

rajvada news

Department of Mechanical Engineering

R.V.R. & J.C. College of Engineering, Guntur-522019

Volume 30

July-December 2023

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Discipline

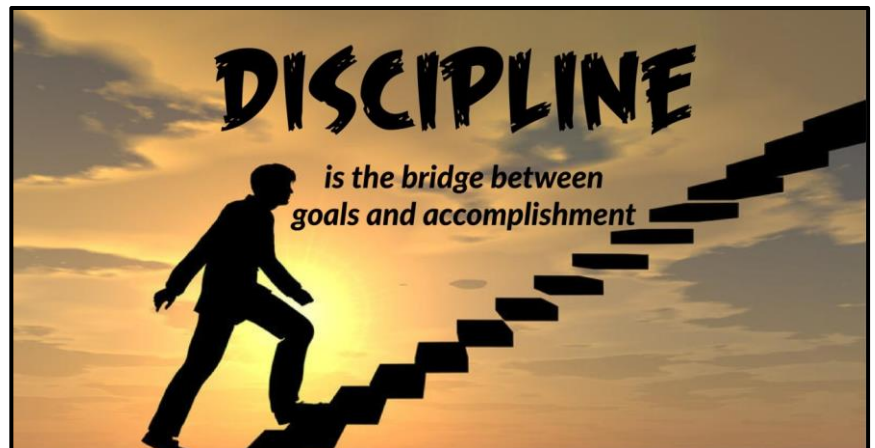
Discipline is the key to unlocking your potential. It's about **commitment** and **control**, following through on goals and managing your time effectively. This can be in academics, where discipline helps you achieve good grades, or in personal life, where it fosters healthy habits. Discipline brings **focus**, allowing you to prioritize tasks and avoid distractions. Ultimately, discipline is the muscle that gets you where you want to be in life.

Discipline is not a set of restrictive rules. It rewards appropriate behavior and discourages inappropriate behavior, using fair and positive means.



Tips for Maintaining Discipline

- ✚ **Set realistic goals:** Break down large projects into smaller, more manageable tasks. This will make it easier to stay on track and avoid feeling overwhelmed.
- ✚ **Create a schedule:** Develop a daily or weekly schedule that allocates time for studying, completing assignments, attending classes, and relaxing.
- ✚ **Find a study buddy:** Studying with a classmate can help you stay motivated and accountable.
- ✚ **Seek help when needed:** Don't be afraid to ask for help from professors, tutors, or classmates if you're struggling with a concept or assignment.
- ✚ **Take breaks:** It's important to schedule time for relaxation to avoid burnout.



Research Projects in Progress from Govt. Bodies

- ✚ AICTE project of Prof. V. Chittaranjan Das, and Dr. K. Praveen Kumar on 'Synthesis and characterization of MWCNT/UHMWPE nanocomposites for orthopedic applications' is in progress.
- ✚ A DST-AMT project of Dr. K. Sobha and Dr. S. Radhika on 'Wound dressing material containing copper coated cotton fabrics and piezoelectric electrospun biopolymer nano-fibrous composites' is in progress.

Industrial Research Projects in Progress

- ✚ Research project on 'Mechanical and electrical behaviour of boron & vanadium doped Fe-6.5 (wt. %) soft magnetic alloy ribbons fabricated by direct powder rolling' of K.Ravindra, V.Chittaranjan Das, K.Praveen Kumar, K.Snehita is in progress.
- ✚ Research project on 'Improvement of COP of air-conditioning systems by using different types of insulations and nano-compressor oil' of N.V.V.S.Sudheer, B.Ramgopal Reddy, V.Tarachand, and Md.Hasheer is in progress.
- ✚ Research project on 'Investigation on performance improvement methods of the transformer using nanofluids in the perspective of cooling of G.Srinivasarao, C.Srinivas, K.Balapradas, N.Govind, and Sneha.H.Dhoria is in progress.
- ✚ Research project on 'Evaluation and optimization of process parameters for agitation in concrete mixing' of C.Tarasasanka, S. Radhika, and J.P.Karthik is in progress.
- ✚ Research project on 'Development and characterization of boron & vanadium doped Fe-6.5(Wt. %) soft magnetic alloy ribbons with TiO₂ coatings' by K.Srinivas, D.V.V.Krishnaprasad, G.Chaitanya, V. Ramakoteswararao, J.Rangaraya Chowdary is in progress.
- ✚ Research project on 'Influence of heat treatment on the characterization of alumina reinforced AZ91 Mg alloy metal matrix composites' of Ch.Devaraj, M.Vijaya, A.Muddu, G. Kishore Chowdary, and K.Hari Prasad is in progress.
- ✚ Research project on 'Optimization of selective laser melting (SLM) process parameters using Taguchi and super ranking concepts to produce Ti-6Al-4V alloy samples' of R.Sreenivasulu, D.Swapna, K.L.Chaitanya, D.Kondalarao, Y.N.V.Sairam, T.N.S.Ramakrishna is in progress.

Patents filed/Published/Granted

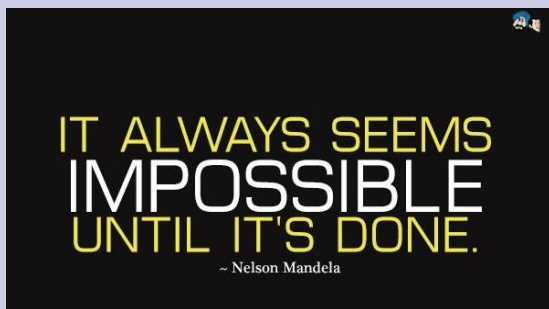
- ✚ Alias Paul, B.Sudheer Kumar, S. Thiruchitrambalam, K. Balasubramayam, Md. Faridhossain, P. Suresh Kumar,

and M. Sudhakar, 'A control system for internal combustion engines utilizing flexible alternative fuels and method thereof', Application No.202341042495A, publication date July 7, 2023.

- ✚ M.Chaitra, K.Kathiresan, M.Meikandan, P.Suresh Kumar, S.Madhavarao, P.Vijaykumar, and M. Sudhakar, 'Investigation on emission reduction potential of nickel and zinc coated catalytic converters', Application no.202341047372 A, publication date July 13, 2023.
- ✚ P.Suresh Kumar, Alias Paul, S. N. Padhi, R. SankarGanesh, Md. FaridHossain, Y.DuttaDwivedi and M.Sudhakar, 'An automated decompression mechanism for valve-regulated internal combustion engines', Application no.202341044193 A, publication date Sep. 01, 2023.
- ✚ K.Ravindra, G.Chaitanya, G.Kishore Chowdari, and D.Swapna, 'Efficient wind turbine blades with adaptive twist mechanism', Application no.202341057814 A, publication date. Sep.08, 2023.
- ✚ P. Sivasubramanian, Thiruchitrambalam, SayedAzeem Pasha, K.Chandramouli, Vemuvaraprasad, P. Suresh Kumar, and V. Prabhu, 'Natural fibre composites with improved impact resistance and preparation method thereof.' Application no.202321042501 A, publication date Sep. 15, 2023.
- ✚ G.Bharani Vishnu, M.V.P. Chandra sekhararao, K.Sobha, S. Radhika, B. Trinadh, B.Srinivasulu, A. Jesse, K.Venkatasai Kalyani, Srivalli, 'Novel cable operated lightweight and flexible prosthetic hand', with Application Number 202341066960 A, publication date Oct.21,2023.
- ✚ Siva Kumar Karthikeyan ShwetaSingh, P. Ranjith, YagyaDuttaDwivedi, P. Suresh Kumar, and M. Sudhakar, 'A novel natural fiber composites enhanced thermal conductivity', Application no.202321030936, publication date Nov. 17, 2023.
- ✚ S.Prashant, J. Sumalatha, K.Rajalakshmi, P.Sandeep, FaridHossain, and P. Suresh Kumar, 'Solar powered seawater desalination apparatus', Application no.396724-001, publication date Dec. 01, 2023.
- ✚ K.Srinivas, N.Govind, S.Radhika and K.L.Chaitanya, 'Smart HVAC system with integration of predictive climate control and machine learning', Application no 202341075000 A, publication date Dec.15, 2023

Textbook

- ✚ Richa kher, S. Jaisankar, Saurabh raj and P. Suresh Kumar, 'Principles and concepts of solar energy' Scientific International Publishing House (SIPH); ISBN:-978-93-5757-495-2.



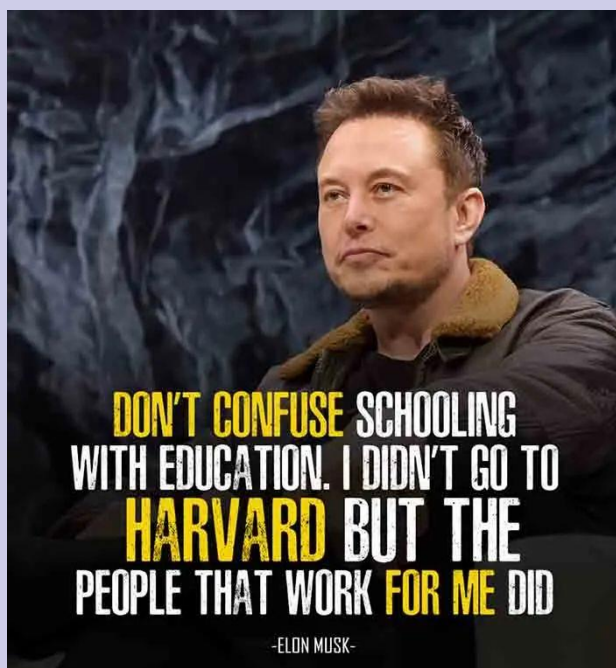
- A.Rajendra Prasad, C.Sailaja, V.Dinesh Kumar, P.Suresh Kumar, 'Elements of Mechanical Engineering', Scientific International Publishing House (SIPH); ISBN: 978-93-5757-783-0.

Workshop Organized

- A three-week DST funded- 'Women entrepreneurship development program' in online mode, was organized by S.Radhika and C.Tarasasanka during 21 Aug. -8 Sep, 2023.

Guest Lecture Organized

- A guest lecture on 'Do soft skills really matter for an engineering graduate' was delivered by Sri Raj Sajja, Vice President, Cloud Platform Practice Leader Genpact, Los Altos, California, USA, to the students on July 4, 2023.
- A guest lecture on 'Entrepreneurial journey of an Engineer' was delivered by Sri P.Balaji, Founder and CEO, Cloud Knox Security Inc, Sunnyvale, California, USA, to the students on July 4, 2023.
- A guest lecture on 'Innovations in E Mobility' was delivered by Dr.M.JaganmohanRao, Head of R &D, Erisha to the Dept. of ME students on Oct. 12, 2023.



Research Paper Publications

- J.L.Jayanthi, P.Rohinikumar, Sneha.H.Dhoria, J.Subbarao, M.Vijay, and J.Gouthami, 'Efficient removal of fluoride using sol-gel processed nanomagnesium oxide', Chemical Methodologies, Vol.7 (7), 569-580, July,2023. <https://doi.org/10.22034/chemm.2023.393347.1671> (WOS)
- S.Ananthakrishna , M.Nagaral, A.Chandrashekar , Meshe Q. Alkahtani,Ravikiran, Nithin Kumar, Virupaxi Auradi, Saiful Islam, J. Ranga Raya Chowdary, Abdul Razak, Md. Amir Khan, 'Influence of graphite particles on the mechanical and wear characterization of Al6082 alloy composites', ACS omega Vol. 8(30),26828-26836, July,2023. <https://doi.org/10.1021/acsomega.3c01313> (SCIE).
- Md. Shaik Hasheer, K.Srinivas, K.Balaprasad, and Y.N.V.Sairam, 'Theoretical investigation of low GWP refrigerant mixtures as an alternative to R-134a in a domestic refrigerator', Sigma Journal of Engineering and Natural Sciences, Vol.9(4),912-920,July,2023. <https://dx.doi.org/10.14744/sigma.2023.00115> (Scopus)
- V.Ramakoteswararao, M.Ravi Kumar, M.Sunitha, and K.Praveen Kumar, 'Microstructure, Mechanical & wear properties of Aluminium7075-Al2O3-SiC composites', Materials today: proceedings, Aug.2023. <https://doi.org/10.1016/j.matpr.2023.08.092>(Scopus)
- P.MastanRao, Sneha.H.Dhoria, S. Gopal Krishna, G.Radha Krishna, Meshel Q. Alkahtani, Saiful Islam, and M.Vijaya,'Artificial intelligence based modelling and hybrid optimization of linseed oil biodiesel with graphene nanoparticles to stringent biomedical safety and environmental standards', Case studies in Thermal Engineering, Vol.51, 103554, Sep.2023. <https://doi.org/10.1016/j.csite.2023.103554> (SCIE)
- K.Sobha, D.Pradeep, S.Radhika, and A.Ratnakumari, 'Phytoconstituents of chromolaenaodorataleaf extract for the synthesis of copper oxide/copper nanoparticles and evaluation of their biological potential in wound healing trends', Phytochemical. Res. 7(3), 186-206,Oct.2023. <https://doi.org/10.30495/tpr.2023.1990359.1363>(Scopus)
- P.MastanRao, Ch.Deva Raj, Sneha.H. Dhoria, M.Vijaya, and J. RangarayaChowdary, 'Multi-objective optimization of turning for nickel-based alloys using taguchi-GRA and TOPSIS approaches', Journal of the Institution of Engineers: Series D, Oct, 2023. <https://doi.org/10.1007/s40033-023-00554-y> (Scopus)

- ✦ B.Naga VenkataSrinivas and D.V.V.Krishna Prasad, 'Influence of Cr3C2 addition on microstructure and mechanical properties of AA2618 composites by powder metallurgy', *Metallography, Microstructure and Analysis*, Oct. 2023.

<https://doi.org/10.1007/s13632-023-01003-8>

(WOS, Scopus)

- ✦ Md.Hasheer, K.Srinivas, and Y.N.V.Sairam, 'Theoretical exploration of low GWP refrigerant mixtures as replacement to HFC-134A in a vapour compression refrigeration system', *Journal of thermal engineering*,9(4),912-920, Oct.2023.

<https://doi.org/10.2478/scjme-2019-0049>.(WOS,

Scopus)

- ✦ P.MastanRao, M.Vijaya, K.Srinivas, Ch.Deva Raj, K.L.Chaitanya, J.RangarayaChowdary, and B.JamesVadan, 'Optimization of wear parameters & coefficient of friction of SiC and graphite reinforced hybrid aluminiumcomposites',*Sigma journal of engineering and natural sciences*, 41(5), 1019–1028, Oct.2023.

<https://doi.org/10.14744/sigma.2023.00119>

(WOS,Scopus)

- ✦ Y.N.V.Sairam, C.Tara Sasanka, and K.Hari Prasad, 'A short review on magnesium alloys in multiple domains', *Sigma journal of engineering and natural sciences*, Vol. 41(5), 1062–1069, Oct. 2023.

<https://doi.org/10.14744/sigma.2023.00120>

(WOS,Scopus)

- ✦ T.J. Prasanna Kumar, J. Surendra, P.Anusha, M.Babu Prasad, B.Manasa, K.Praveen Kumar,and P. Anil Kumar, 'Engineering finest test cases by using G-Genetic algorithm variant SSGA', *Journal of theoretical and applied information technology*, Vol.101(24), 8328-8337, Dec.2023.(Scopus)

- ✦ B.Ramgopal Reddy, C.Srinivas, N.V.V.S.Sudheer, and Sneha H Dhoria, 'Stress analysis in a multiscale composite laminated plate with cutout at the centre using finite element method', *Annales de Chimie - Science des Matériaux*, Dec.2023.

<https://doi.org/10.18280/acsm.470605> (WOS, SCOPUS).

- ✦ T. Sathish, SivakumarKarthikeyan, S.Ravi Shankar, K. Rajaram, S. Sandeep Kumar, P. Suresh Kumar, JayantGiri, and Kassian T.T. Amesho, 'Synergistic effects of nano-enhanced waste transformer oil and hydrogen premixing on CI engine performance and emission', *International Journal of hydrogen energy*, Vol.56, 484–497, 2023.

<https://doi.org/10.1016/j.ijhydene.2023.12.176> (SCIE).

Book Chapters Published

- ✦ R. Sreenivasulu, 'Optimization of machining parameters in drilling of AA 7075 alloys using TOPSIS and taguchi method', N.M. Sivaram, K. Sankaranarayananasamy, Davim, J.P. (eds) *Advances in manufacturing, automation, design and energy technologies*. ICoFT 2020. Lecture notes in mechanical engineering. Springer, Singapore.

https://doi.org/10.1007/978-981-99-1288-9_2.

- ✦ T.RajaGopalaChary, A.Muddu, D.Smitha, Pranaysuryapet, and D.Tarun, 'Properties, applications, defects, and failures of magnetorheological fluids', *International conference on intelligent manufacturing and energy sustainability*, 517-528, 2023.

https://doi.org/10.1007/978-981-99-6774-2_46.

- ✦ Suryapet, Pranay, A. Muddu, and T.RajaGopala Chary, 'Properties, preparation, applications and handling of aerogels', *International Conference on Intelligent Manufacturing and Energy Sustainability*, 529-540. Singapore: Springer Nature Singapore, 2023.

https://doi.org/10.1007/978-981-99-6774-2_47



Paper Presentations in Conferences

- ✦ B. Ramgopal Reddy, 'Experimental investigation of mechanical and metallurgical properties on AA3003-H14 and mild steel friction stir welded joints', *Third Global Conference on Recent Advances In Sustainable Materials*, PGP College of Engineering & Technology, Tamil Nadu, 27 - 28, July 2023.

Workshops/FDP's Attended

- ✦ S.Radhika, 7 Day National level online FDP on 'ChatGPT& AI Tools for Educators, in-line with OBE', St Joseph's College Irinjalakuda, the Kerala State Higher Education Council, July19-26, 2023.

- ✦ S.Radhika, one day workshop- 'MATLAB Expo2023',July18, 2023.

- ✚ Sneha.H.Dhoria, five day online FDP 'Future scope for additive manufacturing in industrial and bio medical applications', Dept. of ME, Aditya Engineering College, July 17-21, 2023.
- ✚ K.Praveen Kumar, V. RamakoteswaraRao, P.Suresh Kumar, Reddy Sreenivasulu, J.Rangaraya Chowdary, and A.Muddu, five day FDP, 'Vehicular vibrations control with modern suspension system', Dept. of ME, NIT Karnataka, Aug.21- 25,2023.
- ✚ N.Govind, K.L.Chaitanya, M.Vijaya, and Sneha.H.Dhoria, one week online FDP, 'Cloud Infrastructures',RVRJCCE, AICTE, Brainovisionsolutions India PVT LTD,Aug. 21-25, 2023.
- ✚ P.Suresh Kumar, a session, 'One Earth -one Family-one future' - ISO standards and block chain standards perspective, Aug.10, 2023.
- ✚ D.Swapna, K.L.Chaitanya, M.Vijaya and Sneha.H.Dhoria, completed all the modules of the three week online 'Women entrepreneurship development program', DST, Govt.of India, 21 Aug. - 8 Sep.2023.
- ✚ J.P.Karthik, ATAL, one week FDP, 'Embracing design thinking for success', Satyabhama Institute of Science and Technology, Oct. 30–Nov. 4, 2023.
- ✚ V.Tarachand, J.P.Karthik, and Y.N.V Sairam, ATAL, one week FDP, 'AI tools for educators in line with OBE', Bapatla Engineering College, Nov. 20-25, 2023.
- ✚ K.Balaprasad, ATAL, FDP, 'Sustainable energy systems and applications', VRSEC,Nov. 11-16, 2023.
- ✚ B.Ramgopal Reddy, six day online STC 'New product development process', Andhra Pradesh State Skill Development Corporation Process, Nov.13-18, 2023.
- ✚ C.Tarasasanka, one day workshop, 'India Ranking -2024 NIRF',APSCHE, J.K.C College, Nov. 30, 2023.
- ✚ S.Radhika, two weeks 'Trainers training programme on entrepreneurship', Entrepreneurship Development Institute of India, Ahmedabad, Nov.27- Dec.8, 2023.

Ph.D Awarded Under Faculty Guidance

- ✚ Under the guidance of Prof. D.V.V.Krishna Prasad, RVRJCCE, two Ph.D's were awarded
 1. G.Kishore Chowdary, July, 2023 from ANU. The title of the thesis is 'Investigation of physical, mechanical and thermal properties of areca fibre and coconut shell powder reinforced epoxy composites'.
 2. G.S.Krishna Chaitanya, September, 2023 from ANU. The title of the thesis is 'Finite element solution of natural convection case on fluid problems in presence of magnetic field'.

- ✚ Under the guidance of Prof. V.Chittaranjan Das, RVRJCCE, two Ph.D's were awarded
 1. B.Kiran Kumar, Aug. 2023 from ANU. The title of the thesis is 'Experimental investigation and optimization of wire EDM machining characteristics of AISI p20+Ni Steel'.
 - I.Veeranjaneyulu, Aug.2023, from ANU. The title of thesis is 'Fabrication, characterization and tribological studies on AZ31/SiC/Graphite reinforced metal matrixhybrid composites using taguchi approach'.

Industrial Tour

- ✚ The Mechanical Engineering Department organized a short industrial visit for II/IV B.Tech (A, B Section) students to Sangam Dairy- Vadlamudi and Lakshmi Ganapathi Industries- Tenali during Aug.23-24, 2023.
- ✚ The Mechanical Engineering Department organized a short industrial visit for III/IV B.Tech (A, B Section) students to Kusalava International limited and G.S. Alloys during Aug.25-26,2023.

Faculty Promotion

- ✚ Prof.D.V.V.Krishna Prasad was promoted as Head of Department, ME from July, 2023.
- ✚ Dr. D.Swapna, Dr. Md.Hasheer and Dr.D.Kondalarao were promoted as Associate Professor in July, 2023.

"There is no place for dogma in science. The scientist is free, and must be free to ask any question, to doubt any assertion, to seek for any evidence, to correct any errors."

J.R. Oppenheimer

