



R.M.K. COLLEGE OF ENGINEERING AND TECHNOLOGY

(AN AUTONOMOUS INSTITUTION)

RSM NAGAR, PUDUVOYAL - 601 206, GUMMIDIPOONDI TALUK, THIRUVALLUR DISTRICT.



Research & Innovation @ RMKCET

A Quarterly News Bulletin

Research is creating new Knowledge

- Neil Armstrong

**OCTOBER 2021
ISSUE -1, VOL -1**

*Academic success depends on
Research and Publications*

- Philip Zimbardo



RMKCET provides a conducive ecosystem for nurturing Research and Innovation and fosters Entrepreneurship amongst students and faculty by inspiring them to innovate and spin off their ideas into successful start-up.

*RESEARCH & INNOVATION IS
INNATE TO RMKCET*



Editorial Board

Dr.K.Ramar - Principal

Dr.K.Sivaram - Dean Research

**Dr.P.K.Devan - Professor / Mech
IIC President & EDC Coordinator**

**Dr.C.Arun - Professor / ECE
Research Cell Coordinator**

**Dr.S.Gopinath - AP/ Mech
IIC Convenor**

Ms.M.Ida - AP/ S&H - English

June 2021 - September 2021

41 Research Articles Indexed in WoS & Scopus

08 Patents Filed

03 Faculty Completed PhD

01 Faculty Completed PDF

04 Grants Obtained from ATAL, AICTE, MoE & GOI

06 Research Proposals submitted

09 Event Proposals Submitted

38 TNSCST Student Project Proposals submitted

Innovative Student Project



Best Innovation Award for Hybrid Vehicle in ISIE Formula 1 Car

Grants Received

Institution Innovation Council, RMK CET has been selected as a Mentor Institution under the MIC / AICTE Mentor-Mentee Program. Rs.2,00,000/- has been sanctioned to support the Mentee Institutions.

Coordinator - Dr.S.Gopinath & Dr.P.K.Devan



Rs.2,00,000/- has been granted for study of ATAL Tunnel under the AICTE Youth Undertaking Visit for Acquiring Knowledge (Yuvak) Scheme.

Coordinator - Dr.S.SenthilKumar

Rs.93,000/- has been granted under AICTE ATAL Scheme for organizing the Online FDP on "Electric Vehicles : Challenges and opportunities in Future India."

Coordinator - Dr.C.Bibin

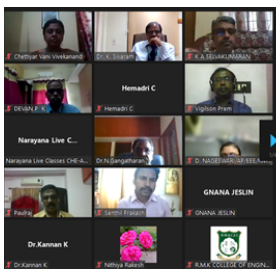
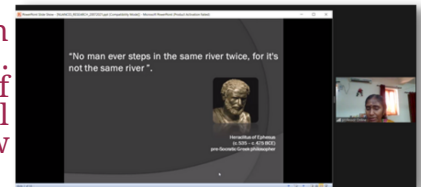


Rs.50,000/- has been granted under Grant for organizing conference scheme by AICTE for conducting "National Conference on Communication and Signal Processing Systems (NCCSS-2021)"

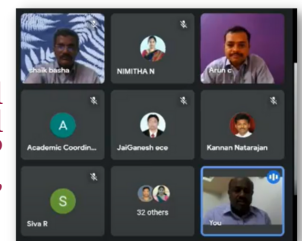
Coordinator - Dr.T.Inbamalar

Programs Organized

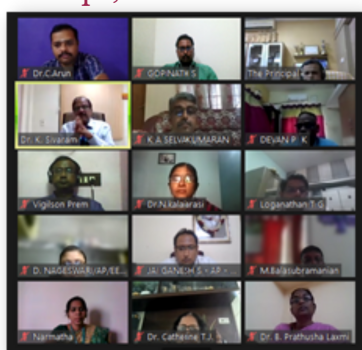
- Department of CSE & Research Cell conducted Online Research Seminar on "The Road map for Quality Research" on 20.07.2021. Dr.P.Shanmugavadivu, Professor & Head, Department of Computer Science and Applications, The Gandhigram Rural Institute, Gandhigram, Dindigul delivered an insightful overview on the research landscape and its practical information.



- Department of S&H and Research Cell conducted Online Research Seminar on "Achieve Higher Research Output Quality Rating of the Institution/Faculty" on 21.09.2021. Dr. K. SIVARAM, Dean Research, RMK CET gave a comprehensive presentation on the effective methods to achieve higher and quality research output.



- Department of Electronics and Communication Engineering conducted Online FDP on "Enriching Research Methodologies, Effective Journal Publications and Proposal Drafting" from 26 to 28 July 2021. The FDP was inaugurated by Dr. P SUHAIL PARVAZE, Research Consultant, Philips, India.



- Department of Mechanical Engineering organized Online Webinar on "Igniting Budding Engineers towards Innovation and Creativity" on 18.08.2021. Mr. VISHNU VARADAN, CEO, ATAL Incubation Centre, Puducherry Engineering College, India encouraged the aspiring young minds to foster innovative disposition.
- Department of Electrical & Electronics Engineering organized a Webinar on "Intellectual Property Rights" on 05.06.2021. Mr. K. Dilavar Basha, Asst.Prof., Dept. of EEE, RMK CET delivered a lecture on the legal principles governing IPR, patent, ownership, copyright and trademark.



Research Publications

June 2021 - September 2021

1. C. Bibin, P.K. Devan, S.S. Kumar, S. Gopinath, R. Sheeja, Influence of palmitic and oleic acid mixtures on combustion evaluation of a diesel engine, *Mater. Today Proc.* 45 (2021) 6638–6644. <https://doi.org/10.1016/J.MATPR.2020.11.865>.
2. Balasubramanian, M. and Madhu, S. (2021), "Effect of the threaded nozzle on delamination and surface texture of PEEK CF30 composite machined by abrasive jet", *World Journal of Engineering*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/WJE-03-2021-0186>
3. Rangabashiam, D., Senthil kumar, S., Rajan, K. et al. Experimental investigation on the usage of processed oil as a source to fuel the diesel engine. *Biomass Conv. Bioref.* (2021). <https://doi.org/10.1007/s13399-021-01789-z>
4. S. Sai Kiran, S. Madhu, C. Bibin, M.M. Woldegiorgis, P. Kumran, Effects of chrysopogon zizanioides nano additive with palm biodiesel on engine performance and exhaust emissions, *Mater. Today Proc.* 45 (2021) 6951–6957. <https://doi.org/10.1016/J.MATPR.2021.01.416>.
5. S. Senthil Gavaskar, P.K. Devan, C. Bibin, K. Ashok, M. Mariselvan, A. Mohamed Akram, P. Panneerselvam, Design and development of material handling equipment for cordierite slab, *Mater. Today Proc.* 45 (2021) 7010–7015. <https://doi.org/10.1016/J.MATPR.2021.01.534>.
6. C. Bibin, P.K. Devan, S. Senthil Kumar, S. Gopinath, R. Sheeja, K.G. Ashok, Effect of palmitic and oleic acid mixture on performance and emission analysis of a di diesel engine, *Mater. Today Proc.* 45 (2021) 6292–6297. <https://doi.org/10.1016/J.MATPR.2020.10.735>.
7. J. Senthilkumar, P.S.M. Kumar, M. Balasubramanian, An investigation of corrosion of friction welded and post-weld heat-treated aa6061/sic/graphite hybrid composites, *Acta Polytech.* 61 (2021) 456–464. <https://doi.org/10.14311/AP.2021.61.0456>.
8. K.G. Thirugnanasambantham, T. Sankaramoorthy, R. Karthikeyan, K.S. Kumar, A comprehensive review: Influence of the concentration of carbon nanotubes (CNT) on mechanical characteristics of aluminium metal matrix composites: Part 1, *Mater. Today Proc.* 45 (2021) 2561–2566. <https://doi.org/10.1016/J.MATPR.2020.11.267>.
9. C. Bibin, P.K. Devan, S. Senthil Kumar, S. Gopinath, R. Sheeja, N. Kanthavelkumaran, S. Gobinath, K.G. Ashok, Thermal performance of Lithium-Ion battery pack using forced air circulation system, *Mater. Today Proc.* 46 (2021) 3670–3676. <https://doi.org/10.1016/J.MATPR.2021.01.823>.
10. T. Sankaramoorthy, A. Balaji Krishna Bharathi, K.G. Thirugnanasambantham, R. Karthikeyan, Study of graphene epoxy composites and its recent development in nano science, *Mater. Today Proc.* 45 (2021) 2228–2231. <https://doi.org/10.1016/J.MATPR.2020.10.218>.
11. S. Senthil Gavaskar, K. Karthick, C. Bibin, Statistical analysis on hardness of clutch facing at various stages in clutch face manufacturing, *Mater. Today Proc.* 46 (2021) 3730–3734. <https://doi.org/10.1016/J.MATPR.2021.01.860>.
12. H. Chadalavada, N. Bharath Kumar, P. Shaila Srujan, O. Lakshmi Narayana, C. Naveen Kumar, Solar powered semi-automated mutlipurpose agriculture machine, *Mater. Today Proc.* 46 (2021) 3469–3473. <https://doi.org/10.1016/J.MATPR.2020.11.864>.
13. N. Sadasivan, M. Balasubramanian, Severe plastic deformation of tubular materials – Process methodology and its influence on mechanical properties – A review, *Mater. Today Proc.* 46 (2021) 3460–3468. <https://doi.org/10.1016/J.MATPR.2020.11.859>.
14. M. Balasubramanian, N. Sadasivan, S. Murali, Influence of processing route on bonding of AA6082 and MgAZ31B by severe plastic deformation process, *Mater. Today Proc.* 46 (2021) 3716–3722. <https://doi.org/10.1016/J.MATPR.2021.01.856>.
15. M. Balasubramanian, S. Murali, D. Jayabalakrishnan, Friction stir welding with weaving arrangement, *Mater. Today Proc.* 46 (2021) 3596–3600. <https://doi.org/10.1016/J.MATPR.2021.01.627>.
16. M. Balasubramanian, S. Madhu, S. Murali, Augmenting the design of a nozzle used in abrasive jet machining process with computational fluid dynamics, *Mater. Today Proc.* 46 (2021) 3521–3525. <https://doi.org/10.1016/J.MATPR.2020.11.991>.
17. S. Senthilgavaskar, K. Karthick, C. Bibin, A review paper on solar operated ridge and furrow formation machine, *Mater. Today Proc.* 46 (2021) 3627–3630. <https://doi.org/10.1016/J.MATPR.2021.01.650>.
18. M. Balasubramanian, S. Murali, C. Hemadri, R. Kumar, A new method of dissimilar friction welding of titanium to stainless steel, *Mater. Today Proc.* 46 (2021) 3644–3647. <https://doi.org/10.1016/J.MATPR.2021.01.675>.
19. K.G. Thirugnanasambantham, T. Sankaramoorthy, M. Vaysakh, S.Y. Nadish, D. NileshSabarinath, A inclusive review: Fatigue behaviour and its failure mechanisms of aluminium - carbon nanotubes (CNT) composites: Part 3, *Mater. Today Proc.* 45 (2021) 2606–2611. <https://doi.org/10.1016/J.MATPR.2020.11.344>.
20. K.G. Thirugnanasambantham, T. Sankaramoorthy, M. Vaysakh, S.Y. Nadish, S. Madhavan, A critical review: Effect of the concentration of carbon nanotubes (CNT) on mechanical characteristics of aluminium metal matrix composites: Part 2, *Mater. Today Proc.* 45 (2021) 2890–2896. <https://doi.org/10.1016/J.MATPR.2020.11.895>

Research Publications

21. K. Dhivya, Augmented Reality based Car Parking Application for Android, *Rev. Gestao Inovacao e Tecnol.* 11 (2021) 651–664. <https://doi.org/10.47059/revistageintec.v11i2.1702>.
22. V. Kannagi, T.M. Inbamalar, P. Latha, N. Kanya, Backlobe Radiations Reduction with Patch Antenna . Using Multilayered Dielectric Structure, *Rev. Gestao Inovacao e Tecnol.* 11 (2021) 861–870. <https://doi.org/10.47059/revistageintec.v11i2.1720>.
23. D.N. Kanya, D.M. Rajkumar, D.P.S. Rajkumar, D.P.S. Rani, G. Sandhiya, Efficient Supervising System for Aquatic Region Using Wireless Radar, *Rev. Gestao Inovacao e Tecnol.* 11 (2021) 2113–2123. <https://doi.org/10.47059/revistageintec.v11i2.1833>.
24. C. Saravanakumar, M. Geetha, S. Manoj Kumar, S. Manikandan, C. Arun, K. Srivatsan, An Efficient Technique for Virtual Machine Clustering and Communications Using Task-Based Scheduling in Cloud Computing, *Sci. Program.* 2021 (2021). <https://doi.org/10.1155/2021/5586521>.
25. S. Vijayanand, S. S. Kumar, A. Chaturvedi, S. Nithya, M. Shabaz and S. Gowsalya, "Load Manage Optimization through Grid and PV Energy Integration System," 2021 5th International Conference on Trends in Electronics and Informatics (ICOEI), 2021, pp. 10-13, doi: 10.1109/ICOEI51242.2021.9453073.
26. Vijay Anandh R; Rukmani Devi S; Preetham S; Pratheep K; Punuru Bhanu Prakash Reddy; Ram Aravind U, "Qualitative Analysis of Underwater Image Enhancement," 2021 5th International Conference on Trends in Electronics and Informatics (ICOEI), 2021, pp. 1225-1230.
27. Vaithilingam C.A., Natesan S., Rajalaxmi R.R., Tamilarasi K., Praveena N.G., Abdul Karim S.A. (2022) Evolution of Outbreaks, Lessons Learnt and Challenges Towards "New Normalcy"—Post COVID-19 World. In: Abdul Karim S.A. (eds) *Shifting Economic, Financial and Banking Paradigm. Studies in Systems, Decision and Control*, vol 382. Springer, Cham. https://doi.org/10.1007/978-3-030-79610-5_1
28. Aishwarya, N., BennilaThangammal, C., and Praveena, N.G. 'NSCT and Focus Measure Optimization Based Multi-focus Image Fusion'. 1 Jan. 2021 : 903 – 915.
29. Babu M; Hemchandhar R; Harish Y. D; Akash S; Abhishek Todi K "Voice Prescription with End-to-End Security Enhancements," 2021 6th International Conference on Communication and Electronics Systems (ICCES), 2021, pp. 1-8, doi: 10.1109/ICCES51350.2021.9489252.
30. N. Duraichi, N. Sammeta, V. Lalitha, P. Velmurugan, A Supply Chain Framework for Identified Internet Services Based on Blockchain, *J. Phys. Conf. Ser.* 1964 (2021). <https://doi.org/10.1088/1742-6596/1964/6/062043>.
31. N. Sammeta, N. Duraichi, P. Velmurugan, V. Lalitha, Vision Platform Lesion Quality Measurement of Accessible Endoscopic Images Using Machine Learning Techniques, *J. Phys. Conf. Ser.* 1964 (2021). <https://doi.org/10.1088/1742-6596/1964/4/042096>.
32. Merlin NRG, Prem. M V. Efficient indexing and retrieval of patient information from the big data using MapReduce framework and optimisation. *Journal of Information Science.* May 2021. doi:10.1177/01655515211013708.
33. Balachander, K., Paulraj, D. ANN and fuzzy based household energy consumption prediction with high accuracy. *J Ambient Intell Human Comput* 12, 7543–7557 (2021). <https://doi.org/10.1007/s12652-020-02455-4>
34. Hariharan, B., Siva, R., Kaliraj, S. et al. ABSO: an energy-efficient multi-objective VM consolidation using adaptive beetle swarm optimization on cloud environment. *J Ambient Intell Human Comput* (2021). <https://doi.org/10.1007/s12652-021-03429-w>
35. Prem Priya, P., Katiravan, J. Privacy-Preserving and Energy-Centered QoS for IoT Using XOR-RSA and BM-SSA. *Wireless Pers Commun* (2021). <https://doi.org/10.1007/s11277-021-08966-3>
36. M. Sathya, K. Gunalan, B.S. Manohar, T.C.H. Anil Kumar, S. Shafi, G. Johncy, An intellectual procurement innovation of smart grid power system with wireless communication networks based on machine learning, *Int. J. Nonlinear Anal. Appl.* 12 (2021) 1567–1576. <https://doi.org/10.22075/ijnaa.2021.5285>.
37. P. Rajesh, Francis H. Shajin & L. Umasankar (2021) A Novel Control Scheme for PV/WT/FC/Battery to Power Quality Enhancement in Micro Grid System: A Hybrid Technique, *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects*, DOI: 10.1080/15567036.2021.1943068
38. H. Zhou, K.A. Selvakumaran, S. Sivasubramanian, S.D. Purohit, H. Tang, Subordination problems for a new class of bazilevič functions associated with k-symmetric points and fractional q-calculus operators, *AIMS Math.* 6 (2021) 8642–8653. <https://doi.org/10.3934/math.2021502>.
39. K. Yenoke, M.K.A. Kaabar, M.M.A. Al-Shamiri, R.C. Thivyarathi, Radial Radio Number of Hexagonal and Its Derived Networks, *Int. J. Math. Math. Sci.* 2021 (2021) 1–8. <https://doi.org/10.1155/2021/5101021>.
40. S. Jothilakshmi, T.M. Kumaran, S. Rekha, Studies of role of additives on electroless copper methane sulphonate an eco-friendly green bath, *J. Indian Chem. Soc.* 97 (2021) 1514–1522.
41. Balachandar G. (2021) Certain Properties of a Subclass of Uniformly Spirallike Functions. In: Mohapatra R.N., Yugesh S., Kalpana G., Kalaivani C. (eds) *Mathematical Analysis and Computing. ICMAC 2019. Springer Proceedings in Mathematics & Statistics*, vol 344. Springer, Singapore. https://doi.org/10.1007/978-981-33-4646-8_10

Innovation Ambassador

- 14 faculty members of the College underwent Innovation Ambassador Training under IIC / MoE Cell and are designated as "Innovation Ambassadors". These faculty mentor and guide the students on IPR, Innovation and Entrepreneurship.

IIC ID : IC201811617

Mentor- Mentee @ RMKCET

- The Mentor-Mentee 2021-2022 is a twinning program in the ratio of 1 Mentor IIC Institution with 5 Mentee IIC Institutions, designed to facilitate knowledge exchange and resource mobilization by offering inter-institutional collaborations and peer mentoring support during the IIC 4.0 calendar year (Oct 21 - March 22).
- Mentor institutions would receive financial support from MIC/AICTE to provide mentoring and handholding support to Mentee Institutions, to organize a set of prescribed activities for Mentee Institutions and to enable them to lead and streamline campus I&E ecosystems.
- RMKCET has been selected as Mentor Institution by MoE, MHRD Innovation Cell based on the performance and Star rating.
- Dr.S.Gopinath, Asst.Prof/Mech and IIC Convener has been nominated as Coordinator for this Mentor-Mentee program.

National Innovation Start-up Policy

- RMKCET has joined the NISP Policy Campaign.
- Dr.P.K.Devan, Prof/Mech & IIC President, who has been nominated as NISP Coordinator, has completed Policy Implementation Training Program offered by Ministry of Education's Innovation Cell. The NISP policy is implemented in RMKCET as per the guidelines provided by AICTE / MoE.

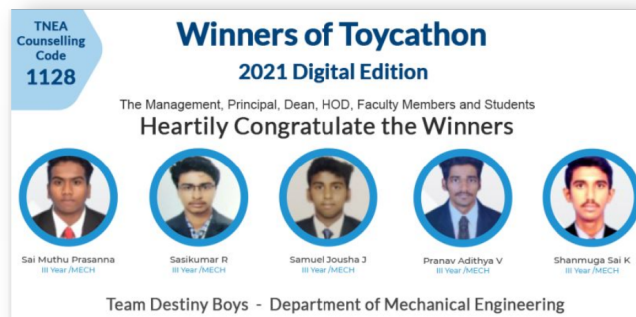
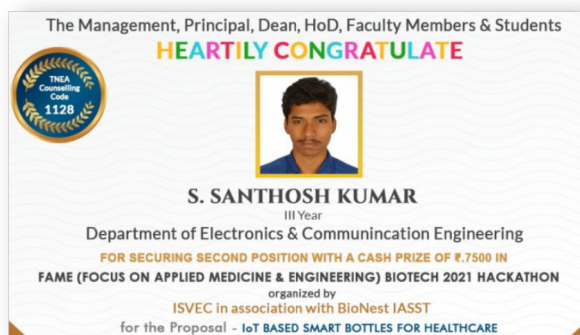
MSME Approved Business Incubator

RMKCET is one of the few Business Incubators in Tamil Nadu recognized by the Ministry of Micro, Small and Medium Enterprises, Government of India (Ref. No. : HIBITN000861).



Awards & Accolades

A 6 member Student-Team called Destiny Boys from the Department of Mechanical Engineering won the **Toycathon 2021 Digital Edition**.



Mr. S Santhosh kumar of III year ECE secured 2nd position with a Cash prize of ₹.7500 in FAME (Focus on Applied Medicine & Engineering) Biotech 2021 Hackathon organized by ISVEC in association with BioNest IASST for the Proposal - IoT based Smart Bottles for Healthcare.

THE INSTITUTION OF ENGINEERS (INDIA) AWARDS

- The students and faculty participated in Southern Regional Technical Conclave organised by All India Students Committee (AISC) and Hosur Local Chapter of IEI held on 3rd September 2021.
- Ten batches applied for the Best Student Project.
- Two batches received the Best Project Award.
- Mr.Madhesh G, IV year/ Mechanical received the Best Student Award.
- Dr.P.K.Devan, Prof/Mech. received the Best Faculty Advisor Award 2021.
- Dr.C.Bibin, Associate Professor/Mech received the Best Guide Award for two Projects.



AFFILIATED TO
ANNA UNIVERSITY,
CHENNAI



APPROVED BY
AICTE, NEW DELHI

ACCREDITED BY
NAAC
NATIONAL ASSESSMENT AND
ACCREDITATION COUNCIL
WITH 'A' GRADE



TNEA
COUNSELLING CODE
1128

168 UNIVERSITY
RANKS

ONE GOLD
MEDAL



96.91% 
OVERALL RESULT
IN 2016-20 BATCH

90% 
GRADUANDS
SINCE INCEPTION

**BHARATHIYA
VIDYA BHAVAN
NATIONAL AWARD** 
FOR BEST ENGG. COLLEGE
OVERALL PERFORMANCE
BY ISTE

360°

STRUCTURED
TRAINING
PROGRAMS



80.86%

PLACEMENTS
IN 2017-21 BATCH
AS ON 14.06.2021 

28 LPA
OFFER MAXIMUM
SALARY

30 MoUs
WITH TOP MNCs
AND INTERNATIONAL
UNIVERSITIES

13

INDUSTRY
COLLABORATIVE
COE LABORATORIES



5 STAR RATING TO
THE INSTITUTE INNOVATION
COUNCIL FROM
MINISTRY OF EDUCATION,
GOVT. OF INDIA

AICTE-CII
BEST INDUSTRY
LINKED INSTITUTION

PLACED IN PLATINUM CATEGORY
FOR 5 YEARS

MSME
APPROVED BUSINESS
INCUBATOR

2.5 CRORES

funding from various agencies
like ISRO, DST, NBHM-DAE,
AICTE, BRNS, TNSCST, ICMR,
MNRE, CSIR, ISTE, MSME & IET



547

RESEARCH PAPERS PUBLISHED
IN WEB OF SCIENCE & SCOPUS
JOURNALS

46 PATENTS
PUBLISHED
4 PATENTS
GRANTED

**PUBLISHED
NATIONAL INNOVATION
START-UP POLICY (NISP)**
BASED ON AICTE AND
STATE GOVERNMENT POLICIES



ATAL RANKING
- BAND C INSTITUTION
RANK BETWEEN 51-75



**EAT RIGHT
CAMPUS AWARD**
with five star rating
certification



**SWACHHATHA
RANKING FINALIST**

**BEST PERFORMANCE IN
YOUTH RED CROSS UNIT
AWARD**
FROM THE INDIAN RED CROSS
SOCIETY



ALL THE ELIGIBLE PROGRAMS
ARE ACCREDITED BY
NBA, NEW DELHI



ISO CERTIFIED
AN ISO 9001: 2015 INSTITUTION



2021
MoE-NIRF INDIA
RANKINGS 2021, 251-300
RANK BAND



THE 1ST INSTITUTION
IN TAMILNADU - AI POWERED
LEARNING CAMPUS

B.E. PROGRAMS

- COMPUTER SCIENCE & ENGINEERING
- ELECTRONICS & COMMUNICATION ENGINEERING
- MECHANICAL ENGINEERING

B.TECH. PROGRAMS

- ARTIFICIAL INTELLIGENCE & DATA SCIENCE
(KNOWLEDGE PARTNER COGNIZANT)

▶ Ranked No.1 among the top 20 Engineering Colleges
in India with excellent industry exposure by
HIGHER EDUCATION REVIEW MAGAZINE, 2017.

▶ 97th Rank in OUTLOOK - Drshti Ranking of
best professional colleges, 2018

▶ Ranked 61st among the top 150 Engineering
Institute in India by the times Engineering
institute ranking SURVEY 2020

COUNSELLING
CODE
1128

R.M.K. College of Engineering and Technology (An Autonomous Institution)

Affiliated to Anna University, Chennai /Approved by AICTE New Delhi
Accredited by NAAC / All the Eligible UG programs are Accredited by NBA
ISO 9001:2015 Certified Institution

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