



ece SYNCOM

A VOICE OF ELECTRONICS AND COMMUNICATION ENGINEERING

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KKR & KSR Institute of Technology & Sciences

(Approved by AICTE New Delhi, Affiliated to JNTU Kakinada, Accredited by NAAC with "A" Grade)

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KITS

VISION, MISSION & PEO'S

Vision

Developing highly Qualitative, Technically Competent and Socially Responsible Engineers.

Mission

To provide quality education in the domain of Electronics and Communication Engineering through

- Enriched curriculum for addressing the needs of Industry.
- Effective teaching learning processes through congenial environment.
- Gaining contemporary knowledge through research, development, curricular, co and extra-curricular.

ECE Program Educational Objectives

Graduates of Electronics & Communication Engineering Shall

PEO1: Develop a strong background in basic science and mathematics and ability to use these tools in their chosen fields of specialization.

PEO2: Have the ability to demonstrate technical competence in the fields of electronics and communication engineering and develop solutions to the problems.

PEO3: Attain professional competence through life-long learning such as advanced degrees, professional registration, and other professional activities.

PEO4: Function effectively in a multi-disciplinary environment and individually, within a global, societal, and environmental context.

PEO5: Take individual responsibility and to work as a part of a team towards the fulfillment of both individual and organizational goals.

The institute is a symbol of egalitarian outlook without discretions. KITS student activity council is organized exclusively by students with representatives from various disciplines stands for the advocacy of democracy and leadership opportunities provided by the institute. KITS student clubs enable all the students and staff mingle freely to express their views and share their talents and expertise. **KITS imparts Outcome Based Education (OBE)** which gives equal opportunities to teaching and learning curricular, co-curricular and extra-curricular activities.



CMYK

(Cyan, Magenta, Yellow, Key)

CMYK is a scheme for combining primary pigments. The *C* stands for *cyan* (aqua), *M* stands for *magenta* (pink), *Y* for *yellow*, and *K* for *Key*. The key color in today's printing world is black but it has not always been. During the early days of printing, the colors used for *Key* have been brown, blue, or black -- whichever was the cheapest ink to acquire at any given time.

The CMYK pigment model works like an "upside-down" version of the RGB (red, green, and blue) color model. Many paint and draw programs can make use of either the RGB or the CMYK model. The RGB scheme is used mainly for computer displays, while the CMYK model is used for printed color illustrations (hard copy).



Why printers used CMYK model:

CMYK printing is the standard in the industry. The reason printing uses CMYK comes down to an explanation of the colors themselves. CMY will cover most lighter color ranges quite easily, compared to using RGB. However, CMY by itself can't create very deep dark colors like "true black," so black (designated "K" for "key color") is added. This gives CMY a much wider range of colors compared to just RGB. The use of CMYK (cyan, magenta, yellow, and black) for printing has become kind of a trope for printers. But the reason why printing uses CMYK isn't that well known, even to many graphic designers.

On the surface, it doesn't seem to make sense. You might even have learned in elementary school that the primary colors — red, green, and blue (RGB) — are the primary colors, from which all the other colors come. After all, monitors, projectors, and television sets use red, green, and blue (RGB) to create all the other colors. Mixing some of these colors produces the secondary colors — cyan, magenta, and yellow. Mixing them all produces white.

By/-M.Sudhir, Asst.Prof

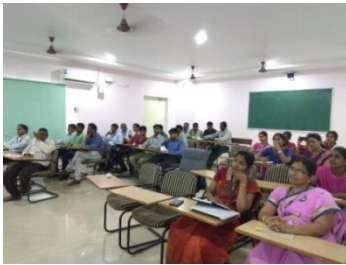


R&D Research & Development

The ECE department's Research and development team conducted a seminar on "5G New Radio" on 02nd August 2018 from 4.00 PM to 5.10 PM in the Seminar hall. Mrs. P.Sarala Asst. Prof. ECE, of KITS was the speaker for this Seminar. This Seminar was conducted to get the awareness among the faculty members towards New technologies.



The following topics are taught by the speaker in the Seminar



5G NR is a new air interface being developed for 5G. An air interface is the radio frequency portion of the circuit between the mobile device and the active base station. The active base station can change as the user is on the move, with each changeover known as a handoff.

In a nutshell, the 5G NR is being designed to significantly improve the performance, flexibility, scalability and efficiency of current mobile networks, and to get the most out of the available spectrum, be that licensed, shared or unlicensed, across a wide variety of spectrum bands.

Building upon our years of wireless experience and a solid foundation in today's 3G, 4G LTE and Wi-Fi technologies, Qualcomm is at the forefront of making this acceleration of 5G NR a reality. We are driving the technology innovations to mobilize spectrum bands in high frequencies such as 28 GHz, known as mmWave, capable of delivering multi-Gbps data rates with very large bandwidths. In parallel, we are also bringing new levels of performance to spectrum bands below 6 GHz, which are critical to achieving 5G NR requirements and ensuring

there is good, ubiquitous coverage and capacity to address 5G use cases. Our 5G NR design will deliver optimized OFDM-based waveforms and multiple access with a flexible framework that can scale from low spectrum bands to mmWave, from macro deployments to local hotspots, and will support licensed, unlicensed, and shared spectrum from the beginning. We are also designing 5G NR to efficiently multiplex the envisioned (and unknown) 5G services with various levels of data rate, mobility, latency and reliability. An innovative feature of 5G NR is that it is being designed in a future-proof manner so we can meet the extreme network requirements for the next decade and beyond.

This all starts with technology and research leadership. Qualcomm



Technologies started design work on the new 5G wireless air interface well before 3GPP 5G NR standard efforts kicked off. In fact, we have been designing 5G technologies for years, building upon our 3G and 4G leadership. This work is the foundation to our inventive and impactful 5G designs that are now being contributed to 3GPP to drive 5G NR standardization.

These innovative 5G designs would only be concepts on a piece of paper without the proper hardware, software, and firmware to advance them. This requires end-to-end 5G NR prototypes (think smartphone to base station) to test, demonstrate and trial. The Qualcomm Research [5G NR sub-6 GHz](#) and [5G NR mmWave](#) prototype systems are not only being utilized as a testbed for our 5G designs, they are also trial platforms that will track 3GPP standardization progress closely to enable timely 5G NR trials with leading mobile network operators, infrastructure vendors, and other industry players. This will also help drive timely commercial network launches, as these advanced prototype systems are critical to early interoperability testing and will contribute heavily to development of standards-compliant device chipsets and network infrastructure for commercialization.

HAPPY GRADUATION DAY

KKR &KSR Institute of Technology and Sciences (KITS), organized its graduation day ceremony at the institute premises on **11th August 2018**. Graduates who passed out during the academic year 2017 -18 received their graduation certificates from the Chairman of the institute Sri. Koyi Subba Rao Garu.

Graduation Day is, in simple words, the day of graduating or receiving an academic degree upon completion of one's studies. For a student it is that special day when he/she graduates from high school and is awarded with the academic degree of a "*graduate*".

Speaking on the occasion Chairman **Sri. K.Subba Rao Garu** remembered the four years time spent with them. He expected everyone to achieve pinnacle of success with positive framework of mind. He said that KITS College will ready to give helping hand in the future also.

An emphasizing speech was given by the Secretary **Sri. Koyi Shekar Garu** which was an inspiration for all the graduates. His address stressed upon the need for value education in the present context. He also advised the student audience, especially the passing out students to value honesty & integrity at their workplace.

The Principal **Dr. P.Babu Garu** , through his speech encouraged and wished the students to do higher studies to reach higher goals. He emphasized on the importance of GATE and its value, to carry forward in their life.

Representatives from the Under Graduates and Post Graduates shared their college life experience. Then there was the distribution ceremony of Certificates to the Graduates with their Graduate degree.



INTERNET OF THINGS

GUEST LECTURE

The ECE association **SPACE** conducted a “Guest Lecturer” on “**SYSTEM DESIGN ASPECTS OF IoT**” on 13th, August, 2018 from 10.00 AM to 12.30 PM in the Seminar Hall. **Dr. K.Solomon Raju, Principal Scientist CSIR-CEERI** is resource person for this lecture.



The following topics were discussed in the guest lecture

1. Introduction to IoT
2. IoT System Design Aspects
3. Issues related IoT Communication
4. Challenges and issues in IoT System Design
5. Hardware Platforms for IoT edge node Design
6. Software/Hardware Components



The resource person explained the future with IoT. He said that IoT devices are becoming a part of the mainstream electronics culture and people are adopting smart devices into their homes faster than ever. By 2020, it is estimated that there will be up to 21 billion connected devices to the internet. IoT devices will be a huge part of how we interact with basic everyday objects.

In just one year alone, we went from having 5 million IoT devices connected to the internet to billions. The future is happening now, and these devices are getting smarter every day through machine learning and artificial intelligence. To prove that IoT is taking off rapidly, Target opened up a store in San Francisco that exclusively sells IoT devices. There is big money in the IoT space currently, and it will only continue to grow as technology improves.



GATE

Graduate Aptitude Test in Engineering

The III Year students of ECE Appeared for the **GATE (Graduate Aptitude Test in Engineering)** awareness program conducted by the ACE Academy Guntur.

In the session the resource persons explains the importance

of GATE exam for the better future.



About GATE

GATE refers to the Graduate Aptitude Test in Engineering, which is conducted every year by the Indian Institute of Science and seven Indian Institutes of Technology or IITs. These authorities conduct the exam on behalf of the National Coordination Board-GATE, Department of Higher Education of the Ministry of HRD, Government of India. GATE is conducted to check the calibre and knowledge of engineering graduates.

Higher Education Options after GATE

One of the most sought-after career options after qualifying GATE is to pursue a postgraduate programme from a good engineering college. You can go for an M-Tech, ME or MS course from an institution of your choice, based on your GATE rank, specialisation area, and academic interests. If you have a good rank, then you may easily go for an ME or M-Tech programme at an IIT, NIT, or IISc. This can open great job avenues in future. Usually, these top engineering institutes accept ranks

up to 1500, varying by the institution. However, other private and government engineering colleges may accept ranks up to 2500 or above.

Moreover, not all engineering disciplines and specialisations attract effective **career options after qualifying GATE**. Aspirants prefer the departments like mechanical, electronics, electrical, and computer science. Further, some specialisations like manufacturing or production and design engineering can fetch you better job profiles. In the electronics and electrical fields, you may prefer specialising in VLSI, power electronics, and power systems. There is also the good scope of research opportunities and jobs with disciplines like control system automation and civil engineering. Apart from this, you have the option of pursuing a PhD programme in engineering after completing ME/M-Tech.

JOB OPTIONS AFTER GATE

Through Campus Placement: In all top engineering institutes, including IITs, NITs, PEC, IISC, and DCE, ME or M-Tech students can get very good job placements in renowned companies. Firms like Google, Samsung, Tata, Maruti, Cisco, and several other good companies pick engineering candidates holding a Masters-level qualification. If you are exploring career options after qualifying GATE and doing M-Tech in engineering, then many companies will be ready to recruit you by offering high salary packages that a B-Tech degree cannot fetch for you.

In Private Sector: While career options after qualifying GATE and doing ME/M-Tech are not as bright in the private sector as they are in the public sector, you will still gain the advantage of having qualified GATE. Many private firms are now inclined towards recruiting talented engineering postgraduates in their R&D and other departments. In fact, companies have been giving preference to GATE-qualified candidates over BE/B-Tech students. Thus, by simply securing a high rank on GATE, you can gain an edge over other engineering graduates and can secure better jobs with higher salaries.

In Foreign Firms: You may even try your luck in foreign firms if you want to settle abroad and make a career there. As GATE is considered while admitting you in a postgraduate course in a foreign university, it can also offer an advantage while seeking a job in a foreign company.

In Teaching Jobs: Nowadays, even educational institutions and universities recruit postgraduate engineering candidates from campuses. If you are trying to seek academic career options after qualifying GATE and doing ME/M-Tech, then you can apply for the faculty positions in these universities. You can be a lecturer or professor according to your qualifications. Many private institutes in India prepare students for the GATE exam. You can also take up a teaching job at such institutes that pay high salaries to GATE instructors.

In Public Sector: When it comes to the public sector, two to three thousand jobs are filled based on GATE scores. Several PSUs recruit management trainees and executive trainees on the same basis. While government firms offer good career options after qualifying GATE, they also provide training and learning opportunities to employees. The pay packages in these jobs are no less than the packages offered by top private firms. You can earn an average of 8 lakhs per annum at the start, along with perquisites. Additionally, you ensure job security in the public sector.

Scholarships/Stipends and Research Opportunities for GATE-Qualified Candidates:

Your career options after qualifying GATE do not end here. The GATE qualification can also get you scholarships and financial assistance during your Masters-level education. You can get a good scholarship paid by the Ministry of HRD to GATE-qualified students. This is given to assist students during their higher education so they can easily afford their course and research expenses. Students who take admission in AICTE or UGC-approved universities are also eligible for library funds.

Apart from scholarships, you can also use your GATE qualification to seek Junior Research Fellowship (JRF) and Senior Research Fellowship (SRF) in CSIR Laboratories. These are stipend-based fellowships. You may even explore research-related openings in research organisations. Thus, the career options after qualifying GATE are many, depending on your academic and professional interests.

FACULTY ACHIEVEMENTS

Dr. Ch.Aruna Bala published a paper on *“Digital mode with Single-Electron Transistor (DSET)”* in Global Scientific Journals (GSJ PUBLISHER) ISSN 2320-9186.



Mrs. T. Bhavani, Asst. Prof got membership of *“The society of Digital Information and wireless Communication (SDIWC)”* with membership ID: 21925



Mr.Maduguri Sudhir published a paper on *“Tri-Level MSG Algorithm for Detection of Brain Tumor”* in Journal of MultiDisciplinary Engineering Technologies (JMDET) **Vol.12 Issue.01**



Mr. Mangipudi Venu got membership of *“The society of Digital Information and wireless Communication (SDIWC)”* with membership ID: 21889.

He also became Associate members in *“The Institute of engineer and doctors with membership”* ID: AM101000582164



Mr.Eluri Venkat Narayana published a paper on *“Tri-Level MSG Algorithm for Detection of Brain Tumor”* in Journal of MultiDisciplinary Engineering Technologies (JMDET) **Vol.12 Issue.01**



STUDENT ACHIEVEMENTS

The students of IV year of KITS college appeared for the CODE VITA exam on 03/08/2018 in the college premises. The very next day means on 04/08/2018 the III year students also appeared for the code vita exam

About Code Vita:



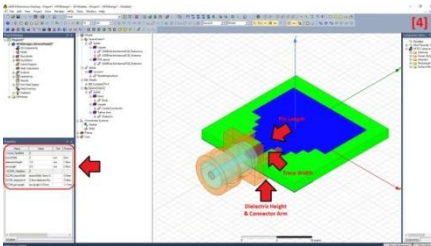
✚ Help TCS Spot bright students

✚ Provide students an opportunity to showcase their programming talent and earn peer recognition.

✚ Provide an opportunity to showcase offerings of TCS to the academic world

- ✚ Provides a platform to students to practice and enhance their programming skills.
- ✚ Provide exciting career opportunities for students in TCS
- ✚ Participation certificates for students who clear the pre-exam.

WORKSHOP



A work shop on “Antenna modeling techniques using HFSS tool” was conducted from 31st August to 1st September 2018 for the III year students. The resource person for this work shop is “Mr.M.Shekar

, Asst,Prof Vignana University” . This workshop is conducted to enhance the design idea of antennas using software tool .

