

“ Nothing in life is to be feared , It is only to be understood”.

-Marie Curie

Newsletter

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Dept. of ECE Vision and Mission

Vision: Develop the department into a full-fledged center of learning in various fields of Electronic & Communication Engineering in pursuit of excellence in Education , Research , Entrepreneurship and Technological services to the society.

Mission: 1. Imparting Quality education to develop innovative and entrepreneurial professionals fit for globally competitive environment.

2. To nurture the students in the field of Electronics and Communication Engineering with an overall background suitable for attaining a successful career in higher education, research and industry.

Program Educational Objectives (PEOs): Within first few years after graduation, the ELECTRONICS AND COMMUNICATION ENGINEERING graduates will be able to ...

PEO1: Technical Expertise building on fundamental knowledge, graduate should continue develop technical skills within and across disciplines in electronics and communication engineering for productive and successful career maintaining professional ethics.

PEO2: Successful Career graduates should develop and exercise their capabilities to demonstrate their creativity in engineering practice and team work with increasing responsibility and leadership.

PEO3: Soft Skills and Life Long Learning graduates should refine their knowledge and skills to attain professional competence through lifelong learning such as higher education, advanced degrees and professional activities.

Program Outcomes (Pos) : At the time of graduation, the Electronics and Communication Engineering graduates will be able to ...

PO1: Engineering knowledge apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO2: Problem analysis identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3: Design/ development of solutions design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4: Conduct investigations of complex problems use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5: Modern tool usage create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO6: The engineer and society apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7: Environment and sustainability understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for, sustainable development. PO8: Ethics apply ethical principles and commit to professional ethics, responsibilities, and norms of the engineering practice.

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PO9: Individual and team work function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10: Communication communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations , give and receive clear instructions.

PO11: Project management and finance demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12: Life-long learning recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAM SPECIFIC OUTCOMES (PSOs):

PSO1 : readiness for immediate professional practice

PSO2 : an ability to use fundamental knowledge to investigate new and emerging technologies leading to innovations.

Industrial Visit

The department of Electronics and Communication Engineering, Kakatiya Institute of Technology and Sciences, organized a one day Industrial visit to T-HUB and IMD, Hyderabad on 18th December 2019 for the department faculty of ECE.

The visit was organized with the prior permission and guidance of Hon. Principal Dr. K. Ashoka Reddy and HoD of ECE Dr B. Rama Devi. The faculty incharge Sri. D. Venu has coordinated the event with excellence.

Total 25 faculty members and 2 technical Assistants have joined this industrial visit. The faculty had the opportunity of visiting two companies in one day.



Group photo of faculty of the ECE-Dept at T-HUB



Group photo of the faculty and students of Dept. of ECE at IMD.

Faculty Achievements

- Dr. K. Ashoka Reddy has organized a two week FDP on "Hands on project based approach for bio-medical signal analysis using MATLAB," sponsored by AICTE. Sri. J. Sheshagiri Babu and P. Yugendhar acted as the co-ordinators.
- Smt. S.P.Girja and Sri.Rameshwar Rao have published a journal paper on "MIMO OFDM Blind Channel Equalization using Multilayer Neural Network in Impulsive Noise Environment".
- Dr. K. Sowjanya has organized a guest lecture for students on "Embedded System Design through Advanced Microcontrollers," by Dr.B.K.N. Srinivas Rao, Asst.Prof, NTTW on 10.09.2019.
- Dr. M. Raju has published a journal paper on "Holistic Review on Brain Tumor Segmentation using Deep learning".
- Dr. K. Sowjanya has organized a one-week hands on training program for M-Tech students and Lab-Technicians on "Advanced Communication & Signal Processing Techniques," from 06-11-2019 to 11-12-2019.
- Sri. A. Srinivas has published a journal paper on "Optimized Level Set Method for Segmentation of SAR Images using Adaptive Fuzzy-K-Means Clustering".
- Dr. K. Sowjanya has organized a hackathon for students on "Smart E-challenges," in association with TTA, Hyderabad from 08th-09th February , 2020.
- Dr. G. Raghobam Reddy and S.P.Girja have published a patent "Gloves for identifying plants and the plant disease," by Intellectual Property India patents. Application Number: 325591-903, Chr Nuc307, design accepted and published 28.02.2020, National Patent (KOLKATA), Controller general of patents, designs and trademark, Dept. of Industrial Policy and Promotion, Ministry of Commerce and Industry.
- Kama Ramudu, Kalyani Ch, Tummalu Ranga Babu and Ganita Raghobam Reddy published a paper on "Segmentation of Soft Tissues and Tumours from Biomedical Images using optimized K-Means Clustering via Level Set formulation".

A: 2. Pils 3. Tracing 7. Sibbon 8. DAC 9. NARAYAN

Dr. 1. DIAC 4. RAM 5. INSULATOR 6. MOSFET 10. VARIATOR

Puzzle Answers



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STUDENTS ACHIEVEMENTS

Performance in Competitive Examinations

GATE : 06 students qualified in GATE competitive exam.

IELTS : 02 students qualified in IELTS test.

CAMPUS PLACEMENTS RESULTS

Name of Recruiter	Number of Students
Value Labs	01
Ge	01
TCS	27
Infosys	10
AD3i	03
Hexaware	02
Edupolis	01
ZENQ	02
Total	45

FDP

The Faculty Development program of One week hands on training program has been organized by the Faculty Co-ordinators Sri V.Raju and Dr. K. Sowjanya on the topic Advanced Communication and Signal Processing Techniques . from 6-11 December, 2019.



Dr. B. Rama Devi, HoD-ECE addressing the gathering of the FDP program.



From Bottom -> Principal, Dr. K. Ashoka Reddy, HoD-ECE (right) and Faculty of the ECE Department

25-03-2020

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Chief Editor Message:

It gives me immense pleasure to pen a few words as prologue to our in-house Newsletter exclusively meant for churning out the latent writing talent which bears immense potentiality of sharpening communication skill as part of overall personality development. I congratulate the editorial board of the newsletter for their untiring efforts in collecting and compiling the data without which it would have not been possible to place this newsletter in your hands. I, on behalf of KITSW family wish you all the best for achieving greater success and scaling new heights in the future.

-Dr.K.Ashoka Reddy, Principal, KITSW

Editor Message:

I congratulate the editor's in-charges and student's editorial board members for their great effort in making of this newsletter. The different articles on advanced technologies will help to the student community to update themselves in latest technologies. It provides brief information regarding research publications and achievements of students and faculty. The leadership role and active participation of students will be highlighted in department and institute activities. It will definitely motivate the other students to come forward and contribute in various aspects. I wish a happy learning to you all.

-Dr.B.Rama Devi, HoD Dept.of ECE,KITSW

“Everything is theoretically impossible, until it is done”
- Robert A. Heinlein



Gallium Nitride (GaN) Tech

Gallium Nitride (GaN) could potentially replace the silicon in the future.

GaN a compound that has been around since the early 1990's has been brought into limelight recently due to its unique characteristics that could rival the world's largest semiconductor silicon.

GaN has been slowly entering into the market due to monopolization of semi-conductors by silicon due to its abundance in the nature. Whereas GaN has to be synthesized in laboratories. This method of it is slowing down the involvement of GaN in industries. However in the past decade the compound has shown its use in various scenarios. The GaN basically has a band gap of 3.4eV, whereas Silicon has a bandgap of 1.1eV this big difference in the band gap makes GaN less susceptible to heat generation and its robustness has various uses.

GaN can match the performance of a Silicon based component by using half of its size, half of its weight and also wasting only half of its energy. The GaN which could be a potential replacement for silicon in the near future can produce less heat do to its wide band gap which means its usage in micro-processors can eradicate the issue of overheating and decrease the energy losses.



RPA workshop

On 13th December, 2019, the department of Electronics and Communication Engineering (ECE), in association with CENTER OF EXCELLENCE (BOT LAB) Automation Anywhere University Inc, USA, organized a two week training programme entitled “ROBOTIC PROCESS AUTOMATION” by Dr. B. Dhanalaxmi Dept of ECE.

The workshop was addressed by Dr. K. Ashoka Reddy, Principal, KITSW, Sri S. Naga Raju, SPOC (BOT LAB), Dr.V. Shanker, Head of dept. CSE, Dr. B. Rama Devi, Head of dept. ECE, Dr. B.Dhanalaxmi, Faculty coordinator, at the inaugural.



Dr. K. Ashoka Reddy, Principal, KITSW addressing the students of Dept. of ECE.

LATEST TECH INNOVATIONS

WiFi-6

Wireless Fidelity (WiFi) is a technology that has been around us since a decade has recently announced its new and improved WiFi standards i.e., 802.11ax which is now commonly known as WiFi-6 is an improvisation of the older standard WiFi-5(802.11ac).

The basic improvements of this new standard are improved throughput i.e., up to 40% more data transfer rates, wide range of devices connectivity, 4 times more efficient than previous standard on client device and increased network efficiency.

However the WiFi-6 standard also brings in various new features like..

- Increased network bandwidth i.e., usage of 6GHz bands which decreases the interference of other devices and allocating a larger bandwidth to a single device increases the transfer speed over a single channel.
- Target Wakeup Time : A feature that lets the client device to get into sleep mode when its not using the Wi-Fi and wakes them up when it is required decreases the energy usage significantly.
- Beam-Forming : It is a technique that transmits the Wi-Fi signals in directive manner towards the client device. It decreases the energy usage and interference significantly.
- MU-MIMO : It allows 8 simultaneous streams over different devices with both simultaneous uploads and downloads whereas the older version allows only 4.
- BSS Coloring : It is an identifier which is attached to each data chunk to indicate what wireless network it came from. It reduces the rate of interference by avoiding the unnecessary data chunks unless they are under a certain threshold of weakness, which causes interference. It helps in avoiding unnecessary slowdowns.



Group photo of RPA Training, Dept. of ECE, KITSW

“If you cannot explain it simply,
you do not understand it well enough”

– Albert Einstein



24Hrs Hackathon

A 24 Hr Hackathon has been organized on the Title of “Smart E-Challenges” on 8th February, 2020. It has been organized under the guidance of the faculty Dr. M. Raju and Dr. K. Sowjanya. The main focus of this Hackathon was to improve the innovative thinking of students and getting an opinion of their ideas from a company perspective.

There were a total of 160 participants in this Hackathon and each group from them have given their own new ideas regarding their problem statements. The chief guests of the event have shared their views on the ideas of students from a perspective of entrepreneur and gave them a guidance on how to improve their ideas.



From middle-> Chief guest of the Hackathon, The Principal and HoD-ECE to her left and the faculty co-ordinators of the hackathon.

Centre of Excellence

The Department of ECE established two laboratories to help the students and guide them in the way of their research. They are:-

1. Telangana Innovation and Incubation Center (TIIC)
2. Transfinite iLab

Telangana Information Technology Association (TITA), as a part of its efforts to promote innovation and foster entrepreneurship among the students, has setup the TIIC at KITS, Warangal.

Transfinite Innovative Solutions Private Ltd is majorely in business services. Company provides IT enabled business services with innovation and constant evolving passion to serve the future. Pro-actively envisioned to provide reliable, flexible technology solutions. Company cultivate long-term partnerships with our customers to deliver a range of services adapted to meet their specific needs. They established Transfinite iLab and donated Rs. 25 Lakhs software to KITSW.



Chief guest inaugurating the newly established transfinite iLab.

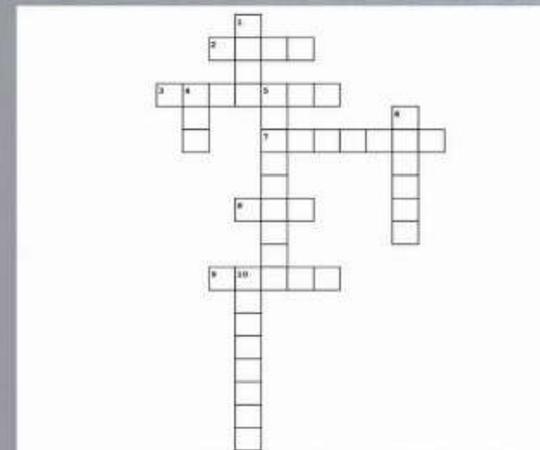
Seminar

DST Sponsored a 3-day national level seminar on “Deep Learning for Engineering Applications” has been organized by the Dept. of ECE during January 6 -8, 2020 by the faculty co-ordinators Sri. A. Srinivas and Dr. G.Raghotham Reddy.



Principal & HoD-ECE welcoming chief guest and faculty of host.

PUZZLE



- Across:
2. TERMINALS OF AN IC
 3. PROCESS OF FINDING THE COMPONENTS IN A CIRCUIT
 7. MOST WIDELY USED SEMICONDUCTOR
 8. A DEVICE THAT CONVERTS SINE WAVE TO DISCRETE IN TIME AND DISCRETE AMPLITUDE SIGNAL
 9. A MEMORY WHICH RETAINS ITS CONTENTS EVEN AFTER LOSING POWER SUPPLY
- Down:
1. BI-DIRECTIONAL THYRISTOR
 4. TYPE OF MEMORY WHICH CAN BE ACCESSED RANDOMLY
 5. A COMPOUND THAT HAS BANDGAP MORE THAN 4eV
 6. HIGH SWITCHING SPEED TRANSISTOR