Yantrik Avinya's Technical Magazine 2022-23

Department of Mechanical Engineering Dr.T.Thimmaiah Institute of Technology K.G.F, Oorgaum, Karnataka

Accredited by NAAC with 'A' Grade (Affiliated to Visvesvaraya Technological University, Belagavi Approved by AICTE- New Delhi)

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Dr TTIT

About The College

Dr. T. Thimmaiah Institute of Technology (Dr. TTIT), formerly known as Golden Valley Institute of Technology, was established in 1986 in Kolar Gold Fields, Karnataka. The institute is affiliated with Visvesvaraya Technological University (VTU), Belagavi, and is approved by the All India Council for Technical Education (AICTE), New Delhi. It has also received accreditation from the National Board of Accreditation (NBA) and the National Assessment and Accreditation Council (NAAC) with an 'A' grade.

Undergraduate Programs:

Dr. TTIT offers Bachelor of Engineering (B.E.) degrees in the following disciplines:

Mechanical Engineering, Electrical & Electronics Engineering, Mining Engineering, Electronics & Communication Engineering, Computer Science & Engineering, Civil Engineering, Artificial Intelligence & Machine Learning

The institute has a total intake capacity of 480 students across these programs.

Campus Facilities:

The 30-acre campus is equipped with state-of-the-art infrastructure, including:

Multiple classroom blocks, Well-equipped laboratories, A student center and amphitheater, A learning center with a digital library, Sports facilities such as tracks for athletics, football fields, cricket grounds, badminton courts, and a fully equipped gymnasium, Four hostel blocks accommodating both students and faculty Additionally, the campus offers amenities like high-speed internet, medical facilities, transportation, and separate hostels for boys and girls.

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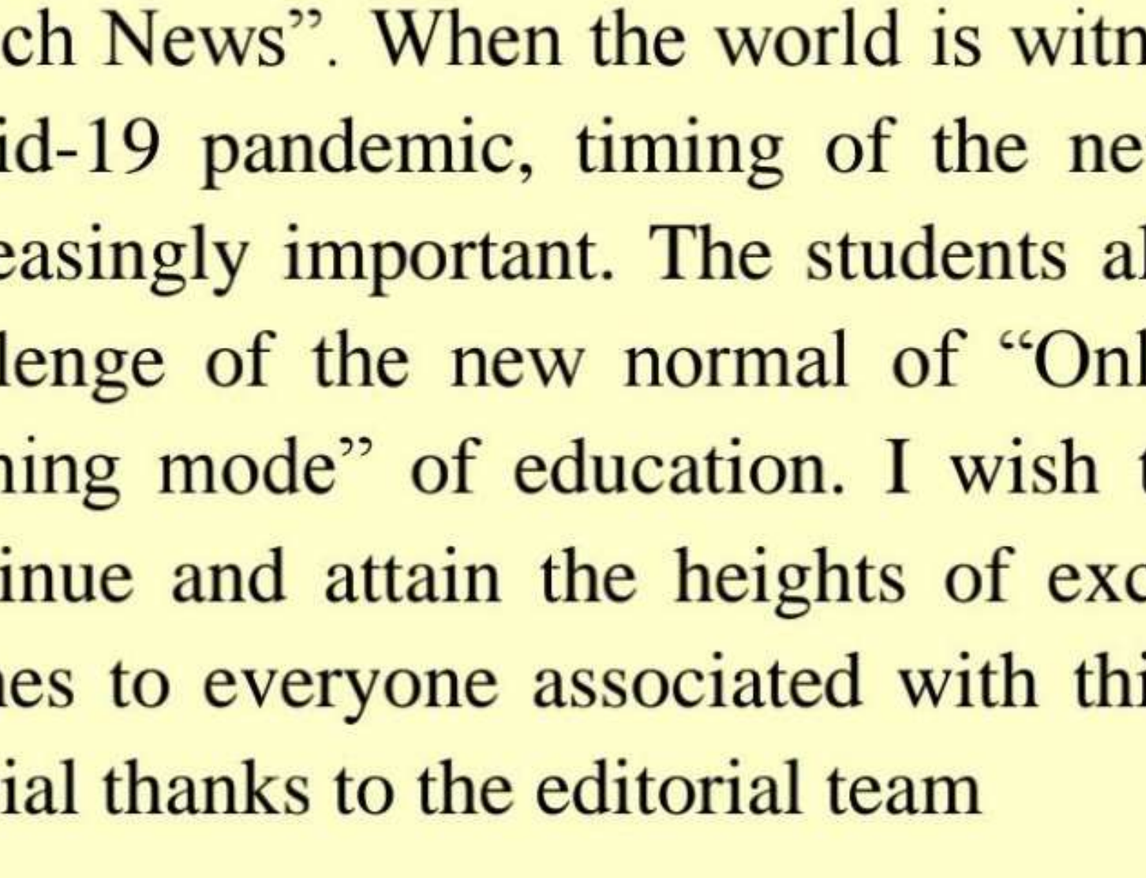
Message from President



It is indeed a proud moment that the Mechanical Department has initiated to bring out its Sixth edition of "Mech News". When the world is witnessing the deadly Covid-19 pandemic, timing of the newsletter becomes increasingly important. The students also are facing the challenge of the new normal of "Online teaching and learning mode" of education. I wish this newsletter to continue and attain the heights of excellence. My best wishes to everyone associated with this newsletter, and special thanks to the editorial team

Dr. T Venkat Vardhan

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Message from Principal

Dear Readers, It gives me immense joy to share that "Mech News" is doing very well. I appreciate the hard work of all students, faculty and wholeheartedly thank them for presenting the Seventh edition of Newsletter in a very informative and attractive way. This Newsletter consists of various articles on current trends meticulously curated by our editorial team. We hope it will inspire you and enrich you with practical knowledge in the field of Mechanical Engg. Once again, deepest gratitude to everyone for making the newsletter a great source of learning.

Dr. Syed Arrif

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Message from Chief Editor

Dear Readers, It is with great pleasure that we present this edition of Yantrik Avinya's Technical Magazine, showcasing the innovative ideas, research, and achievements of our students and faculty. Technology is evolving rapidly, and this magazine serves as a platform to share knowledge and inspire creativity. We appreciate the dedication of our contributors and editorial team in bringing this issue to life. Hope you find it insightful and engaging!

Dr. Mohan Kumar.K

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Students Editors for 2022-23

Final Year

Ajay Kumar K

Jai Karan

Mamtha G J

PreFinal Year

Vital

Surya

Varun Kumar

Second year

Vijay Arvind

Rohan Joshua

Vikram.S

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Department of Mechanical Engineering

VISION

To transform the students into technically competent Mechanical Engineers nurturing them in learning sustainable and innovative technology with professional ethics and social concern.

MISSION

M1 - Striving to empower students with fundamentals in the field of Mechanical Engineering with innovative, managerial and professional skills.

M2 - To create an environment for progressive learning through industry institute partnership.

M3 - Imparting quality technical education stressing on new technology with professional ethics for the benefit of the society.

PEO's

PEO1- Graduates will have successful professional careers in the industry, adapting to evolving needs with their strong foundation in science and engineering principles.

PEO2- Graduates will engage in higher studies and professional development, demonstrating innovation and research capabilities in solving real-world problems while being aware of their societal impact.

PEO3-Graduates will exhibit leadership, professional ethics, effective communication skills, teamwork, and a commitment to lifelong learning.

PSO'S

PSO1- Design and develop components or systems in the field of Mechanical Engineering.

PSO2- Apply modern hardware and software technologies to perform structural and thermal analysis.

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FACULTY ACHICVEMENTS

Our esteemed faculty members are dedicated to excellence in teaching, research, and innovation. Their contributions not only enhance the academic environment but also inspire students to achieve their best. Here are some of their notable achievements:

SCROLLWELL

Certificate of Achievement

DR MANJUNATHA BABU N S

from

DR T THIMMAIAH INSTITUTE OF TECHNOLOGY

has completed:

NATIONAL LEVEL FACULTY DEVELOPMENT PROGRAMME ON ONLINE TEACHING PLATFORM AND TOOLS (TECHNOLOGY MANAGEMENT IN EDUCATION)

This online Faculty Development Programme helped to discover modern productivity strategies with hands-on practical implementation with the pace of growing trends in education with interesting facts, trends, and insights.

FDP Duration: 21 Days
Date: November 25 - December 15, 2022

Roshan Kumar
Founder and CEO
Scrollwell

Certificate ID: SWCERT20220788
Date of Issue: December 16, 2022

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lendi Institute of Engineering & Technology
An Autonomous Institution
Approved by AICTE & Permanently Affiliated to JNTU Gurajada, Vizianagaram

Accredited by NBA For B.Tech ECE|CSE|EEE|Mech.,
Accredited by NAAC 'A' GRADE
'AAA' by Careers 360

CERTIFICATE

OF PARTICIPATION

PROUDLY PRESENTED TO

Dr. SAMPATH.A

DR.T.T.I.T , K.G.F

for participating in the One Week Online Faculty Development Program on "INTEGRATING AUTODESK FUSION - 360 IN ENGINEERING SUBJECTS" held from 26th June - 01st July, 2023, organized by the Department of Mechanical Engineering, Lendi Institute of Engineering & Technology, Vizianagaram, Andhra Pradesh, in association with AUTODESK (Academic & Learning partner)

Dr.V.V Rama Reddy	Dr.Satish Pujari	Mr. M. Daniel Silas Kumar
Principal	Head of the Department	Convenor - FDP

Azadi Ka Amrit Mahotsav

NAVODAYA INSTITUTE OF TECHNOLOGY

(Approved by AICTE, Affiliated to Visvesvaraya Technological University, Belagavi, Accredited by NAAC with "A" Grade)
(Recognized by UGC under section 2(f) & An ISO 9001-2015 Certified Institution) Raichur -584103,

Certificate of Participation

Dr Manjunatha Babu N S

Dr T Thimmaiah Institute of Technology
participated in the **e-quiz** as a part of **Azadi ka Amritmahotsav**
& 76th **Independence Day** Celebration organized by Department of Mechanical Engineering. Navodaya Institute of Technology, Raichur on 15th **AUGUST 2022**.

Srikar G Kulkarni	Dr.P. Rathnakumar	Dr.M.V.Mallikarjuna
Quiz coordinator	Professor &	

Siddaganga Institute of Technology, Tumakuru

Affliated to Visvesvaraya Technological University, Belagavi

International Conference on Recent Developments in Mechanical Engineering

ICRDME- 2023

(Sponsored by AICTE, New Delhi)

Moving Forward

03rd and 04th March

CERTIFICATE OF PRESENTATION

This is to certify that the paper titled "MECHANICAL BEHAVIOR AND TENSILE FRACTOGRAPHY OF BORON CARBIDE FILERS REINFORCED EPOXY L-12 POLYMER COMPOSITES" paper ID "65" authored by "Anitha Devi S H and Ghanashyam Shenoy H" was presented in the "International Conference on Recent Developments in Mechanical Engineering" (ICRDME-2023) organized by Siddaganga Institute of Technology, Tumakuru, Karnataka, India.

Dr. H. S. Shivashankar	Dr. H.R. Purushothama	Dr. S.V. Dinesh
Convener	Chairman & Head (Mechanical)	Principal
SIT, Tumkur	SIT, Tumkur	SIT, Tumkur

EDUXLABS

2022 MECHANICA IIT-MADRAS

CERTIFICATE OF COMPLETION

THIS IS PRESENTED TO

Dr. SAMPATH A

has successfully completed

Three Days Live Online workshop on

3D PRINTING TECHNOLOGY

From 23rd Dec - 25th Dec 2022

Organized by: EduxLabs (Esoir Business Solution LLP)

in Association with Mechanica IIT Madras

AJAY SINGH SITOLE	ISSUED ON:	MD.NAFISH
Secretary	26th Dec, 2022	Eduxlabs Director
MEA, IIT-Madras		(Esoir Business Solution)

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Golden Valley Educational Trust

Dr. Manjunatha Babu NS . <hod.mech@drttit.edu.in>

Invitation for Session Chair

2 messages

rajesh mathivanan a <rajesh.mathivanan@pes.edu> Sat, Jul 1, 2023 at 10:53 AM
To: "Dr. Manjunatha Babu N S" <hod.mech@drttit.edu.in>

Invitation Letter

Dear Dr Manjunatha Babu N S, DrTTIT, KGF

Greetings from the Department of Mechanical Engineering, PES University, Bengaluru, Karnataka, India.
We are pleased to inform you that the Department of Mechanical Engineering is organizing the 21st ISME International Conference on Advances in Mechanical Engineering. The present ISME Conference is the 21st in the series of conferences, jointly organized by PES University, Bengaluru and IIT Madras under the aegis of Indian Society of Mechanical Engineers (ISME), IITD, New Delhi, which will be held at PES University during 13th to 15th July, 2023.

On behalf of the Organizing Committee, we invite you as a Session chair at International Conference on Advances in Mechanical Engineering (ISME 2023) on

Date: July 14, 2023
Session 4, Track: 2A
Time: 10.45 AM to 11.45 PM
Venue: B611, BE Block

Looking forward to your kind acceptance and participation

with warm regards

Dr. N. Rajesh Mathivanan
Professor and Chairperson
Department of Mechanical Engg.
PES University, Bangalore 560 085
Organizing Secretary, ISME 2023 https://isme.pes.edu/

Dr. Manjunatha Babu N S <hod.mech@drttit.edu.in> Sat, Jul 1, 2023 at 11:36 AM
To: rajesh mathivanan a <rajesh.mathivanan@pes.edu>

Dear Sir,

Thanks for choosing me as a Session Chair for ISME 2023 and will ensure to participate actively.

Thanking you

Regards,
Dr. Manjunatha Babu N S., B.E, M.Tech, Ph.D., MISTE, MIE, IAEng, MIFERP
Associate Professor & Head - Mechanical Engineering

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ICTACADEMY®

CERTIFICATE OF PARTICIPATION

C.No: 023-208198

Date: 14 Jul 2023

MAHENDRAN J

Dr. T Thimmaiah Institute Of Technology, Kolar, Karnataka

has participated in 10 Hours of Faculty Development Program on

Digital Prototyping using CATIA (Online FDP)

conducted by ICT Academy on 10 Jul 2023 to 14 Jul 2023

ICT ACADEMY FACULTY DEVELOPMENT PROGRAM

Hari Balachandran
Chief Executive Officer, ICT Academy

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F.NO.AICTE/FDP-

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION

NELSON MANDELA MARG, VASANT KUNJ, NEW DELHI - 110070

CERTIFICATE OF PARTICIPATION

This is to certify that Mr. Saravana Prasad R from Dr. T. Thimmaiah Institute of Technology, KOLAR GOLD FIELDS has participated and successfully completed the 5-day online FDP / 3 days offline FDP / 8 days offline FDP on the theme "Inculcating Universal Human Values in Technical Education" organized by All India Council for Technical Education(AICTE) from 2023-04-03 to 2023-04-07.

National Coordination Committee for Induction Program

All India Council For Technical Education

BIJAPUR

INSTITUTION'S INNOVATION COUNCIL

EXCELR Raising Excellence

CERTIFICATE

OF PARTICIPATION

This is to certify that

Purnesh N

Participated in 5 Days Online International Faculty Development Program on

NLP and ChatGPT APPLICATIONS

organized by *SECAB Institute of Engineering & Technology* in Collaboration with *ExcelR Edtech Pvt. Ltd.*

Date: 14th Aug to 19th Aug 2023

19.8.2023

Dr. R. B. Khadiranaikar
Principal, SIET

Dr. Saba Fatima
FDP Coordinator-SIET

Ram Tavva
CEO, ExcelR Edtech Pvt. Ltd.

EDL Everyday Learning

Cert No: EXCELR-FDP-55350/28082023

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NEW INNOVATIONS IN MECHANICAL ENGINEERING

Between 2022 and 2023, mechanical engineering has seen significant innovations across various domains. Here are some notable advancements:

1. Additive Manufacturing (3D Printing): The evolution of additive manufacturing has enabled the creation of complex geometries with enhanced precision. Industries such as aerospace and healthcare have adopted 3D printing for rapid prototyping and producing lightweight components. For instance, Airbus has incorporated 3D-printed titanium parts in its A350 XWB aircraft, leading to weight reduction and improved fuel efficiency.

2. Soft Exoskeletons: Advancements in materials science have led to the development of soft exoskeletons. These wearable devices assist individuals with mobility impairments by providing support through flexible, lightweight structures. The MyoSuit, developed by MyoSwiss AG, exemplifies this innovation, aiding users in regaining movement capabilities.

3. Mechanical Transistors for Logic-with-Memory Computing: Innovations in mechanical computing have led to the development of mechanical transistors capable of performing logic operations with integrated memory. This technology offers potential applications in environments where traditional electronics may fail, providing robust computing solutions.

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	4. Mechanical Metamaterials: Research into mechanical metamaterials has introduced materials engineered to have properties not found in nature. These materials exhibit unique behaviors, such as negative compressibility and programmable responses, opening new possibilities in designing adaptive structures.

	5. Ultra-High Temperature Ceramic Matrix Composites (UHTCMCs): UHTCMCs have been developed to withstand extreme temperatures exceeding 2000°C, making them ideal for aerospace applications like thermal protection systems and propulsion components. The European Commission's C^3HARME project focused on creating these composites for severe aerospace environments.

	6. Necrobotics: A novel field termed "necrobotics" has emerged, involving the use of biotic materials as robotic components. Researchers at Rice University demonstrated this by repurposing deceased spiders as mechanical grippers, utilizing their natural hydraulic mechanisms for delicate tasks.

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STUDENTS ACHICVEMENTS

Our students continue to excel in academics, research, and extracurricular activities, making us proud with their outstanding achievements. Here are some of their remarkable accomplishments

GATE 2022

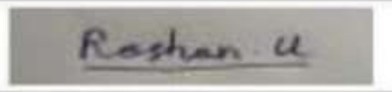
Graduate Aptitude Test in Engineering

अभियांत्रिकी स्नातक अभिक्षमता परीक्षा

GATE 2022 Scorecard

Graduate Aptitude Test in Engineering (GATE)

Name of Candidate	ROSHAN.U
Parent's/Guardian's Name	UDAY KUMAR.P
Registration Number	ME22S81227010
Date of Birth	21-Dec-2000
Examination Paper	Mechanical Engineering (ME)



GATE Score:	386	Marks out of 100*:		31.3	
All India Rank in this paper:	9933	Qualifying Marks**	General	EWS/OBC (NCL)	SC/ST/PwD
Number of Candidates Appeared in this paper:	89567		28.1	25.2	18.7

Valid up to 31st March 2025

Prof. Ranjan Bhattacharyya

Organising Chairman, GATE 2022
on behalf of NCB-GATE, for MoE

9ad4092b4165c6350dd0e2d059093269

* Normalized marks for Civil Engineering (CE) and Mechanical Engineering (ME) Papers

** A candidate is considered qualified if the marks secured are greater than or equal to the qualifying marks mentioned for the category for which valid category certificate, if applicable, is produced along with this score card.

Organising Institute: Indian Institute of Technology Kharagpur

General Information

The GATE 2022 score is calculated using the formula

$$\text{GATE Score} = S_q + (S_t - S_q)\frac{(M - M_q)}{(M_t - M_q)}$$

where,
M is the marks obtained by the candidate in the paper, mentioned on this GATE 2022 scorecard
$\mathbf{M_q}$ is the qualifying marks for general category candidate in the paper
$\mathbf{M_t}$ is the mean of marks of top 0.1% or top 10 (whichever is larger) of the candidates who appeared in the paper (in case of multi-session papers including all sessions)
$\mathbf{S_q}$ = 350, is the score assigned to $\mathbf{M_q}$
$\mathbf{S_t}$ = 900, is the score assigned to $\mathbf{M_t}$

In the GATE 2022 score formula, $\mathbf{M_q}$ is 25 marks (out of 100) or $\mu + \sigma$, whichever is greater. Here μ is the mean and σ is the standard deviation of marks of all the candidates who appeared in the paper.

Qualifying in GATE 2022 does not guarantee either an admission to a post-graduate program or a scholarship/assistantship. Admitting institutes may conduct further tests and interviews for final selection.

Graduate Aptitude Test in Engineering (GATE) 2022 was organized by Indian Institute of Technology Kharagpur on behalf of the National Coordination Board (NCB) – GATE for the Department of Higher Education, Ministry of Education (MoE), Government of India.

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DR T THIMMAIAH INSITUTE OF TECHNOLOGY - KGF

DEPARTMENT OF MECHANICAL ENGG

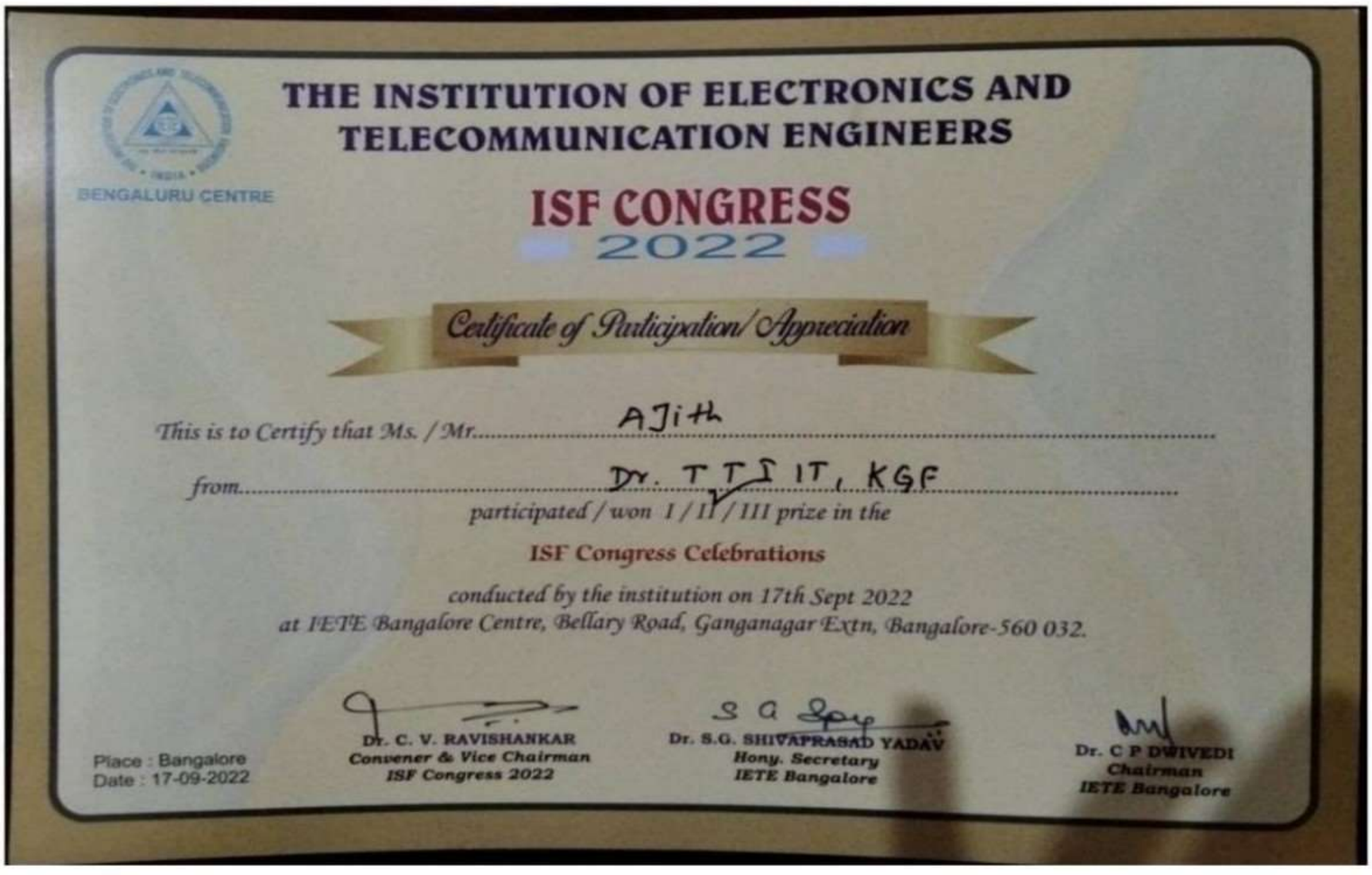
CONGRATULATES

MR. KARTHIKEYAN V

FOR SECURING 4TH RANK WITH 9.43 CGPA UNDER VISVESVARAYA TECHNOLOGICAL UNIVERSITY (VTU)

Regards,

TEACHING FACULTIES & TECHNICAL STAFF



THE INSTITUTION OF ELECTRONICS AND TELECOMMUNICATION ENGINEERS

BENGALURU CENTRE

ISF CONGRESS 2022

Certificate of Participation/Appreciation

This is to Certify that Ms. / Mr. AJith

from Dr. T T I IT, KGF

participated / won I / II / III prize in the

ISF Congress Celebrations

conducted by the institution on 17th Sept 2022
at IETE Bangalore Centre, Bellary Road, Ganganagar Extn, Bangalore-560 032.

Place : Bangalore
Date : 17-09-2022

Dr. C. V. RAVISHANKAR
Convener & Vice Chairman
ISF Congress 2022

Dr. S.G. SHIVAPRASAD YADAV
Hony. Secretary
IETE Bangalore

Dr. C P DWIVEDI
Chairman
IETE Bangalore

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Golden Valley Educational Trust

Dr. T. THIMMAIAH INSTITUTE OF TECHNOLOGY

Affiliated to VTU Belagavi,Approved by AICTE New Delhi,ISO 21001- 2018 Certified

Oorgaum Post, Kolar Gold Fields - Karnataka - 563120

BEST AWARD

CERTIFICATE OF ACHIEVEMENT

This is to Certify that Mr. Gopinath.M from the Department of Mechanical Engineering has participated in the "INNOVATION CONTEST" organized by Institution's Innovation Council, Dr TTIT, K.G.F, on 15th October 2022. The Project Titled "Exercising Water Pump" was awarded the project with "Best Model".

Prof. Ruckmani Divakaran
Dean - Academics

Dr. H. G. Shenoy
Vice-Principal & President IIC

Dr. Syed Ariff
Principal

Golden Valley Educational Trust

Dr. T. THIMMAIAH INSTITUTE OF TECHNOLOGY

Affiliated to VTU Belagavi,Approved by AICTE New Delhi,ISO 21001- 2018 Certified

Oorgaum Post, Kolar Gold Fields - Karnataka - 563120

BEST AWARD

CERTIFICATE OF ACHIEVEMENT

This is to Certify that Mr. Hemanth Kumar.N from the Department of Mechanical Engineering has participated in the "INNOVATION CONTEST" organized by Institution's Innovation Council, Dr TTIT, K.G.F, on 15th October 2022. The Project Titled "Exercising Water Pump" was awarded as the project with "Best Model".

Prof. Ruckmani Divakaran
Dean - Academics

Dr. H. G. Shenoy
Vice-Principal & President IIC

Dr. Syed Ariff
Principal

DEPARTMENT OF MECHANICAL ENGG,
DR T THIMMAIAH INSTITUTE OF TECHNOLOGY - KGF

CONGRATULATE

MR. MUSHAHID

For his Achievement in Qualifying

GATE 2023 Exam With a Score of 304 & All India Rank 881

Regards,

All Teaching Faculties

& Technical Staff

Golden Valley Educational Trust

GVET

Dr. T. THIMMAIAH INSTITUTE OF TECHNOLOGY

Affiliated to VTU Belagavi,Approved by AICTE New Delhi,ISO 21001- 2018 Certified

Oorgaum Post, Kolar Gold Fields - Karnataka - 563120

INSTITUTION'S INNOVATION COUNCIL

BEST AWARD

CERTIFICATE OF ACHIEVEMENT

This is to Certify that Ms. Sushmitha.G from the Department of Mechanical Engineering has participated in the "INNOVATION CONTEST" organized by Institution's Innovation Council, Dr TTIT, K.G.F, on 15th October 2022. The Project Titled "Exercising Water Pump" was awarded as the project with "Best Model".

Prof. Ruckmani Divakaran
Dean - Academics

Dr. H. G. Shenoy
Vice-Principal & President IIC

Dr. Syed Ariff
Principal

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Golden Valley Educational Trust

Dr. T. THIMMAIAH INSTITUTE OF TECHNOLOGY

Affiliated to VTU Belagavi,Approved by AICTE New Delhi,ISO 21001- 2018 Certified

Oorgaum Post, Kolar Gold Fields - Karnataka - 563120

CERTIFICATE OF ACHIEVEMENT

This is to Certify, that Mr. Praveen.V

from the Department of Mechanical Engineering studying in the Sixth Semester

has secured the FIRST Prize in the Poster Making competition on Business Plan organized by

Institution's Innovation council, Dr. T. Thimmaiah Institute of Technology, K.G.F.

Held on 26th May 2022.

Prof. Ruckmani Divakaran
Dean - Academics

Dr. H. G. Shenoy
Vice-Principal President IIC

Dr. Syed Ariff
Principal

GOLDEN VALLEY EDUCATIONAL TRUST

DR T THIMMAIAH INSTITUTE OF TECHNOLOGY

INSTITUTION'S INNOVATION COUNCIL
(Ministry of Education Initiative)

Affiliated to VTU Belagavi, Approved by AICTE New Delhi, ISO 21001– 2018 Certified
Oorgaum Post, Kolar Gold Fields – Karnataka – 563120,
Accredited with NAAC 'A' Grade

PROJECT EXPO-2023

Certificate of Achievement

This is to Certify that Mr/Ms. Yuvaraj. S from the Department of Mechanical Engineering has won I Prize in Project Expo -2023, for the project titled Design & Fabrication of Autobed Leveling on 3D Printers organized by the Institution's Innovation Council, Dr. TTIT, K.G.F on 20th May 2023.

Dr. Bharath M
Convener

Prof. Ruckmani Divakaran
Dean-Academics

Dr. H G Shenoy
Vice-Principal & President IIC

Dr. Syed Ariff
Principal

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Government of Karnataka

GENERAL HOSPITAL

BLOOD CENTRE

Licence No. KTK/28C-42/96-97

Robertsonpet, Kolar Gold Fields - 563 122.

☎ : 08153-260379

CERTIFICATE OF VOLUNTARY BLOOD DONATION

Smt / Sri VISHNU RAJ

We appreciated your kind gesture of voluntarily donating one unit of 'B' +ve blood to the Blood Transfusion & Immunohaematology unit, General Hospital, Kolar Gold Fields, on 16th June 2023

We are grateful for your help in saving precious life.

BLOOD CENTRE OFFICER

DONATE BLOOD SAVE LIFE

DISTRICT SURGEON

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Golden Valley Educational Trust

Dr. T. THIMMAIAH INSTITUTE OF TECHNOLOGY

Affiliated to VTU Belagavi,Approved by AICTE New Delhi,ISO 21001- 2018 Certified

Oorgaum Post, Kolar Gold Fields - Karnataka - 563120

CERTIFICATE OF ACHIEVEMENT

This is to Certify that Mr. Nitish.B.R from the Department of Mechanical Engineering has participated in the "Dr. TTIT PROJECT EXPO - 2022" organized by Institution's Innovation Council, Dr TTIT, K.G.F, on 29th June 2022. The Project Titled "Fabrication of Vortex Bladeless Wind Mill" was awarded as the " Best Project".

Prof. Ruckmani Divakaran	Dr. H. G. Shenoy	Dr. Syed Ariff
Dean - Academics	Vice-Principal & President IIC	Principal

Golden Valley Educational Trust

Dr. T. THIMMAIAH INSTITUTE OF TECHNOLOGY

Affiliated to VTU Belagavi,Approved by AICTE New Delhi,ISO 21001- 2018 Certified

Oorgaum Post, Kolar Gold Fields - Karnataka - 563120

CERTIFICATE OF ACHIEVEMENT

This is to Certify that Mr. Naresh Dev.N from the Department of Mechanical Engineering has participated in the "Dr. TTIT PROJECT EXPO - 2022" organized by Institution's Innovation Council, Dr TTIT, K.G.F, on 29th June 2022. The Project Titled "Fabrication of Vortex Bladeless Wind Mill" was awarded as the "Best Project".

Prof. Ruckmani Divakaran	Dr. H. G. Shenoy	Dr. Syed Ariff
Dean - Academics	Vice-Principal & President IIC	Principal

FUN FACTS MECHANICAL ENGINEERING

A Mechanical Engineer Designed the First Modern Escalator – Jesse W. Reno built the first working escalator in 1896 as an amusement ride!

The First Vending Machine Was a Mechanical Marvel – Ancient Greek engineer Hero of Alexandria invented a coin-operated holy water dispenser in the 1st century AD.

. Your Car's Airbags Inflate in Less Than 0.05 Seconds – Thanks to mechanical engineers, airbags deploy faster than the blink of an eye to save lives.

6. The Eiffel Tower Expands and Contracts – Due to thermal expansion, the tower grows by about 15 cm (6 inches) in summer and shrinks in winter!

Leonardo da Vinci Was a Mechanical Engineer – The famous artist was also an engineer, designing machines, weapons, and even an early version of a helicopter!

Scanned with OKEN Scanner

Student Projects

"Fabrication Of GSM Operated Mover"

Abilash L, Dinesh Kumar S, Gritto A, and Prakash R

Under the Guidance of Mr.Anand Gadekar

Abstract

Technology has been redefining itself since from the evolution of mankind. Man, since from the beginning had strived hard to make the life of the upcoming generation simple and automated to carry out work with much ease. In recent years, there are development of Automation and communication process on a large scale. Here we are using both the technologies together. Controlling the machines or movers by Smartphone's is gaining its grip in field of communication technology. The aim of our project is to present a GSM based wireless operated mover. Conventionally wireless movers have a drawback of limited working range, limited frequency, & limited control. Some movers use the Bluetooth connectivity to control the mover with help of Bluetooth connectivity where it can be driven only in a limited range area. Use of mobile phones network by using DTMF Technology combined with IOT technology for controlling the mover can overcome these limitations. This mover has a working range as large as the network coverage area of the service provider. These types of wireless movers can be used in different applications by installing the required apparatus on the mover to do various jobs. In addition to this a mode switch is provided to switch on from DTMF control to IOT control of the mover. In cases of determining the location of the mover, GPS letracking has been added to the mover which can track the location in both modes of operation such as DTMF and IOT control. The information about the latitude, longitude etc can be tracked continuously using global positioning system.

Keywords: Global system for mobile communication (GSM), Dual tone multiple frequency (DTMF), Internet of things (IOT), Global positioning system (GPS).

Student Projects

"Development Of Spin Coater For Thin Film Deposition Of Epoxy & Its Composite"

Ragavendra.M, Mushahid, Shashidhar.D, Madhu.k
Under the Guidance of Dr. Mohan Kumar K

Abstract

Spin coating is a transient process of flow and mass transfer. Falling diffusivity, rising viscosity, and changing rheology as solvents evaporate from the remaining film complicate the process. An accurate theory of spin coating would permit better design and control of the process in its various applications. Basic principles of the flow mechanics, solvent transport, and film formation are laid out and stages of spin coating are identified. Spin coating is a batch process in which a liquid film is spread by centrifugal force onto a rotating substrate.At high rotation speeds, around 1000 to 10000 rpm, such devices spin low-viscosity liquids to thicknesses from a few microns down to a few nanometers, with thickness nonuniformities no greater than 1% (Moreau 1988).Solvent evaporation is greatly accelerated by the air flow induced by high spinning speeds; thus, the application, coating and drying of a film can be accomplished in less than a minute. Because of its speed, combined with its simplicity and low cost, spin coating is unusual as a batch coating process that is useful even in high-capacity industrial applications.As a result, spin coating has long been widely used in high-volume production of advanced electronics devices.

Keywords: *Spin coating, Epoxy, composite materials, Speed*

Student Projects

"Three Wheel Hybrid Forklift For Domestic Application"

Ashwin M, Jai Karab J, Mamatha G J and Pavan Kalyan N
Under the Guidance of Mr. Sagar S

Abstract

Solar panel is used to charge the battery by using PV array cells. This stored battery energy is used to drive the forklift. In today's life, there's a good type of forklifts, from the big significant loading truck to the one that works among slim aisles. Forklifts have become one in all the fundamental transportation tools we tend to use in our lives. With all the forklifts in existence, we discover that their square measure some enhancements that can be created to bring the self-propelled vehicle to a much better performance. Mechanical fork raise is associate improved and advance technology that helps caused revolution at intervals the mechanical industries these days all important engineering company uses it. Widespread use of the wheeled vehicle truck had revolutionized deposition practiced before the center of the 20th century.

A mix of cloth handling system is at intervals the employment, actual from that entirely physical to people who unit of measurement semi-automatic but manually controlled. Self-propelled vehicle has revolutionized warehouse work. They created to achievable for one person to maneuver thousands of pounds promptly.

Well maintained and safely operated forklifts build lifting and transporting freight infinitely easier. This may be the ultimate description of a conventional wheeled vehicle truck.

To enhances the technology any, this image module is created with remote technology, there by the operator can walk at the facet of the wheeled vehicle for higher visibility & the instrumentality area unit usually placed accurately (precision position). This may increase the protection of the operator.

Keywords: Forklift, Solar Panel, Battery, Technology, Wheel.

Student Projects

"Fabrication Of Eco-Friendly Rover For Spraying Pesticide"

Ajith M, Kiran K, Sanu V and Vidha Sagar N
Under the Guidance of Dr. Mohan Kumar K

Abstract

This paper presents an engineering solution to the current human health hazards involved in spraying potentially toxic chemicals to crops in the agriculture fields. When humans are exposed to the pesticides, the chronic health effects like cancer, nervous system damage, birth defects, infertility, damage to the liver, kidneys, lungs, and other body organs will be affected seriously. The effects may not appear for weeks, months, or even years after exposure, making it difficult to link health impacts to pesticides.

The alternative way to overcome this is by fabricating a rover which sprays the pesticide without contacting the pesticide. In this paper, the fabrication of a rover is explained. Usually, the rovers are made up of metals and plastics. Here, the rover is made up of bamboo, which is low-cost, eco-friendly, and easy to maintain. This rover is used to spray pesticide for a certain variety of crops.

Keywords: *rover, pesticide, eco-friendly*