



*Certificate Course  
ON*

## ***METALLURGY & MATERIAL SCIENCE IN INDUSTRIES- SUSTAINABILITY AND VALUE ADDITION***

*From 30<sup>th</sup> July 2018 to 4<sup>th</sup> August 2018*



**ORGANIZED BY**

**DEPT. OF MECHANICAL ENGINEERING**

**AVANTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY,**

(Approved by AICTE, Permanently Affiliated to JNT University Kakinada,  
ACCREDITED BY NAAC and Recognized under 2(f) & 12 (b) by UGC, New Delhi)  
Tamaram, Makavarapalem, Narsipatnam (RD), Visakhapatnam-531113

## **AVANTHI EDUCATIONAL SOCIETY**

Avanthi Educational Society under the Leadership of Sri M. Srinivasa Rao garu as chairman was started in the Year 1991. Within a short span of its establishment, the group has made a remarkable stride in the field of education offering various courses at Under Graduate, Post Graduate, Pharmacy & Engineering levels. This milestone is achieved as the institution carved itself to impart quality and career oriented education, countering the challenges of the modern world through planning, dedication, determination, prompt execution and with the innovative ideas of our advisory board.

Today, Avanthi Educational Society is proud to have a strength of over 16000 students with 15 institutions under its ambit. It is the path of glory towards the success during the last 19 years. The institution has been adjudged many times as the second best educational institutions in the twin cities and 16th best in all over India through the impartial survey made by the renowned magazine "India Today".

## **AVANTHI INSTITUTE OF ENGINEERING & TECHNOLOGY**

AIET started in the year 1999 and offers various courses at Engineering and PG level. The college is providing with rooms, computer centre, laboratories and seminar hall with audio-visual equipments. Industry Institute interaction is conducted regularly to emphasize on the latest trends in the present market.



It is very near to Narsipatnam. Frequent bus facilities are available both from and to Visakhapatnam and Narsipatnam. Very safe and secure hostel facility is available for Girl students. These are the additional facilities besides excellent academic atmosphere in the college campus.

### **DEPARTMENT OF MECHANICAL ENGINEERING**

Mechanical Engineering department was started in the year 2005 with intake strength of 60 seats, this was increased to 120 students in 2012 and this was increased to 180 students in 2013. The department has well qualified and trained faculty members. It has well equipped laboratories and workshops and includes a CAD/CAM laboratory where students are imparted training in advanced production techniques and design and analysis of machine elements.

The department of Mechanical Engineering has been contributing its humble share of the Mechanical Engineering graduates for national needs. Several of the graduates who have passed out of this department are occupying responsible positions in various Engineering Industries like Hindustan Shipyard Limited, Renault Nissan, Varun Motors, Tata Consultancy Services, HP and IBM and holding responsible positions in the premier educational institutes in and outside India.

#### **CHIEF PATRON**

Smt .M.Gnaneswari  
President ,  
Avanathi Educational Society

#### **PATRON**

Dr. C P V N J Mohan Rao  
Principal,  
Avanathi Institute Of Engineering And Technology

#### **CHAIRMAN**

Sri. V. Harikiran  
Head of the Department  
Mechanical Engineering

### **ABOUT WORKSHOP**

In the context of current developments of advanced scientific phenomenon and their utilization in the action of complex engineering machines, an extraordinary demand has been imposed by design engineers on the materials that suit the need of interaction among the elements of safety, reliability, and economics of production, and even those of art and aesthetics. Under these constraints, it is essential that the design engineer takes into account the possibility or probability of failure and suitable measures to avoid them totally or to minimize the damages if they become inevitable. The course briefly discusses the fundamentals of metallurgical failure, why do materials fail, failure investigation and prevention, as well as the fracture mechanism and corrosion related failures.

### **TOPICS TO BE COVERED**

Chassis Design, Brief terminology - Multi point strut bar. Fender bar. Anti-roll bar, Types of chassis –Ladder frame chassis. Tubular space frame chassis. Monocoque frame chassis. Ulsab monocoque. Backbone frame chassis, Aluminium space frame. Carbon fibre monocoque, Suspension Unit - Brief terminology, Transmission system, Fuel Supply System and IC Engines.

For Registration, please contact Mr. M.S. Naidu, Assistant Professor,  
Department of Mechanical Engineering.



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## **DEPARTMENT OF MECHANICAL ENGINEERING**

### **CIRCULAR**

Date: 23/07/2018

We are happy to inform you that, Department of Mechanical Engineering, AIET is organizing six day certificate course on "Metallurgy & Material Science in Industries Sustainability and Value Addition" from 30<sup>th</sup> July, 2018 to 4<sup>th</sup> August, 2018 in physical mode for all IV B. Tech students. Interested candidates are directed to enrol above course on or before 22/07/2018. For further details contact Course Coordinator Mr. M. S. Naidu, Assistant Professor, Mechanical Engineering.

#### Resource Person Details:

1. Sri S. Phani Kumar,  
Assistant Professor.  
Department of Mechanical Engineering,  
ANITS College, Visakhapatnam.
2. Sri Chaitanya Vikas,  
Assistant Manager,  
HERO Cycles,  
Gujarat.

  
V. Harikiran

HOD of the Mechanical Engineering Department

Copy to: Principal, AIET

Head of the Department  
Department of Mechanical Engg.  
Avanthi Institute of Engg & Tech.,  
Makavarapalem, Visakhapatnam - 531113.



# AVANTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY

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## **DEPARTMENT OF MECHANICAL ENGINEERING**

A six-day workshop on

### **Metallurgy & Material Science in Industries - Sustainability and Value Addition**

30<sup>th</sup> July to 04<sup>th</sup> August 2018

#### **Syllabus of the Workshop:**

##### Chapter-1

- Fundamental knowledge of principle and physics involved in advance welding and joining process.

##### Chapter-2

- Thermal and structural finite element modelling of welded structures. Principles and physics involved in additive manufacturing (3D printing) process

##### Chapter-3

- Finite element analysis and modelling of laser-based manufacturing process.

##### Chapter-4

- . Fundamental knowledge and principles associated with micro forming and micro machining process.

##### Chapter-5

- Different types of unconventional machining process Laser, Abrasive, Water jet and so on

##### Chapter-6

- Hands on session on different (FE software-based simulation) on different advanced forming/welding techniques

#### **EXPECTED OUTCOMES**

- This workshop will provide insight on manufacturing industries in practical work
- It will strengthen participants skills in selection to perform various engineering operations with high precision results.

**COORDINATOR**

**HOD**

Head of the Department  
Department of Mechanical Engg.  
Avanthi Institute of Engg. & Tech.,  
Makavarapalem, Visakhapatnam-531113.





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### **DEPARTMENT OF MECHANICAL ENGINEERING**

#### **Metallurgy & Material Science In Industries- Sustainability And Value**

##### **Addition**

From 30<sup>th</sup> July 2018 to 04<sup>th</sup> August 2018

##### **Program Schedule**

###### **Session-1 (30/07/2018)**

9.00 AM to 11.00 AM - Introduction to metallurgy and Overview of materials

11.00 AM to 11.15 AM – Tea Break

11.15 AM to 1.15 PM –Structure of materials

1.15 PM to 2.15 PM – Lunch Break

2.15 PM to 4.15 PM – Metallic bonds and grain sizes and their boundaries (Hands-on training)

###### **Session-2 (31/07/2018)**

9.00 AM to 11.00 AM – Alloys and solid solutions need of alloys

11.00 AM to 11.15 AM – Tea Break

11.15 AM to 1.15 PM - Types of steel and Cast irons and their uses

1.15 PM to 2.15 PM – Lunch Break

2.15 PM to 4.15 PM – Effect of alloying elements on Fe-Fe<sub>3</sub>C system, TTT diagram

###### **Session-3 (01/08/2018)**

9.00 AM to 11.00 AM - Heat treatment of Alloys

11.00 AM to 11.15 AM – Tea Break

11.15 AM to 1.15 PM – Non-ferrous Metals and Alloys : Structure and properties of copper

1.15 PM to 2.15 PM – Lunch Break

2.15 PM to 4.15 PM – Ceramic materials : Crystalline ceramics, glasses, cermaets, abrasive materials, (Hands on Training)

**Session-4 (02/08/2018)**

9.00 AM to 11.00 AM – Composite materials : Classification of composites, various methods of component manufacture of composites,

11.00 AM to 11.15 AM – Tea Break

11.15 AM to 1.15 PM – reinforced materials, fiber reinforced materials

1.15 PM to 2.15 PM – Lunch Break

2.15 PM to 4.15 PM - applications of metallurgy in industries. (Hands on Training)

**Session-5 (03/08/2018)**

9.00 AM to 11.00 AM – metal ceramic mixtures, metal – matrix composites and C – C composites.

11.00 AM to 11.15 AM – Tea Break

11.15 AM to 1.15 PM - applications in Material science in manufacturing industries (Hands on Training)

1.15 PM to 2.15 PM – Lunch Break

2.15 PM to 4.15 PM – Q & A session

**Session-6 (04/08/2018)**

9.00 AM to 11.00 AM – Advancements in Composites.

11.00 AM to 11.15 AM – Tea Break

11.15 AM to 1.15 PM – Future Scope and Various Upcoming Programmes

1.15 PM to 2.15 PM – Lunch Break

2.15 PM to 4.15 PM - Valediction/Feedback



**COORDINATOR**

  
**HOD**

Head of the Department  
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Avanathi Institute of Engg. & Tech.,  
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DEPARTMENT OF MECHANICAL ENGINEERING

**Metallurgy & Material Science in Industries - Sustainability and Value Addition**

From 30-07-2018 to 04-08-2018

STUDENTS ATTENDANCE LISTS

S.NO	ROLL NUMBER	NAME OF THE STUDENT	30.07.2018	31.07.2018	01.08.2018	02.08.2018	03.08.2018	04.08.2018
1	15811A0301	ADDALA JAGADISH VARMA	✓	✓	✓	✓	✓	✓
2	15811A0302	ADDANKI PAVAN SAI VAMSI KRISHNAMACHARYULU	✗	✓	✓	✓	✓	✓
3	15811A0304	ALLAM TEJESHKUMAR	✓	✓	✓	✓	✓	✓
4	15811A0305	ALLUMALLI HARI BABU	✓	✓	✓	✓	✓	✓
5	15811A0306	AMALAKANTI DURGA MANIKANTHA	✓	✓	✓	✓	✓	✓
6	15811A0308	ANAKAPALLI HARIKRISHNA	✓	✓	✓	✓	✓	✓
7	15811A0309	ANALA RAVI	✓	✗	✓	✓	✓	✓
8	15811A0310	ANUPOJU RAJESH	✓	✓	✓	✓	✓	✓
9	15811A0311	BADE VINODH KUMAR	✓	✓	✓	✓	✓	✓
10	15811A0313	BATTI NAVEEN	✓	✗	✓	✓	✓	✓
11	15811A0314	BERA SAI KALYAN	✓	✓	✓	✓	✓	✓
12	15811A0315	BHAVIRSETTI TEJA	✓	✓	✓	✓	✓	✓
13	15811A0316	BHEEMARAJU KASI	✓	✓	✓	✓	✓	✓
14	15811A0317	BOBBARI KIRAN KISHORE	✓	✓	✓	✓	✓	✓
15	15811A0319	BODDETI NANI BABU	✓	✓	✓	✓	✓	✓
16	15811A0320	BOLISETTY JAYADEEP	✓	✓	✓	✓	✓	✓
17	15811A0321	BOREDDY NARENDRA REDDY	✓	✓	✗	✓	✓	✓
18	15811A0322	BUDDHA ROHITH KRISHNA RAJKUMAR	✓	✓	✓	✓	✓	✓
19	15811A0323	CHAPPA MODA MURALI	✗	✗	✓	✓	✓	✓
20	15811A0325	CHINTA EKATMA AKHIL	✓	✓	✓	✓	✓	✓
21	15811A0326	CHITIMOJU MANIKANTA PRAKASH	✓	✓	✓	✓	✓	✗

22	15811A0327	DODDI POLARAJU	✓	✓	✓	✓	✓	✓
23	15811A0328	DODDI RAJA SEKHAR	✓	✓	✓	✓	✓	✓
24	15811A0329	DODDI RAMA GANESH APPARAO	✓	✓	✓	✓	✓	✓
25	15811A0331	DULAM VARAHALA KUMAR	x	✓	✓	✓	✓	✓
26	15811A0332	DULLA BHARATHPHANINDRA	✓	✓	✓	✓	✓	✓
27	15811A0333	EDALADA SAINATH	✓	✓	✓	✓	✓	✓
28	15811A0334	ELLAPU RAMALAKSHMAN	✓	✓	✓	✓	✓	✓
29	15811A0335	ETAMSETTI CHIRANJEEVI	✓	✓	✓	✓	✓	✓
30	15811A0337	GALI SAMUEL CHRISTOPHER	✓	✓	✓	✓	✓	✓
31	15811A0338	GATREDDI BALAV VENKATESH	✓	✓	✓	x	✓	✓
32	15811A0339	GATREDDI HARISH	✓	✓	✓	✓	✓	✓
33	15811A0340	GIDUTURI MOHANA VENKATA SIVA KUMAR	✓	✓	✓	✓	✓	✓
34	15811A0341	GOLLU CHAITANYA KUMAR	✓	✓	✓	✓	✓	✓
35	15811A0343	GONTHINA BHARAT NARASIMHA PRUDHVI	✓	✓	✓	✓	✓	✓
36	15811A0344	GONTHINA NAGA DURGAPRASAD	✓	✓	✓	✓	✓	✓
37	15811A0345	GORLE NANI	✓	✓	✓	✓	✓	✓
38	15811A0346	GORLE SAI KUMAR	x	✓	✓	✓	✓	✓
39	15811A0347	GUDLA FEROSE KUMAR	✓	✓	✓	✓	✓	✓
40	15811A0349	IMANDI KASI NAGA SAI	✓	✓	✓	✓	✓	✓
41	15811A0350	JALAPALA SHIVA	✓	✓	✓	✓	✓	✓
42	15811A0351	JOMMALA SAI BABA	✓	✓	✓	✓	✓	✓
43	15811A0352	K YASWANTH KUMAR	✓	✓	✓	✓	x	✓
44	15811A0353	KADIYALA NAGENDRA KUMAR	✓	✓	✓	✓	✓	✓
45	15811A0355	KALIGATLA SAI CHANDU	✓	✓	✓	✓	✓	✓
46	15811A0356	KALLAPALLI DURGA PAWAN KUMAR	✓	✓	✓	✓	✓	✓
47	15811A0357	KAMIREDDI SAI KRISHNA RAJU	✓	✓	✓	✓	✓	✓
48	15811A0358	KANAKAGIRI AKSHAY	✓	x	✓	✓	✓	✓
49	15811A0359	KANDIKUPPA THARUN KUMAR	✓	✓	✓	✓	✓	✓
50	15811A0361	KANNAM NILESH	✓	✓	✓	✓	✓	✓
51	15811A0362	KARANAM RAMOJI	✓	✓	✓	✓	x	✓
52	15811A0363	KARRI BHASKAR	✓	✓	✓	✓	✓	✓



53	15811A0364	KARRI SRAVAN KUMAR	✓	✓	✓	✓	✓	✓
54	15811A0365	KATROJU RUPESH	x	✓	✓	✓	✓	✓
55	15811A0367	KORIBILLI G N R GOPAL	✓	✓	✓	✓	✓	✓
56	15811A0368	KORUVADA YERNAIDU	✓	✓	✓	✓	✓	✓
57	15811A0369	KADIMI SAI SUNITHA	✓	✓	✓	✓	✓	✓
58	15811A0370	REDDY POOJA	✓	✓	✓	x	✓	✓
59	15811A0371	KOTLA RAMASIVA	✓	✓	✓	✓	✓	✓
60	15811A0373	KOTTE THARUN	✓	✓	✓	✓	✓	✓
61	15811A0374	KUSALAPUDI KASU BABU	✓	✓	✓	✓	✓	✓
62	15811A0375	MAKIREDDY ATCHIYYANAIDU	✓	✓	✓	✓	✓	✓
63	15811A0376	MALLA POORNA CHANDRASEKHAR	✓	✓	✓	✓	✓	✓
64	15811A0377	MAMIDANNA SANDEEP	x	✓	✓	✓	✓	✓
65	15811A0379	MANJEETI NAVEEN	✓	✓	✓	✓	✓	✓
66	15811A0380	MATHURTI SIVA	✓	✓	✓	✓	✓	✓
67	15811A0382	MILARU SUBHASH	✓	✓	✓	✓	✓	✓
68	15811A0383	MOHAMMAD BHASEER	✓	✓	✓	✓	x	✓
69	15811A0384	MOLUGU SAMPREETH	✓	✓	✓	✓	✓	✓
70	15811A0385	MUDDA PAVAN SAI	✓	✓	✓	✓	✓	✓
71	15811A0386	MUDHUNURI VENKATAPATHI RAJU	✓	✓	✓	✓	✓	✓
72	15811A0388	MUTHYALA MAHESH RAMU	✓	✓	✓	✓	✓	✓
73	15811A0389	NAGUDASARI SASI VADAN	✓	✓	✓	✓	✓	✓
74	15811A0390	NOTLA ANIL KUMAR	x	✓	✓	✓	✓	✓
75	15811A0391	BODDU NAVEEN	✓	✓	✓	✓	✓	✓
76	15811A0392	PAILA SRINU	✓	✓	✓	✓	✓	✓
77	15811A0394	PALLAM NARENDRA SAI KUMAR	✓	✓	✓	x	✓	✓
78	15811A0395	PAPPALA SRINIVASARAO	✓	✓	✓	✓	✓	✓
79	15811A0396	PEDDINTI PREM KUMAR	✓	✓	✓	✓	✓	✓
80	15811A0397	PEELA JAGADEESH	✓	✓	✓	✓	✓	✓
81	15811A0398	PEELA P V N SWAMY NAIDU	✓	✓	✓	✓	✓	✓
82	15811A0399	PENTA SRIKANTH	✓	✓	✓	✓	✓	✓
83	15811A03A1	PETHAKAMSETTY HEMANTH HARSHA VARDHAN	✓	✓	x	✓	✓	✓
84	15811A03A2	PILLA VINOD KUMAR	✓	✓	✓	✓	✓	✓

85	15811A03A3	POLA SURESH	✓	✓	✓	✓	✓	✓
86	15811A03A4	POLAKI LINGARAJU	✓	✓	✓	✓	✓	✓
87	15811A03A5	POLIMERA SAI KUMAR	x	✓	✓	✓	✓	✓
88	15811A03A7	PRATHIPATI LAXMANA RAO	✓	✓	✓	✓	✓	✓
89	15811A03A8	PULAVARTHI MURTHY BABU	✓	✓	✓	✓	✓	✓
90	15811A03B0	PYLA JAGADEESH	✓	✓	✓	✓	✓	✓
91	15811A03B1	RACHAPATHI GOPI	✓	✓	x	✓	✓	✓
92	15811A03B2	RAJANA DURGAPRASAD	✓	✓	✓	✓	✓	✓
93	15811A03B3	RATNALA VIKAS	✓	✓	✓	✓	✓	✓
94	15811A03B5	REKAPALLI MADHU	✓	✓	✓	✓	✓	✓
95	15811A03B6	RONGALA GIRISH	✓	✓	✓	✓	✓	✓
96	15811A03B7	SABBAVARAPU KASI	✓	✓	✓	✓	x	✓
97	15811A03B8	SAI JAGANNADHA SAHU	✓	✓	✓	✓	✓	✓
98	15811A03B9	SANAPATHI SAI KUMAR	x	✓	✓	✓	✓	✓
99	15811A03C1	SATIVADA BALAJI	✓	✓	✓	✓	✓	✓
100	15811A03C2	SENAPATHI VENKATESH	✓	✓	✓	✓	✓	✓
101	15811A03C3	SIDDA VARAPRASAD RAO	✓	✓	✓	x	✓	✓
102	15811A03C4	SINGIDI SAI	✓	✓	✓	✓	✓	✓
103	15811A03C5	SURISSETTI PRAMOD KUMAR	✓	✓	✓	✓	✓	✓
104	15811A03C6	SURISSETTI SUDHEER KUMAR	✓	✓	✓	✓	✓	✓
105	15811A03C7	SURLA MURALI	✓	✓	✓	✓	✓	✓
106	15811A03C8	TATIPARTHI AKHIL	✓	✓	✓	✓	✓	✓
107	15811A03C9	TERAPALLI MURALI KRISHNA	x	✓	✓	✓	✓	✓
108	15811A03D0	NAKKA VIJAYA SAI SHANKAR NAIDU	✓	✓	✓	✓	✓	✓
109	15811A03D1	THATTA ARAVIND KUMAR	✓	✓	✓	✓	✓	✓
110	15811A03D2	THUMMALAPALLI RAMA KRISHNA	✓	✓	✓	✓	✓	✓
111	15811A03D3	UGGINA PRADEEP KUMAR	✓	✓	✓	x	✓	✓
112	15811A03D4	VARRE APPALA SATYA DURGAPRASAD	✓	✓	✓	✓	✓	✓
113	15811A03D5	VARRI CHARAN KUMAR	✓	✓	✓	✓	✓	✓
114	15811A03D6	VASA SAI KUMAR	✓	✓	✓	✓	✓	✓
115	15811A03D7	VEGI RAMU	✓	✓	✓	✓	✓	✓
116	15811A03D8	VELANKAYALA SRINU	✓	x	✓	✓	✓	✓
117	15811A03D9	VENTURI RAM PRASAD	✓	✓	✓	✓	✓	✓



118	15811A03E0	VIYYAPU ASHOK SAI	✓	✓	✓	✓	✓	✓
119	15811A03E1	YELLAPU YESWANTH	✓	✓	✓	✓	✓	✓
120	16815A0301	PEDIREDLA HEMA NEERAJA	✓	✓	✓	✓	✓	✓
121	16815A0302	ATTUMURI VARAPRASAD	✓	✓	✓	✓	✓	✓
122	16815A0303	BANTUPALLI SRI HARSHA	x	✓	✓	✓	✓	✓
123	16815A0304	BODDU VARAHALUDORA	✓	✓	✓	✓	✓	✓
124	16815A0305	BYLAPUDI SEKHAR	✓	✓	✓	✓	✓	✓
125	16815A0306	CHINTALA ASHOK KUMAR	✓	✓	✓	✓	✓	✓
126	16815A0307	CHINTHALA POTHURAJU	✓	✓	✓	✓	✓	✓
127	16815A0308	EEGALA VENKATESH	✓	✓	✓	✓	✓	✓
128	16815A0309	GARIKINA SOMESWARA RAO	✓	✓	✓	✓	✓	✓
129	16815A0310	GIDUTHURI GIREESUBABU	✓	✓	✓	✓	✓	✓
130	16815A0311	GINNE SANDEEP	✓	✓	✓	x	✓	✓
131	16815A0312	GOLLU SWAMY	✓	✓	✓	✓	✓	✓
132	16815A0313	JOMMALA MAHESH	✓	✓	✓	✓	✓	✓
133	16815A0314	KALLEMPUDI KISHORE	✓	✓	✓	✓	✓	✓
134	16815A0315	KANDREGULA LAXMAN SUNIL	✓	✓	✓	✓	✓	✓
135	16815A0316	KARANAM CHANDRA MOULI	x	✓	✓	✓	✓	✓
136	16815A0317	KARANAM RAVI TEJA	✓	✓	✓	✓	✓	✓
137	16815A0318	KASIREDDY UDAY KIRAN	✓	✓	✓	✓	✓	✓
138	16815A0319	KONATHALA CHAITANYA	✓	✓	✓	✓	✓	✓
139	16815A0320	KORADA UDAY KUMAR	✓	✓	✓	✓	✓	✓
140	16815A0321	KORUPROLU YESU RAJU	✓	✓	✓	✓	✓	✓
141	16815A0322	KOSETTY DURGA PRASAD	✓	✓	✓	✓	x	✓
142	16815A0323	KOSIREDDI GANGADHAR	✓	✓	✓	✓	✓	✓
143	16815A0324	KURMAPU KRISHNA RAO	✓	✓	✓	✓	✓	✓
144	16815A0325	MALLA DHANAJI VASU	✓	✓	✓	✓	✓	✓
145	16815A0326	MOLLI SIVA SANDEEP KUMAR	x	✓	✓	✓	✓	✓
146	16815A0327	MUMMIDISETTI SOMANATH GUPTA	✓	✓	✓	✓	✓	✓
147	16815A0328	NAIDANA NARESH	✓	✓	✓	✓	✓	✓
148	16815A0329	NANDAVARAPU MURALI	✓	✓	✓	✓	✓	✓
149	16815A0330	NAUGAPU VAIKUNTHA RAO	✓	✓	✓	✓	x	✓

150	16815A0331	PALLAPU SAI RUSHENDRA CHAKRAVARTHY	✓	✓	✓	✓	✓	✓
151	16815A0332	PITANA PRUDHVI RAJ	✓	✓	✓	✓	✓	✓
152	16815A0333	PRASADI VENKATA DURGA VARA PRASAD	X	✓	✓	✓	✓	✓
153	16815A0334	PUDI JAGADEESH	✓	✓	✓	✓	✓	✓
154	16815A0335	SAMPATH RAVINDRA VARMA BODDU	✓	✓	✓	✓	X	✓
155	16815A0336	SANAPATI THARAKESWARARAO	✓	✓	✓	✓	✓	✓
156	16815A0337	SARAGADAM DAMODAR RAO	✓	✓	✓	✓	✓	✓
157	16815A0338	SIYADRI DARAMAHESH	✓	✓	✓	✓	✓	✓
158	16815A0339	TAMARANA KUMAR	✓	X	✓	✓	✓	✓
159	16815A0340	YELLAPU NAGENDRA BABU	✓	✓	✓	✓	✓	✓



**COORDINATOR**



**HOD**

Head,  
Department of Economics,  
Anvanthi Institute of  
Technology, Visakhapatnam





**AVANTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY**  
(Approved by AICTE, Permanently Affiliated to JNT University Kakinada,  
ACCREDITED BY NAAC and Recognized under 2(f) & 12 (b) by UGC, New Delhi)  
Tamaram, Makavarapalem, Narsipatnam (RD), Visakhapatnam-531113

## **CERTIFICATE OF PARTICIPATION**

This is to certify that Mr/Mrs \_\_\_\_\_ of \_\_\_\_\_  
\_\_\_\_\_ has participated in the Certificate Course entitled  
on “**Metallurgy & Material Science in Industrial Sustainability and Value Addition**”  
during from 30<sup>th</sup> July 2018 to 4<sup>th</sup> August 2018 in Department of Mechanical Engineering.

**Coordinator**

**HOD**

**Principal**



## AVANTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY

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Tamaram, Makavarapalem, Narsipatnam (RD), Visakhapatnam-531113

### DEPARTMENT OF MECHANICAL ENGINEERING

A 5-Day Workshop on

### *Metallurgy & Material Science in Industries Sustainability and Value Addition*

Dated on - 30<sup>th</sup> July, 2018 to 4<sup>th</sup> August, 2018



Ms. [Signature]

**COORDINATOR**

[Signature]

**HOD**

Head of the Department  
Department of Mechanical Engg.  
Avanathi Institute of Engg. & Tech.,  
Makavarapalem, Visakhapatnam - 531113



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Tamaram, Makavarapalem, Narsipatnam (RD), Visakhapatnam-531113

**Department of Mechanical Engineering**

Dt: 05/08/2018

**BRIEF REPORT**

Department of Mechanical Engineering, Avanathi Institute of Engineering and Technology had organized a certificate course on “METALLURGY & MATERIAL SCIENCE IN INDUSTRIES-SUSTAINABILITY AND VALUE ADDITION” from 30<sup>th</sup> JULY 2018 to 04<sup>th</sup> AUG 2018.

We had Mr. S. Phani Kumar, Assistant Professor, from ANITS College as the speaker he explained each and every detail information about metallurgy and over view of materials, he started with the need for thermal and structural finite element modelling. One of the major advantage to minimize the waste, constant stream of innovation. He discussed the major limitation is metallurgical failure.

We had Mr. Chaitanya Vikas Assistant Manager from HERO Cycles. He started with the general usage for electrical & electronic material like aluminum, aluminum space frame etc. Some of the topics are focused by them during the course like ceramic materials, composite materials, he explained crystalline ceramics, Classification of composites, Reinforced materials. Later he concluded with the real time applications of metallurgy & material science in various industries.

**Coordinator**

**Head of the Department**

Head of the Department  
Department of Mechanical Engg.  
Avanathi Institute of Engg. & Tech.,  
Makavarapalem, Visakhapatnam- 531113.