuous to the environment. These industrial by-product materials, which include slags, ashes, mineral products, and metals, are much more homogeneous than municipal wastes, thus making them strong candidates for beneficial re-use in other applications [4]. The Fe–Cr slag is an industrial solid waste generated by ferro alloy plants. Globally, it is produced in annual quantities of approximately 6.5 to 9.5 million tons, and this amount is likely to increase by 2.8% to 3%. The Fe–Cr slag has physical and chemical properties similar to those of silica sand and is also readily available as an industrial waste with large quantities [5–6]. Hence, investigations on methods to replace silica sand either fully or partially with Fe–Cr slag as a mold material are currently underway.

Corresponding author: J. Babu Rao. E-mail: baburaojinugu@gmail.com

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Contents lists available at ScienceDirect

Materials Today Communications

journal homepage: www.elsevier.com/locate/mtcomm

The effect of microstructure on corrosion behaviour and mechanical properties of friction stir welds of AA2519 and AA2219 Al-alloys

G. Siva Prasad^{a,*}, K. Srinivasa Rao^a, G. Madhusudhan Reddy^b^a Department of Metallurgical Engineering, Andhra University, Visakhapatnam, India^b Defence Metallurgical Research Laboratory, Hyderabad, India

ARTICLE INFO

Keywords:

FSW

Ballistic resistance

ABSTRACT

The highly weldable AA2219 Al-Cu alloy has been amended as AA2519 Al-Alloy to increase its ballistic resistance. Despite the fact that the mechanical properties of friction stir (FS) welds are improved, corrosion resistance

Chemical Data Collections 42 (2022) 100940



Contents lists available at ScienceDirect

Chemical Data Collections

journal homepage: www.elsevier.com/locate/cdc

Data Article

Influence of heat treatments on corrosion behavior of Ti64 friction welds

K. Sri Ram Vikas^{a,e,*}, Rahul^b, V.S.N. Venkata Ramana^c, G. Madhusudan Reddy^d, K. Srinivasa Rao^e^a Department of Mechanical Engineering, Prasad V. Potluri Siddhartha Institute of Technology, Vijayawada, 520007, Andhra Pradesh, India^b Department of Mechanical Engineering, Chaitanya Bharathi Institute of Technology(A), Gandipet, Hyderabad, 500075, Telangana, India^c Department of Mechanical Engineering, GITAM (Deemed to be University), Visakhapatnam 530045, Andhra Pradesh, India^d Defence Metallurgical Research Laboratory, Hyderabad, 500058, India^e Department of Metallurgical Engineering, Andhra University, Visakhapatnam, 530003, Andhra Pradesh, India

ARTICLE INFO

Keywords:

Heat treatment

Corrosion behavior

ABSTRACT

In this present investigation, rotary friction welding has been used to join Ti64 rods. Different heat treatments namely α - β and β with stress-relieving (SR) were carried out before welding. After

NAAC Visit 2023



Contents lists available at ScienceDirect

Defence Technology

journal homepage: www.elsevier.com/locate/dt

Welding of nickel free high nitrogen stainless steel: Microstructure and mechanical properties

Raffi Mohammed^a, G. Madhusudhan Reddy^b, K. Srinivasa Rao^{a,*}^a Department of Metallurgical Engineering, Andhra University, Visakhapatnam, India^b Defence Metallurgical Research Laboratory, Hyderabad, India

ARTICLE INFO

Article history:

Received 29 April 2016

Received in revised form 6 June 2016

ABSTRACT

High nitrogen stainless steel (HNS) is a nickel free austenitic stainless steel that is used as a structural component in defence applications for manufacturing battle tanks as a replacement of the existing ar-

Chemical Data Collections 43 (2023) 100978



Contents lists available at ScienceDirect

Chemical Data Collections

journal homepage: www.elsevier.com/locate/cdc

Data Article

Optimization of welding parameters and study on mechanical and pitting corrosion behavior of dissimilar stainless steel GTA welds

Anil Kumar Peethala^{a,*}, Balaji Naik D^b, Srinivasa Rao. K^a, Rambabu G^c^a Metallurgical Engineering, Andhra University, Visakhapatnam 530003, India^b Universal College of Engineering & Technology, Dokiparru, Guntur 521332, India^c Mechanical Engineering, Andhra University, Visakhapatnam 530003, India

ARTICLE INFO

Keywords:

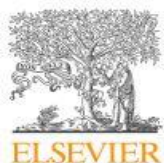
Stainless steels

ABSTRACT

The present study aims to determine the effect of filler wire on mechanical properties and pitting corrosion behavior by comparing the microstructures of dissimilar stainless steel gas tungsten arc

03-11-2023

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Microwave-assisted preparation of magnetic ternary core-shell nanofiller (CoFe₂O₄/rGO/SiO₂) and their epoxy nanocomposite for microwave absorption properties

Rimpa Jaiswal^a, Kavita Agarwal^{a,*}, Vivek Pratap^b, Amit Soni^a, Subodh Kumar^a, Kingsuk Mukhopadhyay^a, N. Eswara Prasad^a

^a Defence Materials and Stores Research and Development Establishment, Kanpur 208 013, India

^b Department of Physics, Jamia Millia Islamia, New Delhi 110025, India



ARTICLE INFO

Keywords:
Ternary core-shell nanofiller

ABSTRACT

A novel type microwave absorbing ternary core-shell nanofiller (CoFe₂O₄/rGO/SiO₂) was prepared *in-situ* via microwave synthesizer. The prepared ternary core-shell nanofiller was incorporated in the epoxy matrix with the



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Preparation of TiO₂–SiO₂ Hybrid Nanosols Coated Flame-Retardant Polyester Fabric Possessing Dual Contradictory Characteristics of Superhydrophobicity and Self Cleaning Ability

Priyanka Katiyar*, Shraddha Mishra, Anurag Srivastava, and N. Eswara Prasad

Defence Materials and Stores Research & Development Establishment, G T Road, Kanpur 208013, India
NAAC VISIT 2023

TiO₂, SiO₂ and their hybrid nanocoatings are prepared on inherent flame retardant textile substrates from titanium(IV) iso-propoxide (TTIP) and tetraethoxysilane (TEOS) precursors using a sol-

Article

Journal of
Nanoscience and Nanotechnology
Vol. 20, 1780–1789, 2020
www.aspbs.com/jnn



Fabrication of 2D C/C–SiC composites using PIP based hybrid process and investigation of mechanical properties degradation under cyclic heating

Suresh Kumar^a, Bablu M., Ashok Ranjan, L.M. Manocha, N. Eswara Prasad

Directorate of Ceramics and CMCs, DMSRDE, Kanpur 208013, India



ARTICLE INFO

Keywords:
PIP process, C/C–SiC composites (CMCs)

ABSTRACT

2D C/C–SiC composites were fabricated using PIP process by repeated impregnations of porous C/C composite preforms with polycarbosilane followed by pyrolysis. Effect of cyclic heating on flexural and shear strength of

Journal of ELECTRONIC MATERIALS, Vol. 49, No. 3, 2020
<https://doi.org/10.1007/s11664-019-07922-z>
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Development of SrFe₁₂O₁₉/Ti₃SiC₂ Composites for Enhanced Microwave Absorption

AVESH GARG,^{1,2} SHIVANSHU GOEL,^{1,2} NEELAM KUMARI,^{1,2} ASHISH DUBEY,³ N. ESWARA PRASAD,³ and SACHIN TYAGI^{1,2,4,5}

1.—Department of Ubiquitous Analytical Techniques, CSIR-Central Scientific Instruments Organisation, Chandigarh 160030, India. 2.—Academy of Scientific and Innovative Research (AcSIR), Ghaziabad 201002, India. 3.—Special Materials Group, DMSRDE (DRDO Lab), Kanpur, Uttar Pradesh 208013, India. 4.—e-mail: sachintyagi.iitr@gmail.com. 5.—e-mail: sachintyagi@csio.res.in

Microwave absorbing composites containing strontium hexaferrite and titanium silicon carbide, SrFe₁₂O₁₉/Ti₃SiC₂ powder, were synthesized by mixing in different weight ratios. The strontium hexaferrite (SrFe₁₂O₁₉) particles

Polymer International



Research Article

Synthesis of multifunctional high strength, highly swellable, stretchable and self-healable pH-responsive ionic double network hydrogels

Akansa Dixit, Dibyendu S Bag, Dharendra K Sharma, Namburi Eswara Prasad

First published: 19 November 2018 | <https://doi.org/10.1002/pi.5741> | Citations: 22

Read the full text >

PDF TOOLS SHARE

03-11-2023
Abstract

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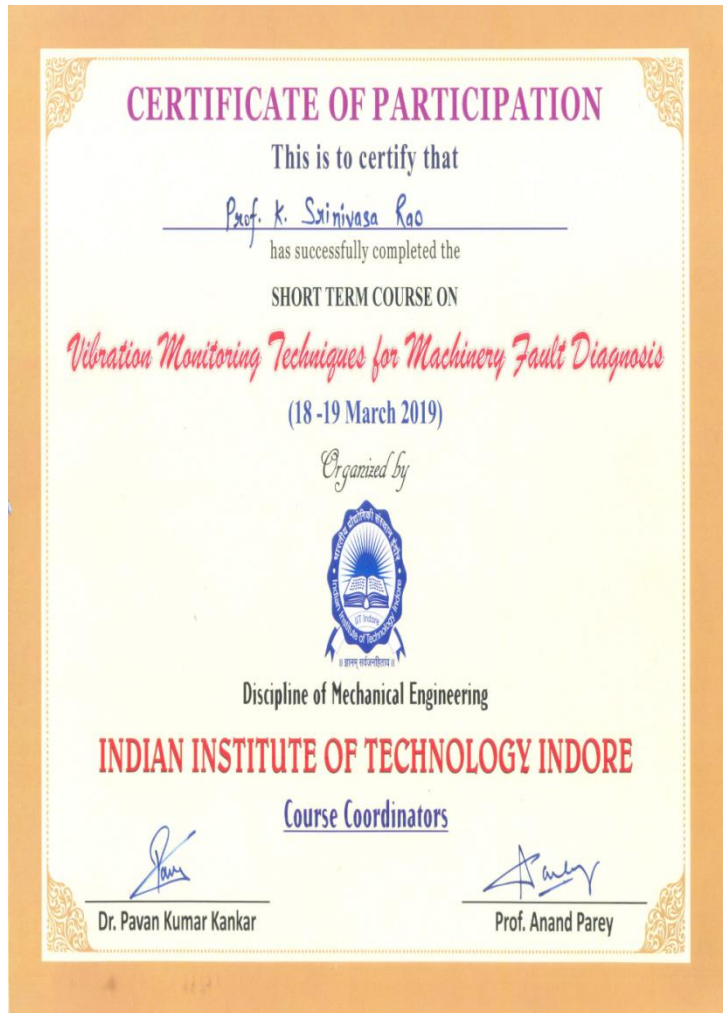
The multifunctional double network (DN) soft hydrogels reported here are highly swellable and stretchable pH-responsive smart hydrogel materials with sufficient

Research, Innovations and Extensions



- Workshop/Seminar/Conferences/Training programmes attended: 24







Research, Innovations and Extensions (Contd.,):

- **Total number of Ph. Ds awarded : 35**
 - Ph. Ds awarded during 2017-2023 period : 14
 - Number of Research Scholars on-going : 15
 - Number of JRF : 01

- **Research Laboratories (Research Areas) : 02**
 - 1. Corrosion & Welding Laboratory
 - 2. Industrial Solid waste utilization, Metal Casting & Nano Composites Laboratory

Research, Innovations and Extensions (Contd.,):

List of Ph. D s awarded - Total: 35 : AY 2017-23: 14

S. No.	Name of the Scholar	Topic	Year	Guide
1	S. Devaki Rani	Impression creep characterization of tin based lead free solders	2004	Prof.G.S.Murthy
2	BV Ramana	Experimental investigations on processing and characterization of aluminum alloy - fly ash composites by powder metallurgy	2005	Prof.G.S.Murthy
3	SR Mallikarjuna Rao	Studies on enhancement of productivity and quality of Indian foundries	2006	Prof.NBR Mohan Rao
4	VVS Prasad	Fabrication and characterization of palm fiber reinforced polyester composites	2006	Prof.NBR Mohan Rao
5	J. Babu Rao	Studies on flow behavior of Al, Al-Cu and Al-Cu-Mg alloys during cold upsetting using vision system	2007	Prof.NBR Mohan Rao
6	S. Kamaluddin	Analysis of flow behavior of Al, Al-Mg-Mg alloys during cold upsetting	2007	Prof.NBR Mohan Rao
7	J. Appa Rao	Studies on effect of friction, aspect ratio and geometry on flow behavior of Cu and its alloys	2007	Prof.NBR Mohan Rao
8	K. Ratna Kumar	Microstructure and corrosion behavior of cast A 356 and wrought AA6061 aluminum alloy welds	2009	Prof.K.Srinivasa Rao
9	R.Bapaiah Choudary	Chicken feather fiber reinforced polymer matrix composites	2010	Prof.NBR Mohan Rao
10	VSN Venkata Ramana	Microstructure and corrosion behavior of similar and dissimilar alloy welds	2011	Prof. K.Srinivasa Rao

11	G. Swami Naidu	Deformation and ageing studies on dilute and concentrated Al-Mg alloys	2011	Prof.NBR Mohan Rao
12	S. Madhusudhan	Fabrication, characterization & investigation on composite metallic materials Al-Cu system	2014	Prof.NBR Mohan Rao
13	K. Praveen Kumar	Fabrication and characterization of 2024 Aluminium - High Entropy Alloy Composites	2014	Prof.NBR Mohan Rao/ Prof.Babu Rao Jinugu
14	M. Gopi Krishna	Metal-Metal Composites: An innovative way for multiple strengthening	2015	Prof.NBR Mohan Rao / Prof.Babu Rao Jinugu
15	K.Venkateswara Rao	Investigations on copper-deformation, recrystallization, wear and corrosion	2015	Prof.NBR Mohan Rao
16	I. Sudhakar	Microstructure, Wear ,Ballistic and Corrosion Behavior of Surface Modified Armour Grade AA7075 Aluminum Alloy Using Friction Stir Processing	2015	Prof.K.Srinivasa Rao
17	D. Venkata Rao	Studies on Deformation, Wear and Corrosion behavior of fly ash particles reinforced AA 2024 composites	2015	Prof.NBR Mohan Rao/ Prof.Babu Rao Jinugu
18	R. Srinivasu	Microstructure, wear and corrosion behavior of friction stir processed as cast A356 aluminum-silicon alloy	2015	Prof.K.Srinivasa Rao
19	P. Vijaya Kumar	Microstructure, Mechanical and Corrosion , behavior of AA 7075 aluminum alloy friction stir welds	2015	Prof.K.Srinivasa Rao
20	Ch. Venkata Rao	Studies on the effect of tool pin profile on microstructure and corrosion behavior of AA2219 aluminum alloy friction stir welds	2016	Prof.K.Srinivasa Rao
21	Raffi Mohammed	Studies on Microstructure, Mechanical and Corrosion behavior of nickel free high nitrogen stainless steel and its welds	2016	Prof.K.Srinivasa Rao

Ph.Ds Awarded From 2017 to Till date

S. No.	Name of the Scholar	Topic	Year	Guide
22	R.Siva Kumar	Studies on Design and development of TAP hole clay for blast furnace	2017	Prof.K.Srinivasa Rao
23	I. Narasima Murthy	Ferro Chrome slag and granulated blast furnace slag: potential sustainable mould materials for ferrous and non-ferrous foundry industry	2017	Prof.Babu Rao Jinugu
24	P. Chandra Sekhar	A novel methodology for scheduling of steel making using EDF algorithm'	2017	Prof.NBR Mohan Rao /Prof.PS Avadhani
25	P, Vijaya Kumara Raju	Investigations on Bi-Metallic composite materials :Al-Cu System	2018	Prof.NBR Mohan Rao
26	M.Krishna Prasad	Synthesis , Characterization and Hot Corrosion Behaviour of perovskite type SrTiO_3 , Pyrocholres $\text{Gd}_2\text{Ti}_2\text{O}_7$ & $\text{Gd}_2\text{Sn}_2\text{O}_7$ and Double perovskite $\text{Sm}_2\text{SrAl}_2\text{O}_7$ Coating Materials	2018	Prof.K. Srinivasa Rao
27	Ch. Sambasiva Rao	Critical study on ferro alloy industry-an emphasis on Indian scenario	2018	Prof.NBR Mohan Rao
28	Dilkush	Studies on effect of post weld treatments on microstructure , mechanical and corrosion behavior of inconel718 alloy and its welds	2019	Prof.K. Srinivasa Rao

29	Chitrada Prasad	Microstructure, Mechanical and Corrosion behaviour of nickel/ nano composite coating using electro deposition'	2020	Prof.K.Srinivasa Rao/ Prof.K.Ramji
30	Y. Ravikanth	Influence of sand and slag moulds on microstructure, mechanical and wear behaviour of A356 alloy	2022	Prof. Babu Rao Jinugu
31	Kollabathina Prakash	Microstructure, mechanical and corrosion behaviour of AA2219 aluminium alloy welds	2022	Prof.K.Srinivasa Rao
32	VSR Naga Santhosi Bhyri	MicrowaveAbsorption Performance of Hybrid Polymer Based Nano Composite Materials in X-Band	2022	Prof.NBR Mohan Rao /Prof.K.Ramji
33	P. Anil Kumar	Microstructure, Mechanical Properties and Corrosion Behaviour of Similar and Dissimilar Stainless Steel GTA Welds- Effect of Filter Wire	2023	Prof.K.Srinivasa Rao
34	K. Sri Ram Vikas	Microstructure, Mechanical and Corrosion Behaviour of Ti-6Al-4V Alloy Friction Welds	2023	Prof.K.Srinivasa Rao
35	G. Siva Prasad	Material characterization and corrosion behavior of AA2519 aluminium alloy welds	2023	Prof.K. Srinivasa Rao

List of Ph. D s awarded - Total: 35
AY 2017-23: 14



CURRICULAR ASPECTS (CONT.)

► BOS of AU-Met. Engg. will prepare the Curriculum / Schemes by referring to:

- AICTE/UGC/APSCHE/AU/CBCS/NEP Guidelines
- Professional body Guidelines such as IIM
- Current requirements of the Industry
- Stake Holders' Inputs

► Revision of the Curriculum

- Industry/Market Requirements
- Feedback from Stakeholders
- Once in a year
- Minor Changes In Curriculum
- Introduction of New Electives

► Academic Flexibility

▪ Choice Based Credit System

▪ Credits

- 2015-16 Batch -160 credits
- 2019-20 Batch -160 credits (As per AICTE Guidelines)
- 2021-22 Batch -160 credits (As per APSCHE Guidelines)
- Courses offered with 1/2/3/4 credits
- Additional credits can be earned from add-on courses (NPTEL)

► Majors & Minors

▪ 2022-23 Scheme | Course Components

- NEP Compliance
- Ability Enhancement Courses
- Engineering Science Courses
- Programming Language Courses
- Emerging Technology Courses
- Integrated Courses, Horizontal

○ Courses offered

CURRICULAR ASPECTS (CONTD.)



MOOCs Courses: (Effective from 2015-16 admitted Batch):

- $\frac{3}{4}$ - I Sem - Solidification of Metals and alloys (MOOCS)
- $\frac{3}{4}$ - II Sem -Advanced Metallurgical Thermodynamics (MOOCS)
- 4/4- I Sem - Phase Diagrams (MOOCS)

CBCS (Effective from 2015 - 16 admitted Batch):

- $\frac{3}{4}$ - I Sem - Metal Casting
- $\frac{3}{4}$ - II Sem -Advances in Materials Science
- 4/4- I Sem - Nano materials

Electives Courses: (Effective from 2019-20 admitted Batch):

- 2/4- II Sem Managerial Economics (OEC-I)
- $\frac{3}{4}$ - I Sem - Foundry Technology (PEC-I)
- $\frac{3}{4}$ - II Sem -Composite Materials (PEC-II)
- 4/4- I Sem - Nano materials (PEC-III)
- 4/4- I Sem Powder Metallurgy (PEC-IV)
- 4/4- I Sem Failure Analysis (PEC-V)
- 4/4- I Sem Entrepreneurship (OEC-II)



CURRICULAR ASPECTS (CONTD.,)

- **Integration of Environmental Sustainability and Human values in the Curricular: Yes**
 - 2/4 B. Tech - I Sem - MC- Professional Ethics & Universal human values (MT 2109)
 - 2/4 B. Tech - II Sem - MC- Environmental Science (MT 2209)

- **Courses with employability/Skill development/value added programmes offered: Yes**
 - 2/4 B. Tech - I Sem - SC- Moulding and Casting practice (MT 2108)
 - 2/4 B. Tech - II Sem - SC- Welding Practice (MT 2208)
 - 3/4 B. Tech - I Sem - SC- Foundry Practice (MT 3108)
 - 3/4 B. Tech - II Sem - SC- Soft Skills (MT 3209)
 - 4/4 B. Tech - I Sem - SC- Advanced Materials processing ((MT 4107)

○ Student Project works

CURRICULAR ASPECTS (CONTD.)



B. Tech Metallurgical Engg (UG) - 30+3 intake

Year	Course	Number of Projects
2017-18	B. Tech	25
2018-19	B. Tech	24
2019-20	B. Tech	27
2020-21	B. Tech	29
2021-22	B. Tech	33

M. Tech Industrial Metallurgy (PG) - 18 intake

Year	Course	Number of Projects
2017-18	M. Tech	08
2018-19	M. Tech	16
2019-20	M. Tech	14
2020-21	M. Tech	10
2021-22	M. Tech	10

B. Tech 2021-22



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E-mail: bahuraojinugu@yahoo.com; brjinugu@gmail.com

From:
Prof. Babu Rao Jinugu
M. Tech, Ph.D
Head of the Department

Ann 414 B.Tech (Met Engrg) students during the academic year 2021-2022

Regd No.	Name of the Student	Title of the Project	Project Guide
318107121006	K.Suresh Kumar	Studies on Microstructure, Mechanical Properties and Pitting Corrosion of Al-Cu alloy	Prof. K. Srinivasa Rao
08	Lakshmi Manasa Dolai		
19	Y Vivek Vikram		
26	N.Chandra Mouli		
30	R.Mutyalaraidu		
33	S.Parthiva Sai		
318107121001	Amrita Korra	Studies on effect of welding process on pitting corrosion behaviour of AA2219 Al-alloy	Prof. K. Srinivasa Rao
12	P. Seshu Sai		
15	S Sri Venkata Sarath Chandra		
18	V. Buddha Dev Chowdary		
24	K. Likhitha Rani		
318107121002	G.Deekshita	Comparative Studies on Effect of Coatings on Ferrocchrome Slag and Silica Sand Moulds	Prof. Babu Rao Jinugu
05	Sai Siddhartha		
10	P.Sai Pranathi		
14	P.Nani Babu		
25	L.Nageswara Rao		
29	P.Ashok Kumar		
318107121007	K. Mounika	Comparative Studies on Effect of Mould Coatings on Granulated Blast Furnace Slag and Silica Sand Moulds	Prof. Babu Rao Jinugu
16	Srisaam Dileep Prasad Gowd		
20	Ch.Madhavi		
22	G.Dinesh Kumar		
31	S. Kurnika Devi		
32	Shaik Abdul Rahamtullah		
318107121003	Hari Teja Redrouthu	Effect of fusion and solid states welding process on microstructure and corrosion behaviour of Al-Cu-Mg Alloy	Dr. Ch. Venkata Rao
04	K.Vishal Kumar		
09	Mohammad Afroz Begum		
27	N.Anil Kumar		
28	P.Raj Kumar		
318107121011	P.Hemanth Sai	Study on mechanical and corrosion behaviour of AA2519 aluminium alloy	Dr. Ch. Venkata Rao
23	P.V.Padma Gayatri		
27	T.Revanth Krishna Sai		
28	D.Bravara		
23	G. Prem Kumar		

NAAC Visit 2023

HEAD OF THE DEPARTMENT

Head of the Department of
Metallurgical Engineering

Students Project work titles

M. Tech 2020-21

Regd.No.	Name of the student	Title of the Project	Name of the Internal guide
Day-Time (10 Nos.)			
319207137001	Ch.Heerabhavan i	Corrosion behaviour of post weld heat treated friction stir welds of AA1441 Al-Li alloy	Prof.K.Srinivasa Rao
02	D.Viswanadham	Cold workability studies of Al-Si alloy prepared by sand GBF slag mould	Prof.Babu Rao Jinugu
03	I.V.R.V.Harika	Effect of Post Weld Heat Treatment on Pitting Corrosion Behaviour of Friction Stir Welds of AA6351 Al-Si-Mg alloy	Prof.K.Srinivasa Rao
05	J.Sravan Kumar	Finite Element Analysis and Cold workability studies of Aluminium A356 alloy prepared by sand and GBF slag mould	Prof.Babu Rao Jinugu
06	K.Amulyasri	A Comparison Study On Corrosion Behaviour of Friction Stir and Electron beam welds of AA5083 Al-Mg alloy	Prof.K.Srinivasa Rao
08	M.Rukesh	Synthesis and characterization of Nano particulates AA7075 Composites	Prof.Babu Rao Jinugu
09	P.Lalitha	Synthesis and characterization of Fe-Cr slag particulates reinforced PMCs	Prof.Babu Rao Jinugu
10	P.Lavanya	Microstructure and EBSD Analysis of FE-Cr slag particulates reinforced AA7075 composites	Prof.Babu Rao Jinugu
11	S.Sai Prakash	Corrosion behaviour of Manual Metal Arc and Gas Tungsten Arc welds of UNS532750 Super Duplex Stainless Steel	Prof.K.Srinivasa Rao
12	Tiriveedi Joshua Kumar	Effect of Post Weld Heat Treatment On Corrosion behaviour of Gas Tungsten Arc(GTA) And Friction Stir (FS) Welds of AA2519 Al-Cu-Mg alloy	Prof.K.Srinivasa Rao

03-11-2023

M. Tech 2021-22

Regd.No.	Name of the student	Title of the Project	Name of the Internal guide
320207137002	D.Simhachalam Naidu	Influence of Post Weld heat treatment (PWHT) on mechanical and corrosion behaviour of AA2519-T87 aluminium alloy gas tungsten arc welds	Prof.K.Srinivasa Rao
04	G.Mythri Sukkumari	Sand and Slag Moulds : Moulding properties evaluation by CO2 process	Prof.Babu Rao Jinugu
06	M.Magatha Naik	Effect of single ageing and Double ageing treatment on microstructure, mechanical and corrosion behaviour of AA1441 Aluminium-Lithium alloy Friction stir welds	Prof.K.Srinivasa Rao
07	N.Umesh	Sand and slag moulds : melting and casting practice of A356 alloy using Nishyama process	Prof.Babu Rao Jinugu
09	P.James Joy	Tensile, Compression & Flexural properties evaluation for sand &slag mould by sodium silicate process	Prof.Babu Rao Jinugu
10	R.Bhavani	Correlation of microstructural changes with mechanical properties and corrosion behaviour of Electron Beam welds of Al-Cu-Mg alloy	Prof.K.Srinivasa Rao
11	S.Nagamani	Sand and Slag Moulds : Moulding properties evaluation using Nishyama process	Prof.Babu Rao Jinugu
12	V.Divya Sravanthi	Effect of Post weld heat treatment of Friction Stir welds of Al-Cu and Al-Cu-Mg alloys	Prof.K.Srinivasa Rao
13	Vijaya Lakshmi Nandigam	Sand and slag moulds :melting and casting practice of A356 alloy- CO2 process	Prof.Babu Rao Jinugu

34

Demand Ratio : 2017-2022



Academic Year	2017-18	2018-19	2019-20	2020-21	2021-22	Average
B. Tech (Metallurgical Engineering)						
Seats Available	33	33	33	33	33	33
Applications Received	145428	132281	133003	133072	133072	135371
Demand Ratio	4,407	4008	4030	4032	4032	4102
M. Tech (Industrial Metallurgy)						
Seats Available	18	18	18	18	18	18
Applications Received	300	350	350	375	370	350
Demand Ratio	17	18	19	21	20	18

Teaching, Learning and Evaluation (CONTD.,)



- **Enrolled Student Strength for last five academic years (2017-18, 2018-19, 2019-20, 2020-21 and 2021-22):**
- **Student enrolment**
 - **B. Tech : 176**
 - **M. Tech : 58**
 - **Ph. D : 13**

Students Enrollment Data 2017 to 2023 - B. Tech - Metallurgical Engg. (UG)

Year	UG	Total	M	F	Male				Female				Total			
					OC	OBC	SC	ST	OC	OBC	SC	ST	OC	OBC	SC	ST
2017-2018	B. Tech	26	16	10	02	11	02	01	-	07	02	01	02	18	04	02
2018-2019	B. Tech	19	12	07	04	07	02	-	02	03	-	01	06	10	02	01
2019-2020	B. Tech	64	39	25	06	26	05	03	03	15	03	03	09	41	08	06
2020-2021	B. Tech	33	22	11	04	11	02	02	02	07	02	03	06	18	04	05
2021-2022	B. Tech	33	20	13	05	10	02	03	01	09	03	-	06	19	05	03
2022-2023	B. Tech	30	17	13	-	11	05	01	02	07	03	01	02	18	08	02

Students Enrollment Data 2017 to 2023 - M. Tech - Industrial Metallurgy (PG)

Year	PG	Total	M	F	Male				Female				Total			
					OC	OBC	SC	ST	OC	OBC	SC	ST	OC	OBC	SC	ST
2017-2018	M. Tech	13	03	10	01	01	01	-	-	06	03	01	01	07	04	01
2018-2019	M. Tech	18	05	13	01	04	02	02	01	02	01	-	02	06	03	02
2019-2020	M. Tech	13	07	06	01	04	01	01	-	05	01	-	01	09	02	01
2020-2021	M. Tech	13	08	05	02	04	01	01	-	02	03	-	02	06	04	01
2021-2022	M. Tech	12	08	04	-	05	02	01	02	02	-	-	02	07	02	12
2022-2023	M. Tech	03	02	01	-	02	-	-	-	01	-	-	-	03	-	-

Students Outgoing Data 2017 to 2023

B. Tech Metallurgical Engg (UG) - 30+3 intake

Year	Course	Number of In taking students	Number of outgoing students	Pass Percentage
2017-18	B. Tech	26+6 (Lateral Entry)	25	78%
2018-19	B. Tech	19+6 (Lateral Entry)	24	96%
2019-20	B. Tech	33+6 (Lateral Entry)	27	70%
2020-21	B. Tech	33+6 (Lateral Entry)	29	74%
2021-22	B. Tech	30 +6 Lateral Entry)	33	92%

M. Tech - Industrial Metallurgy (PG)- 18 intake

Year	Course	Number of In taking students	Number of outgoing students	Pass Percentage
2017-18	M. Tech	13	08	62%
2018-19	M. Tech	18	16	89%
2019-20	M. Tech	13	13	100%
2020-21	M. Tech	13	10	77%
2021-22	M. Tech	12	10	83%

1

- **Engineering Knowledge** –Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

2

- **Problem Analysis**-Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

3

- **Design/Development of solutions** –Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations

4

- **Conduct investigations of complex problems** –Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions

5

- **Modern tool usage** –Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.

6

- **The engineer and society** –Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice

7

- **Environment and Sustainability** –Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

8

- **Ethics** –Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

9

- **Individual and teamwork** –Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings

10

- **Communication** –Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

11

- **Project management and finance** –Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments

12

- **Life-long learning** –Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

B. Tech. (Metallurgical Engineering) Programme Specific Outcomes (PSO's):

1

- Design processes for concentrating ores and minerals.

2

- Select processes for extraction of ferrous and non-ferrous metals.

3

- Assess performance of metallurgical processes.

4

- Identify processes to produce products as per specifications.

5

- Produce defect free products using metal forming and metal joining processes.

6

- Design thermo-mechanical treatment processes to modify the properties of metals and alloys for specific engineering applications.

7

- Analyze processes for protecting materials from mechanical and environmental degradation

8

- Design material systems, components, processes for specific applications considering environmental sustainability.

9

- Apply modern science, engineering and project management principles to address the specific needs of metallurgical industries..

10

- Function in multi-disciplinary teams using tools and environment to achieve project objectives

11

- Practice professional ethics for improved moral and human values.

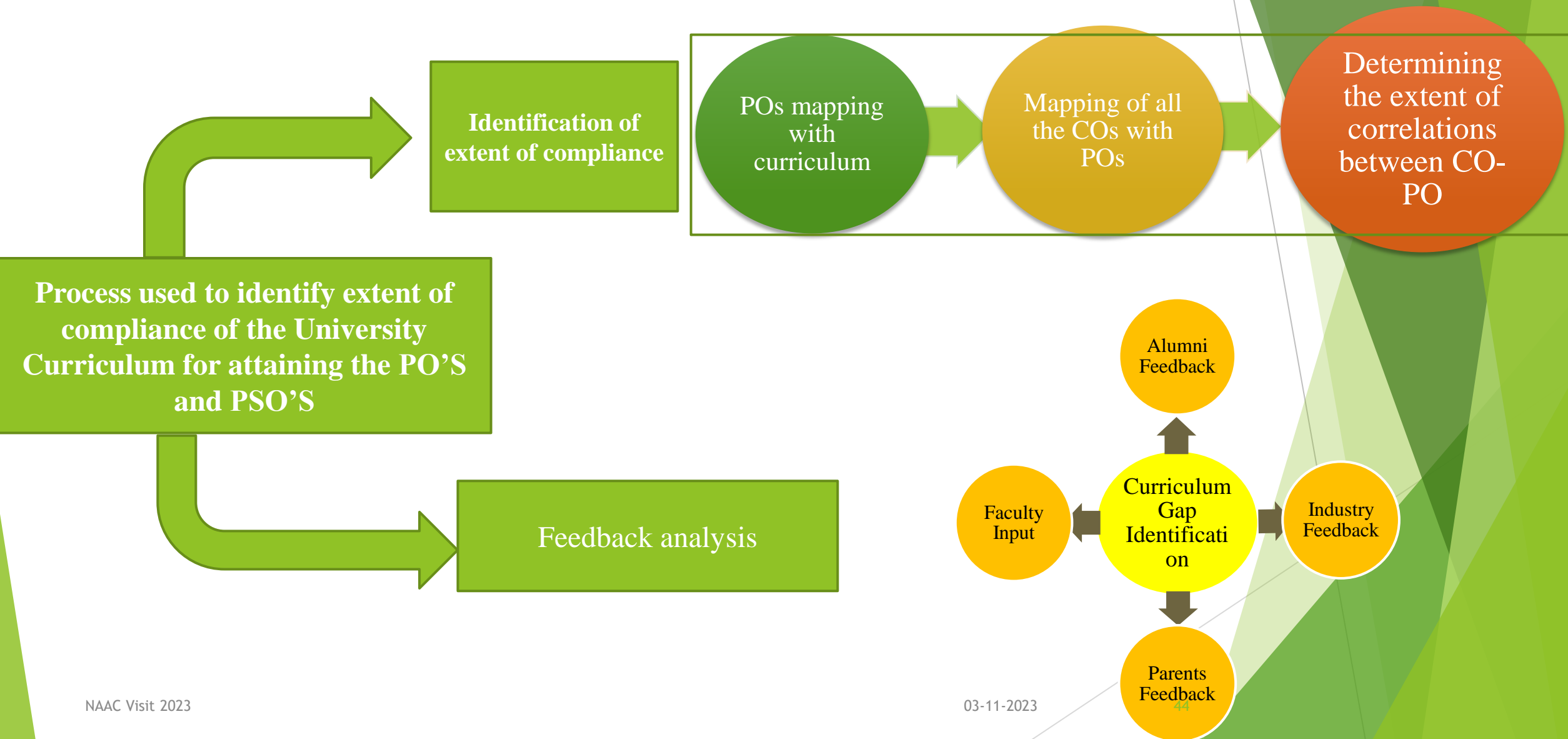
12

- Engage in lifelong learning for professional advancement.

M. Tech. (Industrial Metallurgy) PSO's:

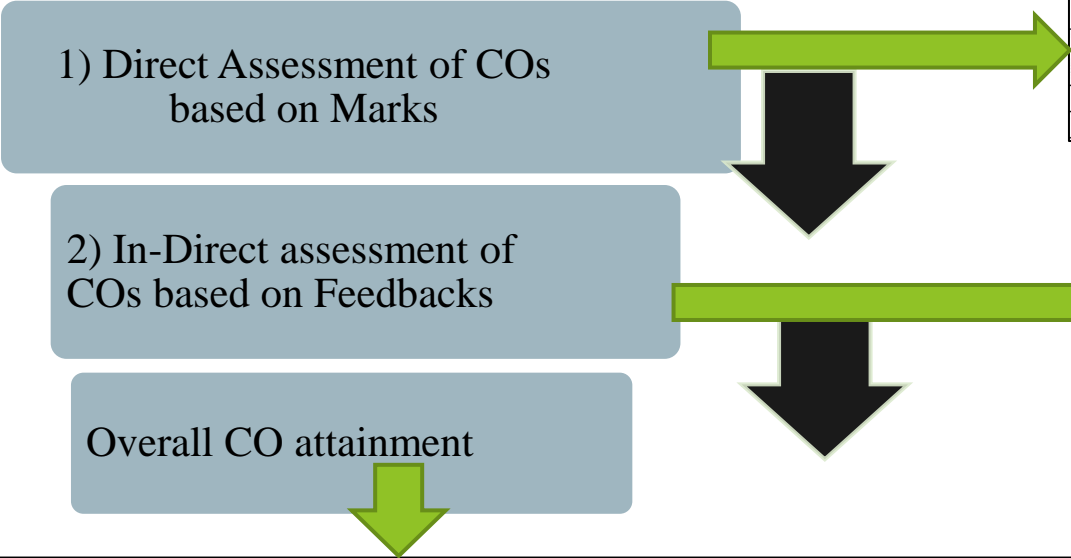
- 1 • The industrial metallurgy graduates are capable of applying knowledge of basic sciences, mathematics and engineering in their fields.
- 2 • The industrial metallurgy graduates are capable of testing and conduct experiments related to their work as well as to analyze and interpret the results
- 3 • The industrial metallurgy graduates are capable of doing design and development of processes or system keeping in view of socio-economic aspects.
- 4 • The industrial metallurgy graduates are capable of involving and work together in a team.
- 5 • The industrial metallurgy graduates are able to apply their knowledge and skills in solving industrial problems effectively
- 6 • The industrial metallurgy graduates are capable to utilize the recent cutting edge technologies, innovative practices to develop new technologies
- 7 • The industrial metallurgy graduates will undergo technical training programs and management skill development programs periodically
- 8 • The industrial metallurgy graduates will develop eco-friendly technologies.
- 9 • The industrial metallurgy graduates are capable of developing need basic technologies pertaining to the current industrial requirements of the country

Curricular Aspect –Outcome Based Education



1. CO attainment

- The Overall CO attainment was calculated with the help of,



	2019-2020 Admitted batch		Direct Assessment of COs based on Marks										
			CO-1	CO-2	CO-3	A-1	CO-4	CO-5	CO-6	A-2		Internal Marks	Sem End
SI No	Name	Roll no	10	10	10	10	10	10	10	10	Marks (100)	Marks (30)	Marks (70)
1	ALUGU NAGANANDA SHEKHAR	319107121001	6	7	7	8	6	7	6	7	67	21	46
2	ANDRIPILLI AJAY KUMAR	319107121002	7	7	7	9	6	9	8	8	74	21	53

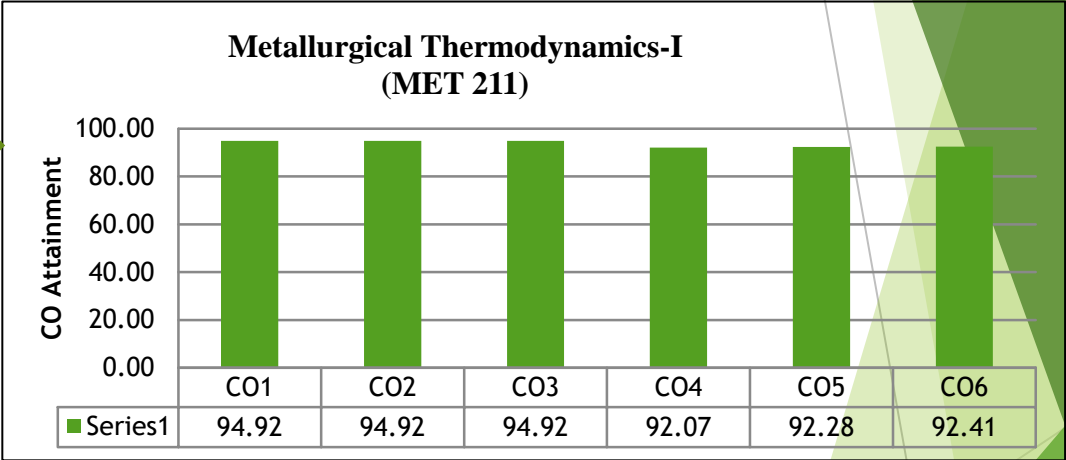


Chart for Overall CO Attainment with Indirect Assessment

Final CO Calculation			
Course Outcomes	Overall CO Attainment without Indirect Assessment	Overall CO Attainment with Indirect Assessment	Level Attained 1/2/3
CO1	94.44	94.92	3
CO2	94.44	94.92	3
CO3	94.44	94.92	3
CO4	91.67	92.07	3
CO5	91.67	92.28	3
CO6	91.67	92.41	3
Final CO attainment of Course Name			3

The Final CO attainment of Metallurgical Thermodynamics-I (MET 211) is “3”

2. CO-PO Mapping

The CO-PO mapping of Metallurgical Thermodynamics-I (MET 211)

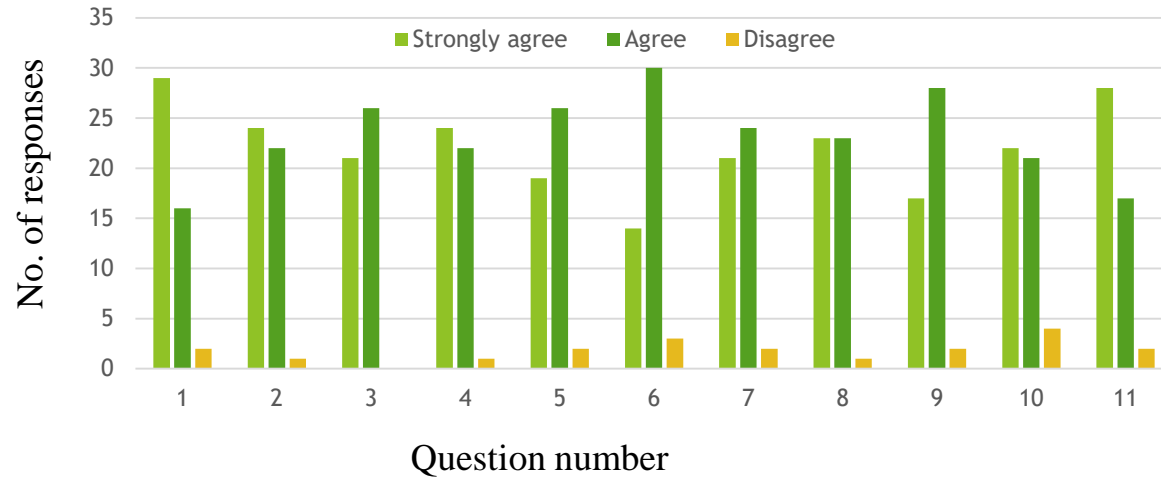
Semster	Subject Name	Subject code	Course Outcomes	Program Outcomes (POs)											
				PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO 12
2 year-1 sem	METALLURGICAL THERMODYNAMICS-I	MET211	CO1	2	2	2	2	2	1	1	0	1	1	1	1
			CO2	2	2	2	2	2	1	1	0	1	1	1	1
			CO3	2	2	2	2	2	1	1	0	1	1	1	1
			CO4	2	2	2	2	2	1	1	0	1	1	1	1
			CO5	2	2	2	2	2	1	1	0	1	1	1	1
			CO6	2	2	2	2	2	1	1	0	1	1	1	1
			Avg	2	2	2	2	2	1	1	0	1	1	1	1



The Average PO attainment w.r.t CO mapping of Metallurgical Thermodynamics-I (MET 211) is utilized as a part of direct assessment, in calculation of overall PO attainment.

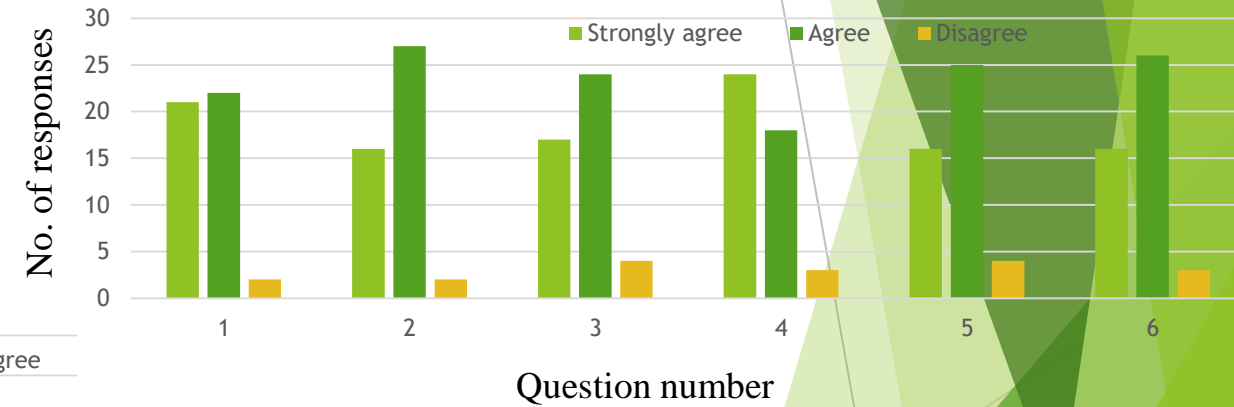
Feedback for curriculum collected and analysed report

Student Feedback on curriculum



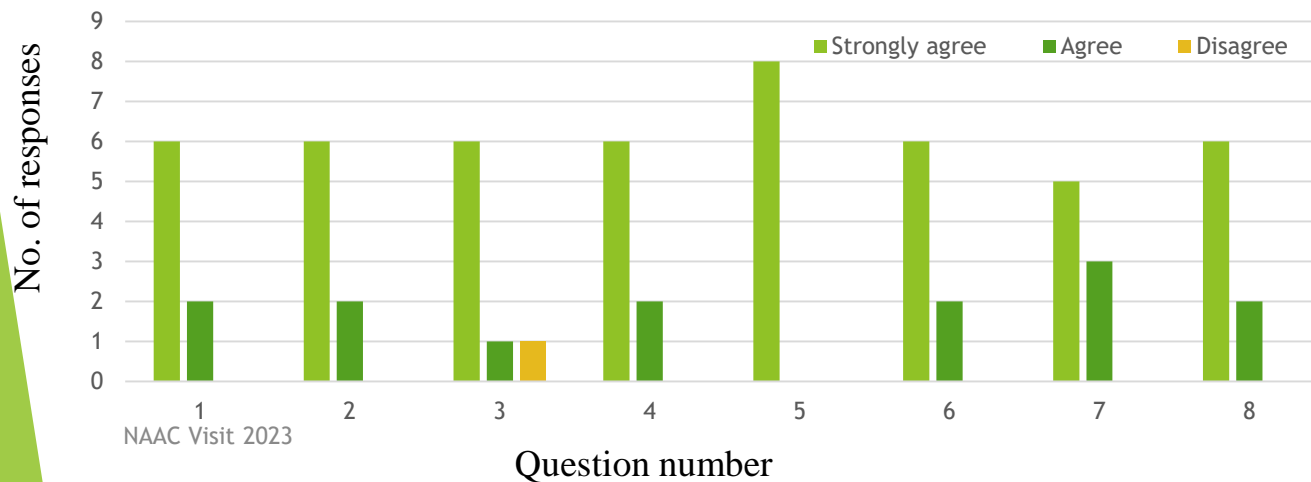
Total no. of responses- 47

Parent feedback on curriculum



Total no. of responses- 08

Alumni feedback on curriculum



03-11-2023

47

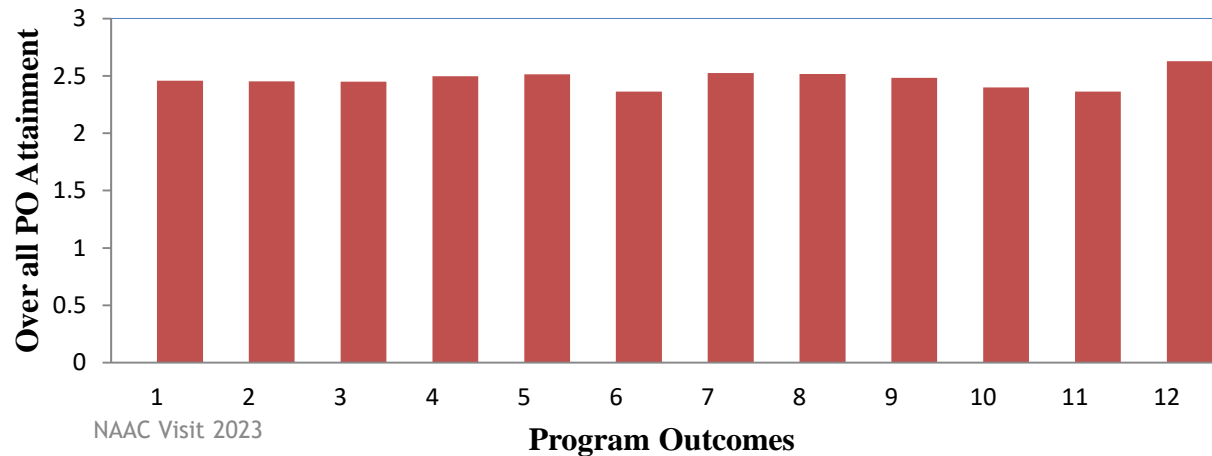
c) Overall PO Attainment for 2019-20 batch

Calculation of Overall PO Attainment



S.no	PO's	Direct Attainment	Indirect Attainment	Direct Attainment (80%)	Indirect Attainment (20%)	Overall PO attainment
1	PO1	2.14	3.00	1.71	0.75	2.46
2	PO2	2.13	3.00	1.70	0.75	2.45
3	PO3	2.13	3.00	1.70	0.75	2.45
4	PO4	2.18	3.00	1.75	0.75	2.50
5	PO5	2.20	3.00	1.76	0.75	2.51
6	PO6	2.21	2.40	1.76	0.6	2.36
7	PO7	2.22	3.00	1.77	0.75	2.52
8	PO8	2.21	3.00	1.77	0.75	2.52
9	PO9	2.17	3.00	1.73	0.75	2.48
10	PO10	2.19	2.60	1.75	0.65	2.40
11	PO11	2.02	3.00	1.61	0.75	2.36
12	PO12	2.35	3.00	1.88	0.75	2.63

Overall PO Attainment Chart



Overall PO Attainment Chart



03-11-2023

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Teaching, Learning and Evaluation (CONTD.,)



- Students categorisations (Advanced learners/slow learners)
 - Advanced learners : 40%
 - Average to Slow learners : 60%
- **Programmes for Advanced Learners** : Offered interactive sessions for:
 - Encouraging to do NPTEL courses
 - Giving awareness programmes on GATE, GRE, CAT and UPSC exams.
 - Enlighten to pursue higher studies like M. Tech, MS, Direct Ph. D programmes etc.
 - Job opportunities as Scientists, Industrial based Jobs on GATE score etc.
 - Encouraging to apply Internships at Premier Institutions like IISc and IITs.
 - Further encouraged to do Research in Research Institutions like DMRL, IGCAR, ARCI, NML etc. during their Pre final year.



Teaching, Learning and Evaluation (CONTD.,)

- **Programmes for Slow Learners**
 - Arranging special remedial classes
 - Offering counselling through mentoring system
 - Arranging class notes etc. for better performance in the examinations

- **Methods of teaching**
 - Conventional Blackboard teaching
 - ICT based teaching
 - Videos on various Metallurgical Engg. processes
 - Students presentations

Teaching, Learning and Evaluation (CONTD.,)



- **ICT and online resources :**
 - Each class room is equipped with LCD projector/ Smart board facility
 - Online class videos (LMS portal),
 - Journal papers are available through AU website.
 - High speed internet facility (Both Land and Wi-Fi) NIMCET - 1GBPS



Teaching, Learning and Evaluation (CONTD.,)



- **Evaluation process reforms (IT integration in Evaluation/Automation):**
 - Online Internal marks posting
 - Online Examination fees payment
 - Online Results announcement and down loading marks sheets
 - Online procedure for obtain all the certificates
 - Online Revaluation procedure

2017-18

Regd.No.	Name of the Student	Mentor
314107121001	A.Chetan Kumar	Prof.NBR Mohan Rao
08	G.Malini	
09	G.Chytanya Deepika	
14	M.Bhargavi	
15	M.Rakshita Naidu	
22	Priyanka Kannepalli	
23	S.Sireesha Sai	
27	T.Jeevan Sree Kanth Sundar	Prof.K.Srinivasa Rao
31	K.Suryaphani	
314107121007	G.Gayathri	
11	K.Srivalli	
16	M.Srinivas	
20	P.Ravikanth	
24	Shaik Maheboob Naaz	
29	V.Vamsi Krishna	
30	Yamini Peddi	
32	M.Divya Sree	
33	S.Jagadeesh Babu	
314107121002	Ch.Akhilchand	Prof,Babu Rao Jinugu
03	D.Vinay Rajesh	
04	D.Sashi Ratnam	
05	D.Nikhil	
06	G.Padmini	
10	K.Gayathri	
12	K.Santosh Pavan	
18	Mrudu Bhashini Lanka	
21	P.Rajendra Babu	
26	Swetha Kalla	

2018-19

Regd.No.	Name of the Student	Project Guide
315107121004	D.Gopinath	Prof.NBR Mohan Rao
08	G.Ramesh Kumar	
09	Harika Sri Apoorva Vaka	
11	Jayaram Tulugu	
14	K.Sai Leela Rohith	
21	R.Priyanka	
25	V.Satyam	
26	Y.Rohita	Prof.K.Srinivasa Rao
27	A.Karthik	
28	G.Vimala Kumari	
315107121003	D.Mouli Nikhil	
07	G.Narendra Babu	
10	Jasmine	
12	K.Krishna Kumar	
13	K.Manohar	
15	M.Gopika Purnima	Prof.Babu Rao Jinugu
18	P.Poorna Rakesh	
19	P.Lasya	
24	V.Jayanth	
29	V.V.S.N.P.Paradesi Naidu	
315107121001	A.Harsha	
02	B.Phani Shankar	
05	B.Sai Kumar	
06	E.Padma	
16	M.Urmila	
17	Mohammed Roshan Jahan	
20	P.Triveni	
22	S.V.S.Pranusha	
23	Vaishnavi Kothari	

2019-20

Regd.No.	Name of the student	Mentor
316107121002	B.Sai Preethi	Prof.K.Srinivasa Rao
08	D.Lavakumar	
13	K.V.Sai Charitha	
14	K.Spandana	
17	P.Kavya	
18	R.Harshita Sivani	
20	S.Uday Sai	
25	D.Harish	Prof.Babu Rao Jinugu
29	KNV Sai Krishna	
316107121001	A.Raja Rajeswari	
03	Bhargav Gondes	
07	Chira Kushma Monica	
10	G.Revathi Devi	
15	Manoj Kumar Burada	
19	R.Vamsi Krishna	Dr.Ch.Venkata Rao
21	T.Rajasekhar	
23	Yasmeen	
28	J.Praveen	
30	M.Varun Kumar	
32	N.Vijaya Lakshmi	
316107121004	Bhavya Ponnaluri	
06	B.Jayakrishna	
09	D.Sai Prasanna Lakshmi	
12	G.S.Satya Srinivas	
16	P.James Joy	
22	V.Jaya Surya	
24	Y.Sandeep	
27	G.Mythri Sukkumari	
31	M.M.Naik	
33	P.Soma Sekhar	

2020-21

Regd.No.	Name of the Student	Mentor
317107121002	A..Sumanth	Prof.K.Srinivasa Rao
07	G.Vamsi Kishore	
09	G.Nidesh	
13	K.Ganesan	
14	K.Sravya	
20	M.Vijaya Lakshmi	
21	P.Divya	
25	V.Manoj Kumar	Prof.Babu Rao Jinugu
27	B.Swathi	
32	N.Yamuna	
316107121011	GVSS Manoj Kumar	
317107121003	B.Jithendra Kumar	
06	GVS Subhash	
08	G.Chandu Nayak	
11	J.G.Prabhavitha	
16	KD Pavan Teja	
18	M.Krishna Vamsi	Dr.Ch.Venkata Rao
22	P.Surya Vikas	
24	S.Bhanu Siva Sai	
28	G.Bhargavi	
30	GES shiva kumar	
317107121004	B.Neelima	
05	B.Suresh	
10	I.Sai Kiran	
12	K.Vyshnavi	
17	M.Prasanth Kumar	
19	M.Mansoor	
23	R.Jaswanth Sai	
26	Vyshnavi Dangeti	
29	G.Jagadeesh	
33	P.Kiran Kumar	

2021-22

Regd.No.	Name of the Student	Mentor
318107121001	Amrita Korra	Prof.K.Srinivasa Rao
06	K.Suresh Kumar	
08	Lakshmi Manasa Dolai	
12	P.Sesha Sai	
15	S.Sri Venkata Sarath Chandra	
18	V.Buddha Dev Chowdary	
19	Y.Vivek Vikram	
24	K.Likhitha Rani	Prof.Babu Rao Jinugu
26	N.Chandra Mouli	
30	R.Mutyalaaidu	
33	S.Parthiva Sai	
318107121002	G.Deekshita	
05	K.Sai Siddhartha	
07	K.Mounika	
10	P.Sai Pranathi	
14	P.Nani Babu	
16	Srisailem Dileep Prasad Gowd	
20	Ch.Madhavi	Dr.Ch.Venkata Rao
22	G.Dinesh Kumar	
25	L.Nageswara Rao	
29	P.Ashok Kumar	
31	S.Kurmika Devi	
32	Shaik Abdul Rahamtullah	
318107121003	Hari Teja Redrouthu	
04	K.Vishal Kumar	
09	Mohammad Afroz Begum	
11	P.Hemanth Sai	
13	P.V.Padma Gayatri	
17	T.Revanth Krishna Sai	
21	D.Bhavana	
23	G.Prem Kumar	
27	N.Anil Kumar	
28	P.Raj Kumar	

B. Tech Mentor/Mentee System :

- Each faculty is allotted to a group of students as a Mentor

M. Tech Mentor/Mentee System :

- Each faculty is allotted to a group of students as a Mentor

2017-18

Regd.No.	Name of the Student	Name of the organization	Mentor
316207137004	Ch.Siva Teja	ARCI,Hyderbad	Prof.NBR Mohan Rao
05	K.Y.Durga Rao	DMRL	
08	P.Supraja	Discontinued	
09	P.Brahmanaidu	AU	
10	P.Sirisha	AU	
316207137002	B.Rekha Madhuri	DMRL	Prof.K.Srinivasa Rao
03	B.Santhi	DMRL	
11	P.Pavan Kumar	JINDAL	
12	Shaik Saleem	DMRL	
316207137001	A.Likhita	NML	Prof.Babu Rao Jinugu
06	K.Roja Rani	ARCI-Chennai	
07	M.Jaswanth Kumar	NML	
13	V.Anji Reddy	DMRL	

2018-19

Regd.No.	Name of the Student	Mentor
317207137002	B.Ram Chander	Prof.NBR Mohan Rao
03	B.Venkata Lakshmi	
07	Chitti Madhavi	
08	Ch.Prasanna	
317207137001	A.Vijaya Jeevana Santhi	Prof.K.Srinivasa Rao
06	B.Lakshmi Saranya	
11	N.Rupa Rani	
13	V.Usha Rani	
317207137004	D.Nikhita	Prof.Babu Rao Jinugu
09	K.Indu	
10	M.Kumarraja	
12	R.Swetha Sree	

2019-20

Regd.No.	Name of the Student	Mentor
318207137001	A. Prasada Rao	Prof.K.Srinivasa Rao
05	N.Sravva	
06	P.Durga Prasad	
07	P.Sharmila	
08	Samreen Sultana	
12	V.Vivek Vardhan	Prof.Babu Rao Jinugu
318207137002	G.Vara Prasad	
03	K.Jhansi	
04	K.Chittipramila	
10	S.Nagappa	
11	Swathi Roja Rani Doodi	Prof.Babu Rao Jinugu
13	Y.Ruchitha	

2020-21

Regd.No.	Name of the Student	Mentor
319207137012	Tiriveedi Joshua Kumar	Prof.K.Srinivasa Rao
03	I.V.R.V.Harika	
11	S.Sai Prakash	
01	Ch.Heerabhavani	
06	K.Amulyasri	Prof.Babu Rao Jinugu
319207137009	P.Lalitya	
05	J.Sravan Kumar	
10	P.Lavanya	
02	D.Viswanadham	
08	M.Rukesh	

2021-22

Regd.No.	Name of the Student	Mentor
320207137002	D.Simhachalam Naidu	Prof.K.Srinivasa Rao
05	Lava Kiran Kumar Kallepalli	
06	M.Magatha .Naik	
10	R.Bhavani	
12	V.Divya Sravanthi	
320207137003	G,Samuel Suraj	Prof.Babu Rao Jinugu
04	G.Mythri Sukkumari	
07	N.Umesh	
09	P.James Joy	
11	S.Nagamani	
13	Vijaya Lakshmi Nandigam	

Infrastructure :



- **Physical facilities**
 - Class rooms/ laboratories/Seminar halls
 - Class rooms : 04
 - Seminar Hall : 01
 - Laboratories : 10
 - Computing equipment: 10 no.
 - Smart Boards: 04 no.
- Research laboratories/others: 02
- Research Facilities :
 1. Corrosion & Welding Laboratory
 2. Metal Casting & Nano Composites Laboratory

Facilities available in the Department to cater the needs of UG/PG/Ph. D students

- ▶ **1. Laboratories have been upgraded in 1992 (MHRD), 1997 (AICTE) and UGC Plan grants.**
 - ▶ The Department has facilities for:
 - ▶ Metallographic Examination,
 - ▶ Heat Treatment,
 - ▶ Foundry Sand Testing,
 - ▶ Mechanical Testing,
 - ▶ Mineral Beneficiation,
 - ▶ Corrosion Testing and
 - ▶ Computational work.

2. Facilities available with the help of TEQIP

- ▶ Metallographic Image Analyzer,
- ▶ Stereo zoom microscope,
- ▶ Digital automatic Vickers micro & Macro hardness testers,
- ▶ Computer controlled 10 T UTM,
- ▶ Computerized corrosion testing equipment,
- ▶ TIG & MIG welding machines,
- ▶ Wear and abrasion test rig,
- ▶ 250 T extrusion press,
- ▶ Computerized weld corrosion tester,
- ▶ Portable hardness tester,
- ▶ ECAP model machines,

3. Facilities developed with MHRD Funds & Research Projects

- Research laboratories/others: 02
- Research Facilities :
 1. Corrosion & Welding Laboratory
 2. Metal Casting & Nano Composites Laboratory
- ▶ Established state-of-the-art laboratories specialized in:
 - ▶ Corrosion & Welding Laboratory
 - ▶ Welding,
 - ▶ Synthesis & Characterization of Nano materials & Nano Composites Laboratory
 - ▶ High Energy Ball mill and
 - ▶ XRD facility
 - ▶ Micro & Nano Particle size analyzer

Melting & Casting Facility



Characterization facilitates



Stereo Zoom Microscope



Olympus Image Analyzer
(Model: Olympus, C – 5060 – G x 4 Japan)



Model: Leco-LV 700 - USA

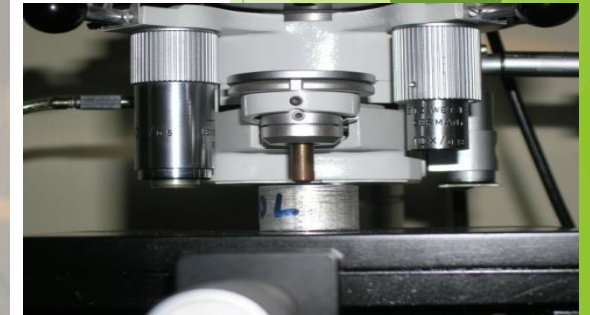
Digital Vickers/Brinell Hardness Tester



Hand Held Hardness Tester



Vickers micro hardness tester
(Model: Leitz Wetzlar - H5 853 - Germany)



Characterization facilities ... contd.

UTM for Workability studies
(Model: UT09103 AC- Mumbai, India)



200 T Extrusion Press



10 Tons Computer Controlled UTM

Pin on Disc Machine for wear studies (Model: Ducom TR- 20 LE)



TIG-Welding Equipment



03-11-2023

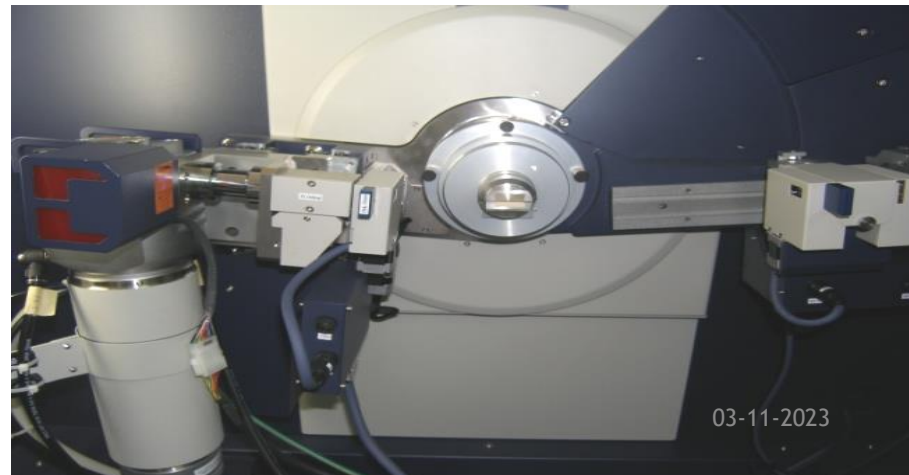
Corrosion Testing Equipment
Corrosion Testing Equipment for Corrosion studies

MIG-Welding Equipment

Synthesis and Characterization facilities on Nano alloys/Nano Composites



High Energy Ball Mill for synthesis of Nano materials



(a) X-Ray Diffractometer
(Model: 2036E201: Rigaku, Ultima IV, Japan)
(b) Closer view of the set up.

- Department library /e -resources/Wi-fi/internet facilities/Bandwidth/link to library e resources



Category	Available Internat bandwidth	Leased line document	Audited statement
NIMCET	1GBPS	Lr No. GMTD VM/AO(VAS)/CCT/GC/2017-20/104	<u>Copy Enclosed</u>

- New books acquired in the Department Library: **450 no.**

The screenshot displays the Shodhganga@INFLIBNET website interface. The header includes navigation links (Home, Browse, Help) and a search bar. The main content area features the Shodhganga logo and a description: "a reservoir of Indian theses @ INFLIBNET". Below this, a search bar is populated with "Andhra University". The search results are displayed in a table with columns for "Keyword", "Equals", and "Metallurgy and Metallurgical Engineering". The results list includes "Engineering" (25), "AA2219 Aluminium Alloy Friction S...", "Al/Cu bimetallic composite materi...", "Blast Furnace(BF)", and "Corrosion Behaviour-AA2219 Alumin...". The footer shows the Windows taskbar with the date and time (4:10 PM, 10/20/2023).

Students Support and Progression (contd.):Prominent Alumni

► The following achievements are noteworthy:

1. **Prof. Seeram Rama krishna- Vice President- NUS Singapore**
2. **Prof Rama Murthy Upadrashta** (alumnus 1985 - 89) received the prestigious **Shanthi Swarup Bhatnagar** award for the year 2011.
3. Four alumni bagged the coveted **Jawaharlal Nehru Fellowship for Ph D at Cambridge University** for three consecutive years - 1985, 1993, 1994 and 1995.
4. Three alumni got the **Young Metallurgist** award of Indian Institute of Metals for the years 1992, 1997 and 2002.
5. Two alumni are on Faculty at **National University of Singapore** and **University of Connecticut, Florida, USA.**
6. **Many alumni occupy Faculty positions** at IISc, BHU, IITs, JNTU, AU and Govt Polytechnics.
7. Some are working as **Scientists** at DMRL, IGCAR, DRDO and ISRO.
8. **Several alumni are excelling in Academics, Metallurgical and Software industries both in India and at abroad.**

Distinguished Alumni- 1st batch student-1985 B.Tech.passed out

Prof Seeram Ramakrishna

- NUS Singapore:
 - University Vice President (Research Strategy);
 - Dean of NUS Faculty of Engineering;
 - Director of NUS Enterprise; and
- Founding Chairman of Solar Energy Research Institute of Singapore (SERIS).
- Fellow of:
 - UK Royal Academy of Engineering
 - Indian National Academy of Engineering; and
 - ASEAN Academy of Engineering & Technology.
- Ph. D from the University of Cambridge, UK.



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- News and Opinion
- From the Editors
- On the road
- Community Guidelines
- More about the Community
- Instagram



Seeram Ramakrishna, FEng, Everest Chair

Professor & Chair of Circular Economy Taskforce, National University of Singapore

Singapore

Contact

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Profile

Content 24

About Seeram Ramakrishna, FEng, Everest Chair

UNESCO EGU2030 Global Expert Group member

(<https://www.uib.no/en/sdgbergen/141236/members-unesco-expert-group>).

Book: Knowledge-driven Actions: Transforming Higher Education for Global Sustainability, Adrian Parr, Agnes Binagwaho, Andy Stirling, Anna Davies, Cheikh Mbow, Dag Olav Hessen, Helena Bonciani Nader, Jamil Salmi, Melody Brown Burkins, Seeram Ramakrishna, Sol Serrano, Sylvia Schmelkes, Tong Shijun and Tristan McCowan (2022). UNESCO [61900], 100 pages, ISBN: 978-92-3-100505-3

Details

Website

[www.linkedin.c...](https://www.linkedin.com/in/seeram-ramakrishna)

Email

[seeram@nus.e...](mailto:seeram@nus.edu.sg)

Telephone

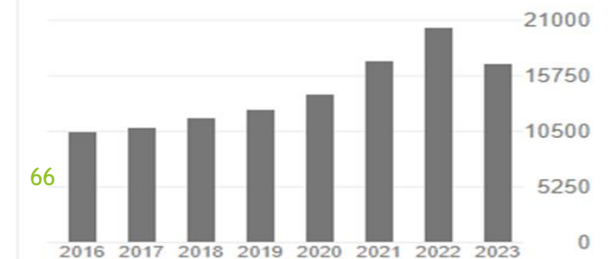
65 90107766

- ✓ 2nd Among the World's Most Influential Scientific Minds (Thomson Reuters);
- ✓ Highly Cited Researcher in Cross-Fields (Clarivate)

Cited by

[VIEW ALL](#)

	All	Since 2018
Citations	168574	92619
h-index	185	136
i10-index	1457	1287



Our Alumni Involved in Chandrayaan-III Mission



Narayana Murthy SVS · 2nd

General Manager, Liquid Propulsion Systems Center, Trivandrum

Thiruvananthapuram Taluk, Kerala, India · [Contact info](#)

271 connections



Praasd Reddy, Suresh Varma & Ravikanth etc.



Liquid Propulsion Systems
Centre (LPSC)



Indian Institute of
Technology Bombay



- Our alumni working in DRDO, DMRL and Midhani- Hyderabad

03-11-2023

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Fellow

RAMAMURTY Upadrasta

PROFESSOR & JC BOSE NATIONAL FELLOW

CURRENT NATIONALITY

India

CURRENT COUNTRY OF RESIDENCE

India

PAST NATIONALITY

India

AFFILIATION / INSTITUTION

Indian Institute of Science

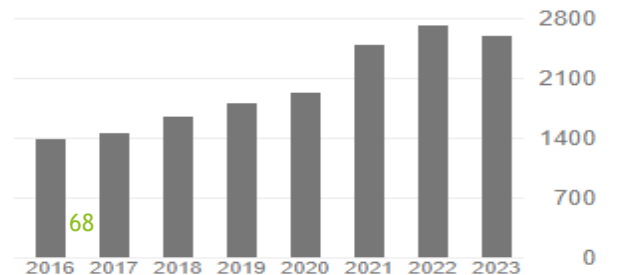
- **Prof Rama Murthy Upadrashta** (alumnus 1985 - 89) received the prestigious **Shanthi Swarup Bhatnagar** award for the year 2011.
- Professor, Dept. of Materials Engineering, Indian Institute of Science-
Bangalore

03-11-2023

Cited by

[VIEW ALL](#)

	All	Since 2018
Citations	23504	13205
h-index	80	56
i10-index	284	237



Faculty at Overseas Universities



Shivaram Devarakonda · 1st

Associate Professor at Tilburg University

Tilburg, North Brabant, Netherlands · [Contact info](#)

[413 connections](#)



Suresh Kodukula, Balaji Gupta Jami, and 9 other mutual connections



Tilburg University



Purdue University



Sravya Tekumalla (She/Her) · 2nd

Assistant Professor at University of Victoria

03-11-2023

Canada · [Contact info](#)



University of Victoria



National University of
Singapore

Ravi Sankar Kottada

Professor
Department of Metallurgical and Materials Engineering
Indian Institute of Technology Madras
Chennai - 600036, INDIA

e-mail: ravi.sankar[at]iitm.ac.in

Office address: MSB 105b, Mechanical Sciences Block

Phone: +91 44 2257 4779



Venkata Vamsi Koruprolu

Assistant Professor

- IIT Indore

Phone:

+91-731-660-3333, ext: 5568

Email:

kvvamsi@iiti.ac.in



Mithipati Bhaskar · 1st

Assistant Professor at Indian Institute of Technology Bhubaneswar (IIT Bhubaneswar)

Bhubaneswar, Odisha, India · [Contact info](#)



Indian Institute of Technology
Bhubaneswar (IIT
Bhubaneswar)



Indian Institute of Science
(IISc)

Faculty at Various IITs



Indian Institute of Technology (BHU) Varanasi
Faculty Profiles

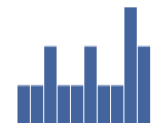


Vidwan-ID : 215417

[Edit Profile](#)

Prof B Nageshwar Sharma
 Professor
 Indian Institute of Technology BHU,
Varanasi

Publications 1995 - 2022



Department of Metallurgical Engineering
Indian Institute of Technology (BHU) Varanasi

[Courses](#) [Research](#) [Projects](#) [Laboratory](#)



Dr. N.C. Santhi Srinivas

Professor

Department of Metallurgical Engineering IIT(BHU)

Phone No(s): 9335004273

Email: ncssrinivas.met@iitbhu.ac.in

Area of Interest: Mechanical Metallurgy: Deformation and Fracture, Fatigue Behaviour of Advanced Structural Materials, Failure Analysis; Advanced Steels; Phase Transformations; Corrosion; Additive Manufacturing.

03-11-2023



Prof. Brahma Raju Golla

Associate Professor

Department of Metallurgical & Material Engineering

National Institute of Technology, Warangal - 506004, Telangana, INDIA

✉ : gbraju@nitw.ac.in, gbraju121@gmail.com

☎ : 8332969389

Research Interests: High Temperature Materials; Composite Materials; Advanced Materials Processing; Thinfilm Coatings; Tribology of Materials; Physical Metallurgy, Porous and Dielectric Materials



National Institute of Technology, Raipur

राष्ट्रीय प्रौद्योगिकी संस्थान, रायपुर

Home Email Directors of NITRR Alumni NIRF Contac

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The Institute Administration Department Research & Consultancy Examination Facilities Centers / Cell Media NITRRFIE

Ramavath Bheekya Naik

Department	Metallurgical Engineering
Designation	Assistant Professor
Educational Qualification	Ph.D
E-Mail	rbnaik.mme@nitrr.ac.in
Contact Number	7799367389



NAAC Visit 2023

Dr. RAFFI MOHAMMED

ABOUT

NAME: Dr. RAFFI MOHAMMED

POSITION: Assistant Professor & HOD

M.TECH: Industrial Metallurgy, Andhra University

PhD: Metallurgical Engineering, Andhra University

E-MAIL: raffimohammed@nitandhra.ac.in

PHONE: +91 9912164066, 8074681493

AREAS OF INTEREST: Materials Joining, Welding Metallurgy, Corrosion of Weldments, High Temperature Oxidation, Intergranular/Stress Corrosion Cracking, Surface Engineering, Metallurgical Failure Analysis. (Presently looking for Full Time Ph. D students on the above research areas).

03-11-2023

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Alumni in Research Laboratories

- Outstanding Scientist, Chief Project Engineer, and Associate Director of Fast Reactor Fuel Cycle Facility (FRFCF)
- As well as Head of Quality Assurance Division (QAD) of Indira Gandhi Centre for Atomic Research (IGCAR), Kalpakkam.
- Dr. Rao is a member of the International Standing Committee of Electromagnetic NDE and Chairman of NDT Sectional Committee of Bureau of Indian Standards (BIS).
- He is the President of Society for Failure Analysis (SFA).
- Chairman of various Chapters of professional societies such as ISNT, IIW, SFA and CMSI. Senior Professor of Homi Bhabha National Institute (HBNI).



**Dr. B P C RAO -
IGCAR- Kalpakkam**



Dr. G. Appa Rao



***Defence Metallurgical Research Laboratory
Kanchanbagh PO, Hyderabad-500058, India.
Email: gouduapparao@rediffmail.com***

**Currently working as :
Professor, Dept. of Materials and
Metallurgical Engg- University of Hyderabad.**

CSIR-National Metallurgical Laboratory - Jamshedpur



Dr. Gopala Krishna



Dr. Mudila Dhanunjaya Rao · 1st

Scientist, CSIR-National Metallurgical Laboratory, Jamshedpur #IIT BHU #The University of Edinburgh #AUCE



CSIR-National Metallurgical Laboratory



Indian Institute of Technology

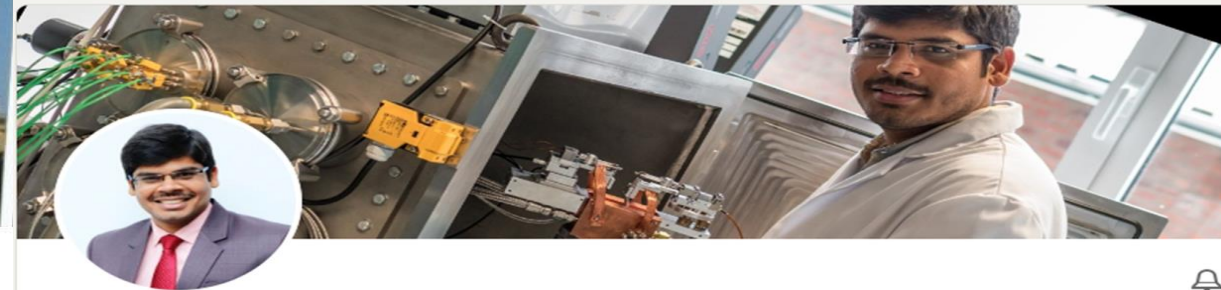
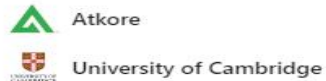


Alumni in Abroad with Entrepreneurship



Sree Harsha L. · 2nd
Principal Technology Development Engineer at Atkore
Greater Chicago Area · [Contact info](#)
500+ connections

 Suresh Kodukula, Balaji Gupta Jami, and 3 other mutual connections



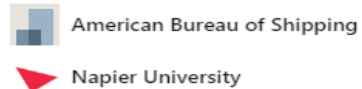
Viswanadh Gowtham Arigela · 1st
Entrepreneur | Dr.-Ing, Max Planck Society | IIT Roorkee | WHU MBA
Düsseldorf, North Rhine-Westphalia, Germany · [Contact info](#)
500+ connections

 Anil Kumar T, Venkata Vamsi Koruprolu, and 52 other mutual connections



Satya Meruva · 1st
Principal Materials Engineer at ABS
Greater Houston · [Contact info](#)
372 connections

 Mahesh Dogga, Balaji Gupta Jami, and 27 other mutual connections



Sameer Paital · 1st
Technologist Advanced IC Packaging, Yield and Integration at Intel Corporation
Chandler, Arizona, United States · [Contact info](#)
833 followers · 500+ connections





Anil Kurella (He/Him) · 1st
Director in Data Center and AI at Intel Corporation
Hillsboro, Oregon, United States · [Contact info](#)



268 connections
Maresh Dogga, Suresh Kodukula, and 14 other mutual connections



Haritha (Harry) Nukala (She/Her) · 1st
Thought Leader | Strategic Programs | Customer Experience | Operations



Talks about #xm, #qualtrics, #qualtricslife, #experiencemanagement, and #diversityandinclusion



Mahesh Dogga · 1st
Gießereiprozessingenieur
Markgröningen, Baden-Württemberg, Germany · [Contact info](#)
NAAC Visit 2023



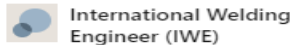
358 connections
Balaji Gupta Jami, Rami Chukka, and 17 other mutual connections



Dr. Rami Naidu, Obtained
Ph. D from NTU- Singapore,
PDF- Belgium, and
LFS Expert - Belgium



Rajesh Yedla, IWE · 1st
Experienced Welding Professional
Toronto, Ontario, Canada · [Contact info](#)
03-11-2023



500+ connections
Suresh Kodukula, Balaji Gupta Jami, and 22 other mutual connections


Alumni in India with Entrepreneurship

M. Venkata Rao



Satyanarayana Kuchibhatla · 1st
Positively Impacting Lives and Livelihoods through Innovation
Talks about #materials, #innovation, #socialimpact, #problemsolving, and #productdevelopment
Hyderabad, Telangana, India · [Contact info](#)
1,530 followers · 500+ connections

 Parisodhana Technologies Pvt. Ltd.
 University of Central Florida



FENIX Process Technologies
PROCESS ENGINEERING · EQUIPMENTS · TURNKEY SYSTEMS

HOME COMPANY PRODUCTS TECHNOLOGY SERVICES MEDIA
CONTACT

*from ENGINEERING concepts
to HIGH-END products*


YOUR PARTNER FOR WORLD CLASS MASS TRANSFER
PRODUCTS AND COMPLETE TURNKEY SOLUTIONS

News
20000 TPA SMO plant commissioned in Middle East





Balaji Gupta Jami · 1st
Proud BNI Member - BNI Amigos Chapter, Srikakulam, Andhra Pradesh
Srikakulam, Andhra Pradesh, India · [Contact info](#)
500+ connections
NAAC Visit 2023
Mahesh Dogga, Suresh Kodukula, and 35 other mutual connections

 VSR OM Enterprises
 Indian Institute of Technology, Roorkee



PRASAD CHNVV · 1st
Associate Vice President. Over 20 years of experience in Iron Ore Pelletisation and Beneficiation. Straight Grate, Grate Kiln and Circular Grate Technology 03-11-2023
Kendujhar, Odisha, India · [Contact info](#)

 Aditya Birla Group
 Andhra University

Alumni in Industries



Goutham Taalluri · 1st

Dy.Gen.Manager(QATD) at VISAKHAPATNAM STEEL PLANT

Andhra Pradesh, India · [Contact info](#)



VISAKHAPATNAM STEEL
PLANT, Visakhapatnam, India.



College of Engineering,
Andhra University,



Rajarathinam Sivakumar

Visakhapatnam Steel Plant | VIZAG · Research & Development

Doctor of Engineering

*presently working in Visakhapatnam Steel Plant as Deputy General Manager in
Research and Development department*



Dr. ANIL KUMAR PEETHALA · 2nd

Deputy General Manager Research and Development at RINL,
Visakhapatnam Steel Plant



RINL, Visakhapatnam Steel
Plant

03-11-2023



Andhra University

Students Support and Progression (contd.):



- **Alumni Contributions:**

- **Frequently visiting the Department and giving talks on career guidance**
- **Providing an opportunity to the B. Tech and M. Tech students for the Internship in their Organization**
- **Donated books to the Department Library : 350 no.**
- **Planning to contribute for providing extra space in the department premises**

Students Support and Progression (contd.):



○ Students Council and its activities

Name of the Department	Photographs	Report of the event	Year
Metallurgical Engineering	<u>(3-1-21)</u>	IIM Students Chapter Meet - 2017	2017-2018
Metallurgical Engineering	<u>(3-1-21)</u>	IIM Students Chapter Meet - 2018	2018-2019
Metallurgical Engineering	<u>(3-1-21)</u>	IIM Students Chapter Meet - 2019	2019-2020
Metallurgical Engineering	In view of Corona no event has been conducted	IIM Students Chapter Meet - 2020,2021 %2022	2020-2021
			2021-2022

S. No.	Name of the person/Designation	Topic of the Lecturer
1	Dr.G.Madhusudhana Reddy, Scientist – H& Director DMRL, Hyderabad	Welding Aspects of Advanced Materials Used in Defence and Aerospace Sectors
2	Er. S.V. Babu D.G.M (Maintanace), IOCL, Chennai	Corrosion and its Industrial applications
3	Dr. V. N. Mani, Scientist, C-MET Labs, Hyderabad	Development of Systems and Technology for Ultra-High Purification of Gallium for Emerging GAAS and Their Select Compounds Epitaxial Electronic Applications – An Indigenous Effort
4	Dr. G. Appa Rao Scientist – G, DMRL Hyderabad	Powder Metallurgy Processing of Advanced High Temperature Materials
5	Er. S. Mandal D.G.M (R&D), Vizag Steel Plant	Steel Scenario - Development of Steel Industry in , Present Status & Future Plans
6	Er. S. K. Sharma D.G.M. (R&D), NMDC, Hyderabad	Challenges Before Indian Industry
7	Prof. Seeram Rama Krishna, NUS Singapore Vice President- NUS Singapore	Address the Faculty and Students (UG/PG) on Advances in Metallurgy & Materials Engg.

Prof. Seeram
Ramakrishna
Visit on 12-12-2018





Visit of Alumni in
the eve of
Department day
celebrations
On
31-05-2018



Gold Medal institute
for Best Out Going
Metallurgist by the
Alumni in the eve of
Department day
celebrations



03-11-2023

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Prof. B S Murthy, Director- IIT Hyderabad
interacting with faculty



Prof. K . Srinivasa Rao, Professor & Alumni of
the Department facilitating the Alumni meet



Sri. Pugazhenty, President Indian Institute of Metals (IIM)-
Kolkata visit to Met. Engg Department on 21-07-2018.



NAAC Visit 2023



meet.google.com/vcq-fknj-txx?authuser=0

AKELLA SAI BHARGAV

Peela Lasya mm22d011

Prakash Kondapalli

SIMHA KRANTHI KIRAN

CHINTALA LITHIN

KORUPOLU UDAY KIRAN

PADALA UMASHANKAR

BORA VISWAPRIYA REDDY

GANDREDI GNANA DEEP...

DASARI THANUJA

GOVINDU KSHITIJ

Gowri Nalamamidi

Chenna Bhavana

MALLETI JAHNAVI

11 others

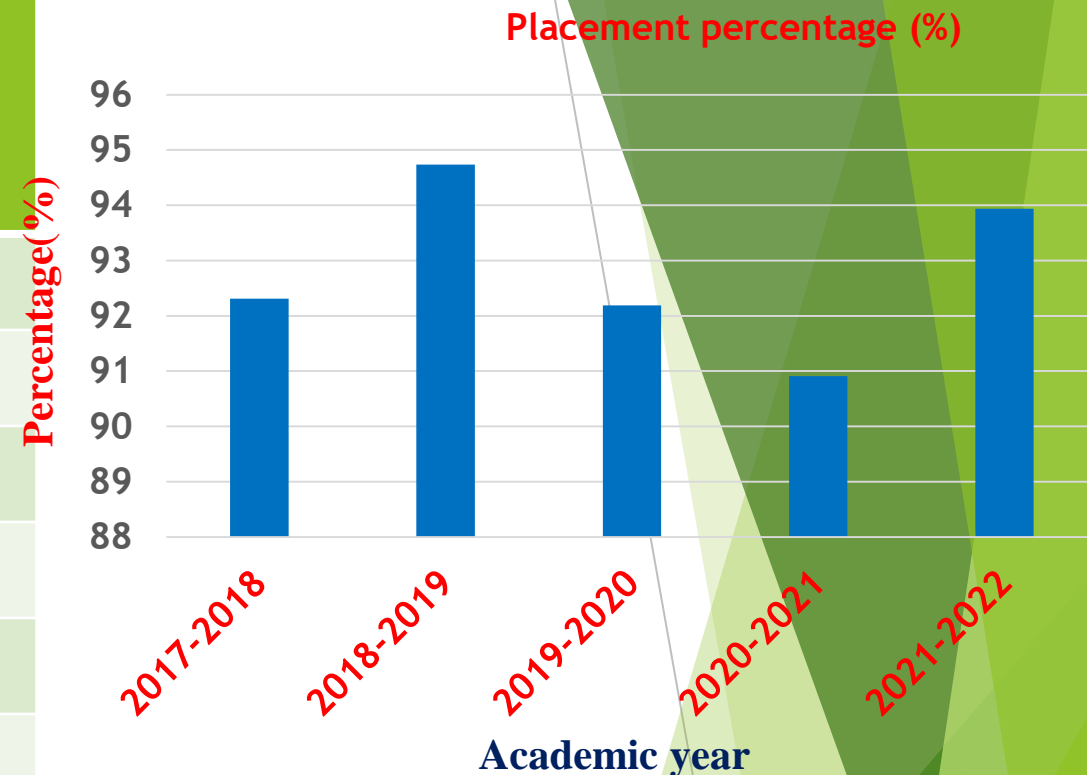
Rohit Varma

14:32 | vcq-fknj-txx

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Students Support and Progression (contd.): Placements

S. no	Year	Total no of students eligible for Campus placements	% Placements
1	2017-18	20	92 %
2	2018-19	22	95 %
3	2019-20	22	92 %
4	2020-21	20	91 %
5	2021-22	24	94 %
6	2022-23	30	95 %



Major Agencies for recruitment are :

1. Core companies like:

- L&T,
- Jindal Steel (JSW),
- South Eastern Railways,
- Atibir Industries Limited,
- Visakhapatnam Steel Plant, Visakhapatnam

2. Software companies like:

- TCS, WIPRO, Accenture, Infosys

3. DST-DAAD Fellowship, Germany :

- Ms. TVL Sravya (2012-13) $\frac{3}{4}$ B. Tech
- Jindal Steel Works (JSW)- Recruited entire class of 29 students into their company with a package of 6.0 LPA.

2017-2018

Placement Data (2017-2023)

2018-2019

S. No.	Name of the student	Company	% of placement
1	D.Sashi Ratnam	Railways	92%
2	D.Nikhil	Infosys	
3	K.Santosh Pavan	Infosys	
4	S.Jagadeesh Babu	Railways	

S. No.	Name of the student	Company	% of placement
1	D.Gopi Nadh	Athibin Coal Limited	95%
2	D.Nikhil	Athibin Coal Limited	
3	K.Santosh Pavan	Zindal Steel, Jharsiguda	
4	S.Jagadeesh Babu	Athibin Coal Limited	
5	P.Triveni	Zindal Steel, Jharsiguda	
6	VVSNP Paradesi Naidu	Junior Trainee, Visakhapatnam Steel Plant	

2019-2020

S. No.	Name of the student	Company	% of placement
1	KV Sai Charitha	TCS	92%
2	T.Raja Sekhar	TCS	
3	Bhargav Gondesi	TCS	
4	D.Harish	Junior Trainee, Visakhapatnam Steel Plant	

2021-2022

S.N o.	Name of the student	Company	% of placement
1	Lakshmi Manasa Dolai	FORD, NIPPON Steels, Cognizant	94%
2	K.Suresh Kumar	Infosys	
3	K.Mounika	FORD	
4	PV Padma Gayatri	Capgemini, Infosys	
5	G.Dinesh Kumar	Infosys	
6	K.Sai Siddhardha	Infosys	
7	K.Amrita	Infosys	
8	Shaik Rahmatullah	MYPPIT	
9	D.Bhavana	ARML	

2020-2021

S. No.	Name of the student	Company	% of placement
1	B.Jithendra Kumar	Atibir Industries Limited	91%
2	GES Shiva Kumar	Atibir Industries Limited	
3	G.Nidesh	Atibir Industries Limited	
4	KD Pavan Teja	Atibir Industries Limited	
5	P.Kiran Kumar	Atibir Industries Limited	

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Placement Data 2022-2023

S. No.	Name of the student	Company	% of placement
1	ALUGU NAGANANDA SHEKHAR	JSW	95%
2	BANDARU VENKATARAO	JSW	
3	BODDEPALLI ANUSHA	Cognizant	
4	BODULURI CHANDRA SEKHAR REDDY	Mahindra	
5	BONGU LIKITH KUMAR	JSW	
6	DANNINA INDU SREE	Cognizant	
7	DOLA UDAY ANAND DINA	JSW	
8	EMMADI PHANEENDRA KUMAR	JSW	
9	Gantyada yaswanth	JSW	
10	GIDUTHURI DEEPAK SAI	JSW	
11	IPPILI PRAGATHI	Cognizant	
12	KEMBURU SINDHURA	JSW	
13	MARADANA LAHARI NAIDU	Cognizant	
14	Meesala sandeep kumar	Cognizant	
15	MIRTHIPATI HARITHA	Federal Bank	
16	Mohammad Liyaqat	WESTLINE	
17	MULA HIMABINDU	JSW	
18	NARALA AASHRITHA	JSW	
19	PATCHIGOLLA AKSHAYA	Cognizant	
20	PONNADA SRINIVAS	Cognizant	
21	RAYUDU VEERA SAIVARAPRASAD	JSW	
22	RONANKI CHIRANJEEVI	Cognizant	
23	SEEPANA PARDHASAEESWARA RAO	Cognizant	
24	SESETTY BHAGYA KIRAN	WESTLINE (MERCHANT NAVY)	
25	VINAYAKA D RAO	L&T	
26	MATSA SANTOSH KUMAR	JSW	
27	PERICHARLA VARUN RAJU	Cognizant	

Students Support and Progression (contd.):



○ Higher Education

Name of the teacher/Mentor	Number of students guided	Name of student enrolling into higher education	Program graduated from	Name of institution joined	Name of programme admitted to	Identity card of the student/admission letters
Prof. J. Babu Rao	10	J.G.Prabhavitha	Andhra university	IIT-Khargpur	Metallurgy and Materials Engineering	<u>(3-1-21)</u>
		GVS Subhash	Andhra university	IIT-Madras	Metallurgy and Materials Engineering	<u>(3-1-21)</u>
Porf. K. Srinivasa Rao	11	V.Manoj Kumar	Andhra university	IIT-Kanpur	Metallurgy and Materials Engineering	<u>(3-1-21)</u>
		A.Sumanth	Andhra university	IIT-Kanpur	Metallurgy and Materials Engineering	<u>(3-1-21)</u>
		Pilla Divya	Andhra university	IIT- Hyderaad	Metallurgy and Materials Engineering	<u>(3-1-21)</u>
		R.Jaswanth Sai	Andhra university	IIT-Khargpur	Metallurgy and Materials Engineering	<u>(3-1-21)</u>

Students Support and Progression (contd.,)



- Extension and out reach programmes organized and participated
Photographs: NCC/NSS
- Mr. T. Anil Kumar- Invitation from MHRD- New Delhi to participate in Republic Day Parade - 2015 from the Prime Minister's box at the Rajpath.
 - Alumni supported to enable drinking water facility at a Tribal village in Paderu area
 - Arranged and Participated in blood donation camps
 - Arranged medical camps in Rural areas of Vizianagaram and Srikakulam districts
 - Active participation in NCC and attending Camps organized by Andhra University
 - Active participation in NSS and attending Camps organized by Andhra University

Shastri Bhawan, New Delhi - 1
New Delhi; dated 1st December, 2014

To

Teeda Anil Kumar
S/o Teeda Swi Appala Das
Andhra Pradesh

Subject: Republic Day Parade, 2015 – Participation of University/School toppers.

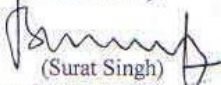
Dear Student,

I am directed to say that you have been selected this year to witness the Republic Day Parade, 2015 from the Prime Minister's Box at Rajpath. A total of 100 meritorious students from all over India are invited every year to witness the Parade from the Prime Minister's Box. You will be paid 3 tier AC/AC Chaircar class to and fro rail fare by the shortest route from your present place of study/residence to Delhi to witness the Parade. In case you are living at Andaman & Nicobar/Lakshadweep at present, you will be paid minimum economy class airfare up to Kolkata/Kochi airports from where you will be paid train-fare to Delhi. This Ministry would also make your boarding and lodging arrangements from 25th to 28th January, 2015 in Delhi in case you are an out-station students. Students at present located at NCR of Delhi will not be provided any boarding arrangements. The detailed instructions in this regard are enclosed.

2. You are requested to confirm your participation along with consent letter from your parent/Guardian indicating their willingness allow you in participants in the function to the undersigned by Fax and Speed Post immediately or e-mail at hmsonkusare.edu@nic.in or urmilbal@nftwgmail.com In case of any clarifications, you may contact Shri Y.K.Vashist or Mrs. Urmila Balchandani at 011-23385897.

3. It may also be noted that your seating in the Prime Minister's Box would be subject to Security Clearance. We are taking up the matter of security clearance with the State Government/District Magistrate. You are also advised to pursue it with your District Magistrate/Police Commissioner.

Yours faithfully,


(Surat Singh)

Deputy Secretary(CU)
Telefax: 23381695

E-mail – surats.edu@nic.in

NAAC Visit 2023

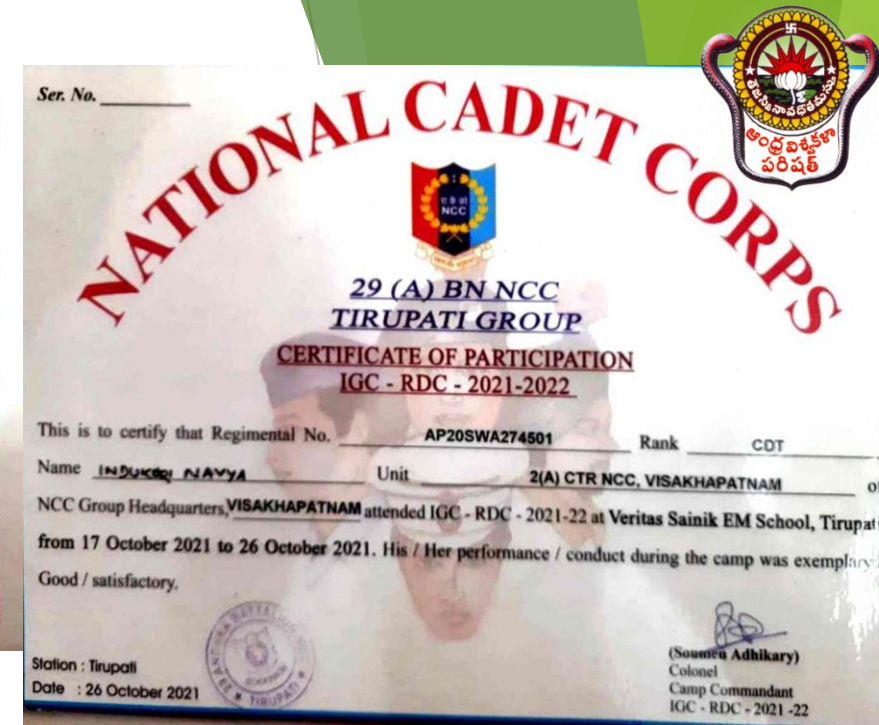
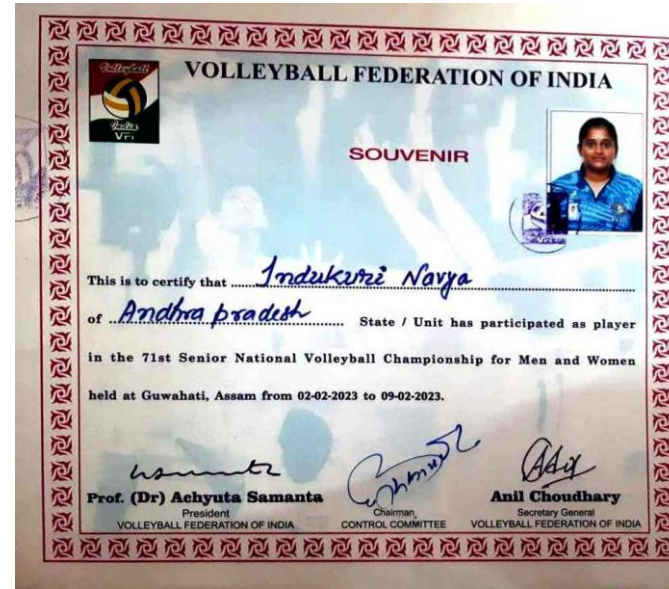
Encl.: as above.



03-11-2023

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○ Games/Sports- Awards to students

Year	Name of the award/ medal	Team / Individual	Inter-university / state / National / International	Name of the event	Name of the student	E-copy of Award Letter/ Certificates
<u>2017-18</u>	<u>Winner</u>	Individual	Inter-university	Basketball	M. Urmila	<u>3-1-21</u> <u>enclosed</u>
	<u>Participation</u>	Individual	Inter-university	Wrestling	V. Govinda Naik	
2018-19	Winner	Team	Inter-university	Basketball	M. Urmila & M Gopika Purnama	
2019-20	Participation	Individual	Inter-university	Judo	P James Joy	



Institution values and Social responsibilities:



- Gender Sensitization :
 - Anti sexual harassment committee constituted by AU authorities
- Anti ragging:
 - Anti Ragging committee constituted by AU authorities
 - Arranging Anti ragging awareness programmes in the Department, College and University level.



Student extension and out reach programs



- ▶ **Social Empowerment through UG & PG Students and Ph.D. Research Scholars Projects by using Advanced Research Labs and CoEs**
 - ▶ To promote academic-industry interaction
 - ▶ To expose students to state of the art technologies.
 - ▶ To encourage students to become Entrepreneurs.
 - ▶ To encourage students to take-up Research and Development as career options.
 - ▶ To promote Societal Empowerment and responsibility through social service.



NAAC Visit 2023

NSS activities



Blood Donation camp

97

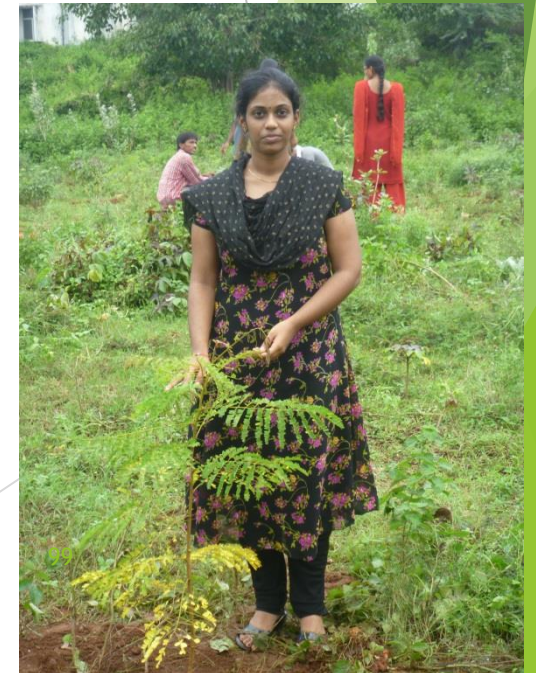


**Free Medical camp
programme at
Nallabelli, Vizianagaram
on
18-08-2021**





Plantation programme on 13-07-2018





NAAC Visit 2023

03-11-2023

100

Swachh Bharat program at the Department premises



- ▶ Inculcating Innovative systems by adopting multi disciplinary research to promote the Start up culture.
- ▶ Adopting holistic personality development to promote:
 - ▶ Sports
 - ▶ Yoga practices
 - ▶ Emotional (Digital therapy centers)
- ▶ Enhance the software Skills (C, Python, MATLAB etc.) to hit the placements from various software companies.
- ▶ Increase the employability skills by visiting the students to Metallurgical Industries/Research Institutes in order to increase the placement rate.

Best Practices - contd..

- E- Waste management
- Solid waste management -GVMC recyclers
- Liquid waste management -pits
- Rain water harvesting pits

- Waste Management
- Water conservation



Governance, Leadership/Management:



- **Academic Audit:**

- Participating every year through IQAC cell, Andhra University

- **Quality Audit:**

- Participating every year through IQAC cell, Andhra University

- **ISO Records:**

- Maintaining ISO records in tune with Andhra University ISO certification process.

Future Plans



■ Research Culture

- ▶ Research projects Proposals,
- ▶ Peer Review Publications
- ▶ Books Publications & Patent Commercialization,
- ▶ Multi-Disciplinary Research

■ Employability Skills

- ▶ Professional Trainings,
- ▶ Alumni Talks,
- ▶ Internships

■ Social Responsibility

- ▶ Doing Ph.D. & Projects relating to industry and Society problems

• Personal development

- HR Trainings,
- Seminars,
- Skill Development Programmes ,
- Student Exchange Programmes

• Technical Skills

- Innovative Teaching Methods,
- Online courses,
- Industrial Visits,
- Technical Seminars,
- Minor & Honorary Degrees



Thank You