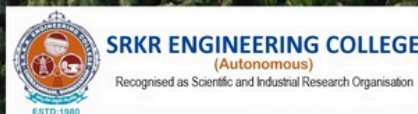


This issue

Brings you
awareness about
department activities
done by staff and
students.



ABOUT THE INSTITUTE

Sagi Rama Krishnam Raju Engineering College, established in 1980, is a self-financed academic institution of coeducation striving to provide a high-quality technical education to engineering aspirants. Being one of the premier and well-established technical institutions in the country, it continues to render service to the nation and the world at large with its alumni holding highly prestigious positions and making a substantial contribution. It is an autonomous Institution (UGC Approved) and permanently Affiliated with Jawaharlal Nehru Technological University Kakinada (JNTUK). The college is replete with lush coconut trees spanning across a plot area of 30 acres at China Amiram, Bhimavaram, on the Bhimavaram-Vijayawada state highway and it is also well-connected to all other places by road and rail transport. Over the years, the college has established itself as a premier institution imparting technical education of a very high standard leading to the B. Tech. degrees in 11 branches of engineering, P.G degrees in 6 specializations, and 7 Ph. D. programs. S.R.K.R. Engineering College was established with a mission to develop the institution into a world-class Centre of excellence in the field of technical education that fosters research and essentials of employability and strives for pre-eminence amongst the premier institutions with high commitment to the socio-ecological well-being of the nation.

An Industrial tour visit to Bangalore, Karnataka

Dr. N. Udaya Kumar, Professor and Head of the **E.C.E Department at S.R.K.R Engineering College, Bhimavaram**, embarked on a series of engagements from **January 23 to January 27, 2024**. Commencing with a visit to CSIR-NAL in Bengaluru, he actively participated as a delegate in the IESA Vision Summit held on January 24th and 25th, 2024. Further, on January 27, 2024, Dr. Udaya Kumar visited the Department of Electronic Systems Engineering (DESE) at IISC Bangalore, interacting with B.Tech interns to gain valuable insights. Alumni of SRKREC in Bengaluru were also met during the visit.

"Exploring Aerospace Opportunities: Visit to CSIR-NAL, Bengaluru and Discussion with Chief Scientist Dr. Kota Solaman Raju on January 23, 2024"

He has also visited CSIR-NAL in Bengaluru on January 23, 2024. In the discussion with Dr. Kota Solaman Raju, Chief Scientist and Head of ICTD at CSIR-NAL, Bengaluru, the focus was on exploring collaboration, gaining insights into aerospace research and development, and discussing internship and industrial visit opportunities.

"Exploring Future Frontiers: Dr. N. Udaya Kumar at IESA Vision Summit 2024"

Further, he had participated as a delegate in the IESA Vision Summit held on January 24th and 25th, 2024. The summit provided valuable insights into the electronics and semiconductor industry, featuring compelling discussions and presentations by industry leaders. The event also facilitated significant networking opportunities, contributing to an enhanced understanding of current trends and future prospects in the field.

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"Exploring Innovation: A Visit to Department of Electronic Systems Engineering at IISC Bangalore and Insights from B.Tech Interns on 27-01-2024"

During the visit to the Department of Electronic Systems Engineering (DESE) at the Indian Institute of Science (IISC) in Bangalore, the chance to engage with B.Tech interns from S.R.K.R. Engineering College at their workplace was provided. Interacting with B.Tech interns at DESE provided valuable insights into ongoing projects, research activities, and the collaborative environment.



Pioneering 5G Antenna Design: The Work of Dr. Krishna Kanth Varma

Dr. Krishna Kanth Varma has completed his Ph.D. from **Visveswaraya Technological University, Belgavi**, under the guidance of Dr. Nagesh K N, Professor and HOD, ECE department, NCET, Bengaluru. His research problem is titled "**Design of Multiband and Wideband MIMO Antenna for sub 6 GHz 5G applications**". As part of his research work he has published two SCI-E indexed articles and two conference papers. He has been working in S.R.K.R. Engineering College in ECE department since 2009.

డా. కృష్ణకాంత్ వర్మ పీహెచ్డీ పూర్తి చేశారు. బెళగావిలోని విశ్వేశ్వరయ్య టెక్నలాజికల్ యూనివర్సిటీ నుండి, డాక్టర్ నగేష్ కె ఎన్, ప్రొఫెసర్ మరియు HOD, ECE డిపార్ట్మెంట్, NCET, బెంగళూరు మార్గదర్శకత్వంలో. అతని పరిశోధన సమస్య "సబ్ 6 GHz 5G అప్లికేషన్ల కోసం మల్టీబ్యాండ్ మరియు వైడ్బ్యాండ్ MIMO యాంటెన్నా రూపకల్పన". తన పరిశోధన పనిలో భాగంగా అతను రెండు SCI-E ఇండెక్స్డ్ ఆర్టికల్స్ మరియు రెండు కాన్ఫరెన్స్ పేపర్లను ప్రచురించాడు. అతను S.R.K.R లో పనిచేస్తున్నాడు. 2009 నుండి ECE విభాగంలో ఇంజనీరింగ్ కళాశాల.

* TRANCE-2k24 *

National Level Student Technical Symposium

ECE department has successfully conducted A National level Technical Symposium "**TRANCE-2k24**" for engineering students on 24th Feb 2024 .The objective of this symposium was to bring the students of various streams from different institutes onto a common platform to interact and share their innovative ideas, knowledge and to highlight new concepts in a variety of technologies. We are thankful for our chief guest **Dr. K Solomon Raju** , Chief scientist & head, ICTD, **CSIR-National Aerospace Laboratories, Bengaluru**.

This event was concluded successfully with the cooperation of college management, director, principal and all the staff members. We should make a special mention about the students, who have taken lot of interest. The symposium includes six main events: Viz. Techno geek (coding skills contest), Rejuvenate, Art Gallery (Art work& Collections), Nexus (Hardware expo & design), Conquer (Quiz), Exposure(PPTs) and various other Spot events.

The theme of the event is "**Right to vote**" & motto is to educate citizens about the electoral process in order to increase awareness and participation. The objectives are to increase electoral participation through voter registration and turnout, to increase qualitative participation in terms of ethical and informed voting and continuous electoral and democracy education. More than 300 students from various colleges have participated in this symposium.

Event wise participation of students is **Techno geek(coding skills contest): 107, Rejuvenate : 27, ART Gallery : 22, NEXUS : 107, Conquer Quiz: 60, Exposure (PPTs): 42.**

DEPARTMENT VISION

Envision a diverse and stimulating academic research ambience for the student community and shaping them into competent professionals in the field of Electronics and Communication Engineering and to cater to the needs of society with a keen sense of environmental consciousness.



DEPARTMENT MISSION

- To educate the students with the state of the art technologies in Electronics and Communication Engineering to meet the ever growing challenges of the industry.
- To nurture the spirit of innovation and creativity in the faculty and students in order for them to carry out research in collaboration with research organizations and industry
- To provide ethical and value based education that promotes activities pertaining to societal needs.



Guest Lecture on Career Opportunities in FPGA and Cyber Security

ECE Department has conducted a guest lecture in the event **TRANCE-2k24 on 24 th Feb 2024** .The resource person for the guest lecture was **Dr. K Solomon Raju , chief scientist & head, ICTD, CSIR-National Aerospace Laboratories, Bengaluru**. He gave a lecture on **"career opportunities in FPGA and cyber security"** which was arranged in seminar hall of **ECE department at 10:00AM**. He addressed the students regarding the challenges in FPGA system implementation and cyber security, and about reconfigurable devices for providing security in the world of cyber technology. ECE Department's teaching faculty and around **80 students attended the guest lecture**. After the guest lecture, the HOD has felicitated Dr. K Solomon Raju with the **memento and shawl**.



Expert Lecture on Challenges in SoC Designs and Semiconductor Career Opportunities by Venkat Sunkara

The expert lecture conducted at SRKR Engineering College on February 27, 2024, showcased Venkat Sunkara, a distinguished figure in the semiconductor domain and an esteemed alumnus of S.R.K.R Engineering College. Mr. Sunkara, shared valuable insights on Challenges in SoC Designs and Career Opportunities in the Semiconductor Industry. The Centre of Excellence in VLSI Design organized the event. His talk provided students and professionals with a deeper understanding of the evolving landscape in this dynamic sector.

Venkat Sunkara has 25+ years in the Semiconductor (VLSI) Industry, covering design, application engineering, and entrepreneurship. Founder of ChipEdge, he tackled the Industry- Academia skill gap. Previously, he led synthesis solutions at Cadence Design Systems (India) Pvt Ltd and managed Physical Design projects at Time to Market (India) Pvt Ltd. With a bachelor's in Electronics and Communications from SRKR Engineering College, Andhra University, he is deeply involved in skill development initiatives with IESA and ESSCI. Passionate about yoga, he holds a Post Graduate Diploma in Yoga and volunteers with the Yoga Consciousness Trust.

Mr. Venkata Sunkara adeptly simplified complex concepts, ensuring that students grasped the essence of SoC design. He highlighted the critical role of SoCs, which integrate multiple functions onto a single chip. The architecture discussion touched upon performance, power efficiency, and cost trade-offs. Mr. Sunkara emphasized the need for holistic thinking during the design process.

Mr. Sunkara delved into the cutting-edge technologies driving chip design. Very Large-Scale Integration (VLSI) plays a pivotal role in modern electronics. Mr. Sunkara emphasized how VLSI design enables compact, high- performance chips. He encouraged students to explore VLSI as a career path, given its significance in shaping our digital world. Mr. Sunkara explained the roles within semiconductor companies. From design engineers to verification specialists, he outlined the collaborative efforts required for successful chip production.

He took an interactive session with all the VLSI faculty members in the department which helped the faculty for better understanding the requirements and the opportunities in the industry.

Dr. K V Murali Krishnam Raju found immense joy in observing the real-world impact of SRKR's education on its alumni. Mr. Sunkara's evolution from an SRKR student to a thriving industry leader epitomized the college's dedication to fostering talent. By recognizing Mr. Sunkara's accomplishments, the principal not only honored an individual but also applauded the collaborative endeavors of the institution.

No of students participated:131

This event is held on 27-02-2024 at 10:30am. The students of second, third years and the faculty members attended the expert talk.



ABOUT OUR DEPARTMENT

The department of ECE was established in the year 1980 with an intake of 35 which was subsequently raised to 240 over a period of time. M. Tech course in Communication Systems was started in 2006. The department is presently offering 4-year B. Tech program in ECE, 2-year M. Tech in Communication Systems and Ph.D. program. The department has highly qualified, experienced and dedicated staff members. The department has dedicated technical and non-teaching staff members. The department has good infrastructure facilities. The department was accredited four times by National Board of Accreditation (NBA). The department has student chapters of professional bodies like IETE and college level ISTE, which conduct various student technical activities. Students of ECE participate in National level technical paper and hardware competitions being organized at various other colleges and some of them are awarded with prizes. They have been obtaining good scores in GRE, TOEFL and CAT. Students are placed in companies like TCS, Polaris, CTS, IBM, Infosys, Texas Instruments, BSNL, BEL, ISRO and DRDO. ECE department has been identified as research center by JNT University. The research center provides required facilities for carrying out research work for scholars. The department is associated with organizations like DRDO, NSTL, BEL, ISRO, BSNL, NRSA and RTTC. The department has MOUs with DS Reddy Consultancy, ETI Lab Pvt. Ltd., Salcit Technologies, Hyderabad and TCS for collaborative work and faculty improvement programs. Faculty published and presented about 512 research papers in technical journals and conferences.



CRUX 2k24: Innovations in Hardware - A Showcase of Technical Excellence

CRUX, the annual hardware project expo organized by the Institution for Electronics and Telecommunication Engineers (IETE) at the ECE Department of **SRKR Engineering College**, stands as a testament to innovation and technical prowess. On **March 1st, 2024**, **CRUX** brought together budding engineers from both ECE and EEE disciplines, not only from SRKR but also from other esteemed institutions. This document serves as a comprehensive record of the event, capturing its essence, achievements, and the collective efforts of all involved.

CRUX showcased a spectrum of hardware projects, categorized into three levels: Pro, Intermediate, and Beginner. The event commenced at 2:00 PM and concluded at 6:00 PM, providing ample time for participants and visitors to engage with the exhibits. Under the esteemed guidance of our faculty advisers, **Dr. T.V. Hyma Lakshmi Madam**, and IETE coordinator, **Sri K.N.V. Satyanarayana Sir**, alongside the support of the Head of Department (HOD), **Dr. N. Udaya Kumar Sir** and respected judges **Kanakaraju Sir** and **Satish kumar Sir**, the event unfolded seamlessly.

Participant Engagement:

Students and faculty have immersed themselves in exploring the innovative projects on display. The support and guidance from the faculty, as well as Senior Executive Body Members (SBM's), and Executive Body Members (EBM's) of IETE, lent an enriching dimension to the event. Their presence not only encouraged the participants but also facilitated the smooth execution of CRUX.

Participant Categories:

CRUX showcased a spectrum of hardware projects, categorised into three levels: Pro, Intermediate, and Beginner.

- 1.Pro-level:Projects at this level demonstrated advanced technical proficiency and innovation.
- 2.Intermediate-level:Projects showcasing a balance of creativity and technical skills.
- 3.Beginner-level:Projects aimed at nurturing budding innovation.



Project Exhibition:

From cutting-edge prototypes to ingenious solutions, the projects showcased at CRUX epitomised the ingenuity and technical acumen of the participants. Each level - Pro, Intermediate, and Beginner - presented unique challenges and solutions, fostering an environment of healthy competition and learning.



Winners Announcements:

After meticulous evaluation by the esteemed panel of judges, the winners were announced amidst much anticipation. The criteria encompassed various aspects including innovation, technical proficiency, and presentation. The triumphant participants were awarded for their exemplary efforts, symbolising the culmination of months of hard work and dedication.



Guests and Dignitaries:

The presence of Principal Sir underscored the significance of CRUX as a platform for fostering innovation and academic excellence. His encouragement and support inspired both participants and organisers alike. Additionally, the unwavering guidance and support from our faculty adviser and HOD further enriched the event, setting a precedent for future endeavours.

Event Artworks:

In this section, we showcase the captivating visual representations that adorned CRUX 2024. These artworks encapsulated the essence of innovation, technical excellence, and collaboration that define the event. Each piece of artwork serves as a testament to the creativity and talent of the participants and organisers. Explore the intricate details and vibrant colours that breathe life into CRUX, making it an unforgettable experience for all.

Conclusion:

In retrospect, CRUX 2024 stands as a testament to the collaborative spirit and technical prowess embodied by the students of the ECE Department at SRKR Engineering College. The event not only showcased groundbreaking projects but also fostered a culture of innovation and collaboration.



Mr. Chalapathiraju Kanumuri Awarded Ph.D. in Electrical and Electronics Engineering Sciences

Mr Chalapathiraju Kanumuri, Assistant Professor in the Department of **ECE**, **SRKREC** was qualified for the award of the **Degree of Doctor of Philosophy (Ph. D)** in Electrical and Electronics Engineering Sciences from the Faculty of Visvesvaraya Technological University, State University, Belagavi, Karnataka, under the supervision of Dr. CH.Renu Madhavi, HOD & Associate Professor, Department of EIE, RV College of Engineering, Bengaluru. He completed his B. Tech from Ellenki College of Engineering and Technology, M. Tech from TRR College of Engineering, JNTU Hyderabad. His Ph. D thesis was entitled as, **“Development of Computational Intelligence Model to Support Diagnosis for Covid-19 Using Chest Images”**. In this thesis, an investigation is thoroughly done on features of joining ideas from AI (ML) and profound learning (DL), explicitly by using CNN-based models related to accessible gear to accomplish higher exactness in diagnosing Coronavirus. While there were a few starting impediments, these limitations are tended to by incorporating **CNN with the Productive Net Engineering** for further developed identification. While contrasting the proposed approach with existing choices on the lookout, it showed a momentous close to **100%** precision rate. The review keeps developing to foster a methodology that empowers early screening of Coronavirus contamination in patients. Additionally, he developed a graphical user interface (GUI) model for detection, which achieved an accuracy of **92%** in identifying over 20 distinct forms of pneumonia infections. This model consolidates the advancements in CNN, artificial Neural network (simulated intelligence), and the Web of Things (IoT).

The exploration carried out in this dissertation utilized radiological imaging techniques to identify individuals infected with **COVID-19**. The suggested models outperformed previously published research in terms of performance accuracy, particularly when applied to large, well-balanced image datasets. Importantly, these models were not affected by overfitting or under-fitting issues during the training and testing phases. Consequently, these components could help doctors and radiologists treat patients with Coronavirus disease in light of the brief guess given by the created models.

Boosting Semiconductor Industry Awareness

On **13th March, 2024**, **SAGI RAMAKRISHNAM RAJU ENGINEERING COLLEGE's Electronics and Communication Engineering (E.C.E)** department has organized a landmark event titled **"India's Techade"** with the aim of fostering awareness about the burgeoning semiconductor revolution and the abundant opportunities it presents, especially for ECE students.

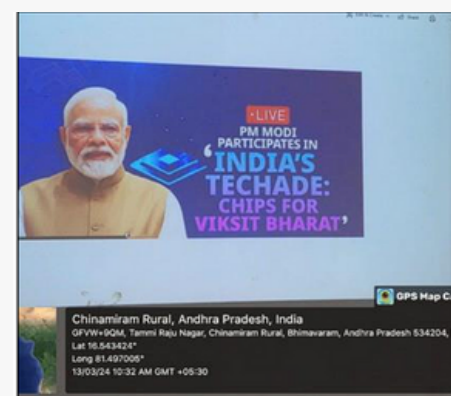
The event was held virtually in the college seminar hall, drawing participation from a commendable 106 students. Spearheaded by the esteemed college management, including the principal, **Dr. K.V. Murali Krishnam Raju** and the Head of E.C.E Department, **Dr. N. Udaya Kumar**, and under the meticulous coordination of Center of Excellence in VLSI Team coordinated by **Dr.K. Bala Sindhuri**, this event unfolded as a resounding success, serving as a platform for enlightenment and inspiration for the student community. The focal point of the event was the momentous address by **Prime Minister Narendra Modi**, emphasizing India's trajectory towards becoming a global semiconductor hub. He laid the foundation stone for three seminal semiconductor projects, each poised to significantly bolster India's semiconductor prowess. These projects include the establishment of a semiconductor fabrication facility in the Dholera Special Investment Region and Sanand in Gujarat, and in Morigaon, Assam.

Notably, **Tata Electronics Private Limited** will spearhead the Dholera and Morigaon projects, with investments exceeding **Rs 91,000 crore and Rs 27,000 crore**, respectively, while CG Power and Industrial Solutions Limited will lead the Sanand endeavor, with an investment of about **Rs 7,500 crore**.

The significance of these projects cannot be overstated. Beyond fortifying India's semiconductor ecosystem, they promise to be keycatalysts for employment generation, particularly for the youth. Thousands are poised to find employment directly in the semiconductor industry, while countless others stand to benefit from the ripple effects in allied sectors such as electronics and telecommunications.

The event witnessed enthusiastic participation from college students, underlining the palpable excitement and anticipation surrounding India's burgeoning semiconductor industry. It served as a clarion call for youth to actively engage and explore the vast opportunities unfolding in this domain. Such a monumental event owes its success to the concerted efforts of our college management, led by the principal, whose unwavering support and vision propelled this initiative forward. The center of Excellence in **VLSI Design** played a pivotal role in conceptualizing and orchestrating the event, ensuring its seamless execution.

A heartfelt vote of thanks is extended to the Principal **Dr. K.V. Murali Krishnam Raju**, Head of E.C.E Department **Dr.N.Udaya Kumar** and Center of Excellence in VLSI Team coordinated by **Dr. K. Bala Sindhuri** and the college management for their unwavering commitment and dedication in making this event a resounding success. Their collective efforts have not only enriched our academic landscape but have also set a precedent for future endeavors. As we look ahead, we are inspired to envision more such events that foster innovation, awareness, and collaboration, thereby propelling our institution to even greater heights in the pursuit of academic excellence. This event stands as a testament to our collective resolve to embrace the future of technology and to empower our students to become trailblazers in the ever-evolving landscape of Electronics and Communication Engineering.



Enhancing VLSI and Embedded Systems Curriculum: Insights from Mr. Venkat Sunkara's Visit

Mr. Venkat Sunkara CEO of **ChipEdge** & team recently visited our college on 27 th February, 2024. They have had detailed discussions with the Faculty of ECE, on how we need to modify the curriculum of the B.Tech honors program in **VLSI** as per industry skill requirements and also fine-tune the electives to create 2 separate core domain specializations in VLSI & embedded. And subsequently, train the faculty by ChipEdge. ChipEdge will be working closely with our college, to ensure that students are skilled as part of the academic curriculum and get placed in VLSI & **Embedded companies directly from campus**.



"Celebrating Achievement: Mr. B NIHAR RATNA KONDA's Remarkable Success in GATE-2024"

"Appreciation is a wonderful thing. It makes what is excellent in others belong to us as well." These words of Voltaire ring true as we sincerely appreciate, **Mr. B NIHAR RATNA KONDA**, for his outstanding commitment and hard work in achieving the '**All India 20th rank in GATE-2024**'. He has truly made us proud with your achievement. His academic and research orientation is an absolute inspiration to all the students of **SRKR Engineering College**. He has left a mark on the institution as one of the most accomplished students of the **Department of ECE**, 2021-passed-out batch, and his passion for higher education always remains significant.



A Jahnvi Wins First Place in SRKR Orator Championship

A Jahnvi, a second-year engineering student from the ECE group, secured first place in the SRKR orator championship competitions organized by the SRKR Toastmasters and the Language Next Club at SRKR Engineering College on Monday. The Head of the English and Foreign Languages department, Bh VN Lakshmi, announced that the competitions, which began last August, culminated in the finals on Monday with three contestants. Director Dr. M Jagapati Raju and Principal Dr. KV Murali Krishnam Raju distributed the prizes. A Jahnvi was awarded a cash prize of Rs 5,000 for her first-place finish. Ch Sridhar Shyam, a third-year student of AI and Data Science, received Rs 3,000 for second place, and IT third-year student K Haswant Kumar won Rs 2,000 for third place. Dr. Jagapati Raju emphasized the importance of good oratory skills and pronunciation in English for achieving international success.

Principal Murali Krishnam Raju highlighted SRKR student Amudalapalli Jayasri's previous national master orator championship win, encouraging students to follow her example. Dr. BHVN Lakshmi reported that out of 300 registered participants, 12 students reached the finals, with the top three being awarded. Jahnvi credited YouTube lessons for her oratory practice. Faculty and students congratulated the winners, and the event was attended by SRKR Oratory Championship program convener M Shankar and others.



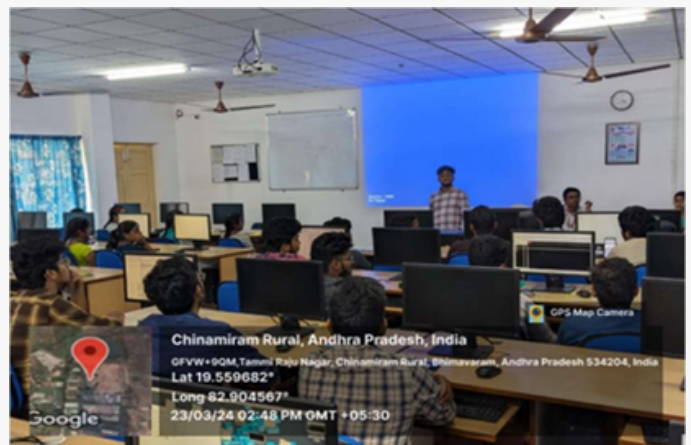
Guest Lecture on "Career Guidance in VLSI Industry"

The Department of ECE organized a guest lecture on "Career Guidance in VLSI Industry" held on 22nd March 2024 at 02:00 PM, Mr. Sarath Chandra Working as Senior Engineer in NVIDIA has taken the session regarding. He gave an overview about opportunities and job roles in VLSI Design that they are having after B. Tech .The session was very impressive, interactive and students participated with very enthusiasm. The Students of $\frac{3}{4}$ B. Tech and faculty of 85 Participants have attended the lecture.



Guest Lecture on "Career Guidance in VLSI Industry"

The Center of Excellence in VLSI Design organized a guest lecture on "Career Guidance in VLSI Industry" held on 23rd March 2024 at 02:00 PM, Mr. Sarath Chandra Working as Senior Engineer in NVIDIA has taken the session regarding. He gave an overview about opportunities and job roles in VLSI Design that they are having after B. Tech .The session was very impressive, interactive and students participated with very enthusiasm. The Students of $\frac{3}{4}$ B. Tech and faculty of 35 Participants have attended the lecture.



**"A person who never made a mistake never tried anything new."
—Albert Einstein**

**Education is the key to unlocking a world of possibilities.
It is the ultimate weapon that can assist you in winning
any battle of life.**

**"The future belongs to those who believe in the beauty of
their dreams." —Eleanor Roosevelt**

