Dr. T. THIMMAIAH INSTITUTE OF TECHNOLOGY

DEPARTMENT OF
ELECTRONICS & COMMUNICATION ENGINEERING

NEWSLETTER

ECE-AUTRONICS

2019-2020

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Dr.T. THIMMAIAH INSTITUTE OF TECHNOLOGY
(Estd. 1986) Oorgaum, Kolar Gold Fields, Karnataka – 563120
(Affiliated to VTU, Belgaum, Approved by AICTE - New Delhi)

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

AUTRONICS 2019-20

President's Message

Dr.T. Thimmaiah Institute of Technology has been serving many young engineering aspirants for more than three decades. The evolution of the institution for the past three decades has witnessed strong blend of state of the art infrastructure and human resources committed to provide professional education with thrust on creativity and innovation. Special emphasis is given to outcome based education. Our institution provides ample opportunities for the students to acquire both technical and life coping skills which would enable them to empower themselves as useful citizens.

We encourage our faculty members to take up research activities, to acquire knowledge, innovation and newer insights that makes teaching more vibrant and scientific.

I congratulate all the students who have been placed in various companies through our Placement and training cell. My appreciation to all the staff for their team work in getting good results.

I am extremely happy to release the newsletter of Electronics & Communication Engineering and also confident that the editorial team has covered all the recent happenings in the campus.

I wish all the students to excel in all fields and make their parents, institution and nation proud.

-**Dr.T. Venkat Vardhan**,
President, GVET

Principal's Message

I congratulate the Department of Electronics & Communication Engineering faculty for their achievements in the current academic year. I also congratulate the editorial team for their constant effort for the outcome of the newsletter.

Dr. Syed Ariff

Principal

Dr. T. Thimmaiah Institute of Technology, KGF

HOD's Message

The newsletter provides an overview of current activities that took place on our campus. The newsletter includes noteworthy accomplishments by the Department of Electronics & Communication Engineering, Dr. T. Thimmaiah Institute of Technology, KGF. I am delighted to publish the achievements of the Department of Electronics & Communication Engineering.

Prof. Ruckmani Divakaran
HOD Dept of ECE , Dean (Administration)

From the Editor's Desk

I congratulate the editorial team for release of newsletter. This newsletter brings out all the important achievements of faculty and students and other development activities under taken in the department. On behalf of the editorial committee, I thank our management for the support and encouragement rendered to keep up the standards of this edition of the newsletter.

Editorial Committee

Chief Editors: 1. **Prof. Ruckmani Divakaran**
            HOD Dept of ECE , Dean (Administration)
            2. Prof.Vijaya Bharathi M, Associate Professor
            3. Prof. Jenitha A, Associate Professor

Editor : Ms. Devika S, Assistant Professor

Students Editors: 1.1GV16EC037-Priya.D

            2.1GV16EC045-Rohan.K.R

About the Department

The Department of Electronics & Communication Engineering was started in the year 1993 with the idea of equipping young people with the necessary technical knowledge and professional skills needed to address the challenges in the rapidly growing field of Electronics & Communication Engineering and promoting research in this area headed by Prof. Ruckmani Divakaran.

ECE department is a dynamic and vibrant department with highly qualified, experienced and dedicated faculty members. The curriculum in Electronics & Communication Engineering lays greater emphasis on design principles and development of Communication models, Signal Processing, Image processing, Embedded Systems and VLSI.

The young, dynamic and dedicated Staff members have succeeded in coaching the students and to equip them to face the future with confidence.

The major areas of faculty expertise of the department include Communication Systems, Computer Networks, Signal Processing, Image Processing, RF and Microwaves, and VLSI Systems. The department offers B.E in Electronics & Communication Engineering. The department has various laboratories such as VLSI Design lab, Digital Signal Processing Lab, Circuits and Simulation Lab, Advanced Communication Lab, Computer Networks Lab, Microprocessor Lab, HDL Lab and Embedded Systems Lab to implement the required curriculum and skills.

The department also nurtures the inclination of the students towards Research and Development, besides giving them the necessary and sufficient backing of practical knowledge that they need. The Department provides access to high end software like Xilinx, Multisim, Code Composer Studio, Network Simulator, Cadence and MATLAB. Technical co-curricular and extra-curricular activities of the students include participation in Paper Presentation, Workshops, Seminars, Quiz, Technical competitions, Project Demonstration and participation in cultural activities channelized through the forum (EC GOLDEN ANWESHA) and events in the institution.

DR. T. THIMMAIAH INSTITUTE OF TECHNOLOGY

VISION

To produce technically competent engineers having innovative skills positive attitude, leadership and professional ethics, with a focus on developing sustainable and new technology.

MISSION

• Create a conducive environment for teaching, learning and innovation by providing state of the art infrastructure.

• Learn sustainable and new technologies through industry institute collaborations.

• Produce technically competent engineers with ethics, discipline and social consciousness through holistic education.

DEPARTMENT OF ELECTRONICS & COMMUNICATION

VISION

"Graduates to be recognized in the field of Electronics & Communication Engineering ensuring academic excellence with innovative technical skills and professional ethics."

MISSION

- Imparting quality technical education through innovative teaching learning process.
- Active association with industry to meet the growing challenges in the society.
- Develop overall competency with professional ethics by providing training programs.

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DEPARTMENT ACTIVITIES

Guest Lecture:

- All Faculty members along with 3rd and final year students attended Guest lecture on "Awareness of LAB VIEW Software" conducted on 13-11-2019 by Mr. Manimaran, Business Manager, VI Systems, Bangalore, in e-Shikshana Hall.
- In First year, Induction program Prof. Ruckmani Divakaran delivered a lecture on VTU rules and regulation and college norms.

Industrial Visit:

- Students of Second and Final Year visited BEML Limited, KGF on 19th October 2019 accompanied by Dr. K M Palaniswamy, Mrs. Vijaya Bharathi, Ms. Tamil Vani.

Students during Industrial Visit

Proposals sent for grants:

- KSCST proposal sent on 13-12-2019 for the final year students Project title "IoT based automatic control of solar panel for high power generation" Guided by Prof. Ruckmani Divakaran.

- AICTE STTP (short term training Programme) proposal sent to AICTE on 02-01-2020

Professional body activities:

- **ISRD (International Society of Research and Development):** 142 students have become members of ISRD students' chapter.

- **IETE (Institute of Electronics and Telecommunication Engineers):** students Forum was inaugurated on 14-10-2019, 48 students have taken the membership. Prof MuraLI-IETE VICE Chairman , Prof

IETE Inauguration

- Department Technical forum ECE ANWESHA inaugurated on 5th August 2019 and various technical activities were conducted like pick and talk , debate , skit and Quiz. Around 40 students participated in the forum activities.

Inauguration of ECE ANWESHA   *HOD addressing the students*

FACULTY ACTIVITIES & ACHIVEMENTS

Faculty Development Program:

- Mr. Jesudas J attended FDP on "Effective Teaching techniques in Digital Signal Processing" from 26th to 30th August 2019, Centre for Post-Graduation Studies, Muddenahalli, Chickballapura.

- Dr. Palaniswamy, Mrs. Jenitha and Ms. Tamil Vani has attended "APP Development – with Mobile Sensors" online FDP Programme conducted by Chase Research and Development Department, Chennai from 19th August to 21st August 2019.
- Mr. Bhuvanendhiran T attended Robotic Process Automation Training program organized by Dr. TTIT, from 21st to 26th October 2019.
- Dr. Palaniswamy, Mrs. Jenitha and Ms. Tamil Vani has attended "ILLUSTRATION AND INFOGRAPHIC SOFTWARE TOOLS FOR SCI - JOURNAL WRITING" online FDP Programme conducted by Chase Research and Development Department, Chennai from 2nd December to 6th December 2019.
- Ms. Tamil Vani R attended Online FDP on Patent Drafting and Filing from 24th to 28th June 2019 conducted by Chase Research and Development Department, Chennai.
- Ms. Tamil Vani R attended Online FDP on Antenna Design -ADS software from 23rd to 27th September 2019 conducted by Chase Research and Development Department, Chennai.

Seminar/Workshops attended:
- Mr. Rajesh Kumar Kaushal attended a workshop on Salesforce from 14th to 16th October 2019, at Sri Sai Ram College of Engineering, Anekal, Bengaluru.
- One day Virtual lab workshop was conducted on 12-12-2019 for all the Faculty members in Dr. TTIT.
- Dr. Palaniswamy has participated in One Day National Seminar on "AICTE Quality Initiatives and Sensitization of Technical Training held on 16th December 2019 at Cambridge Institute of Technology, Bengaluru.
- Dr.Palaniswamy attended IETE 50th Foundation Day on 10-11-2019 at IETE Head Quarters, Bangalore.
- One day virtual webinar was organised on "challenges of 5G for future wireless communication" on 25-06-2021.

Papers published / presented:

- Mrs. Vijaya Geetha R published a paper on "Laplacian Pyramid based change detection on SAR Images, "European Journal of remote sensing". 52(1),4, Scopus, SCI, 2019.

Certificate of Membership:

- Dr.T. Thimmaiah Institute of Technology has got the Certificate of Membership in Institution Innovation Council established under the aegis of MHRD's Innovation Cell for coordinated by Dr. Palaniswamy, Prof. ECE.

Online Courses:

- Mrs. Manjushree K Chavan, completed 8 weeks Online certification course on "Data Science for Engineers", SWAYAM NPTEL.
- Mrs. Manjushree K Chavan, completed 4 weeks Online certification course on "Python for Data Science", SWAYAM NPTEL.
- Mrs.Jenitha completed 4 weeks Online certification course on "Business Analytics and Data Mining Modeling using R Part II, SWAYAM NPTEL.
- Mrs. Jenitha completed 4 weeks Online certification course on "Design Thinking – A Primer, SWAYAM NPTEL.
- Ms. Tamil Vani R completed 4 weeks Online certification course on "Business Analytics and Data Mining Modeling using R Part II, SWAYAM NPTEL.
- 39 courses have been registered by all the Faculty members in the dept.

STUDENT ACHIEVEMENTS:

Workshop on SoC Design in November 2019:

- Ms. Mamatha N, Ms. Chandana G, Ms. Kavya H N, Ms. Suchitra G, Ms. Tabassum F, Mr. Keshu Murthy of 3rd year attended a workshop on SoC Design.

Blue Prism Foundation Training on 25th October 2019:

- Ms. Spandana K N, Mr. Bharath K, Mr. Sajjad Ahmed A., Ms. Sneha M, Ms. Kanimozhi S, Ms. Sindhu G, Mr. Revansidda S, attended the Foundation training program.

Blue Prism Robotics Automation (RPA) on 26th October 2019:

- Mr. Bharath K, Mr. Sajjad Ahmed A, Mr. Mohan Babu M, Ms. Sindhu G
  Mr. Revansidda S attended RPA program.

Certification Course:

- Mr. Sai Sushanth L A and Ms. Nagakrupa B R has completed Certification Course on Programming for Everybody (Getting started with python) from University of Michigan in January 2020.
- Mr. S N Sagar completed course on Open source tools for data Science from IBM through coursera in December 2019.

Workshop:

- Mr. Konjerg Bam Dollar Singh has completed workshop on "Machine Learning and its Application conducted on 20th October 2019.at IETE Bengaluru.

Quadcopter Championship:

- Ms. Sindhu G, Sneha M, V Prachi Bohra, Spandana N have registered for Quadcopter Champion ship conducted by TechnoXian India.

Program Educational Objectives (PEOs)

Graduates shall have the ability to

PEO 1 : Develop the engineering design, problem–solving skills and aptitude for innovations in multi-disciplinary areas.

PEO 2 : Manage resources skillfully as members and leaders to solve complicated real world problems.

PEO 3 : Be receptive to new technologies and attain professional competence through lifelong learning with Advanced degrees, innovation and other Professional Activities.

Program Specific Outcomes (PSOs)

Graduates will have the ability to

PSO 1: Apply the principles of Electronics in the field of VLSI and Embedded systems.

PSO 2: Apply the domain knowledge to design, analyze and develop optimal solutions in the field of Signal Processing and Communication with social concern.

PSO 3: Utilize acquired technical knowledge in Applied electronics and multidisciplinary domains.

Program Outcomes (POs)

At the end of the B.E program, students are expected to have developed the following   outcomes:
Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialisation to the solution of complex engineering problems.

1. Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialisation to the solution of complex engineering problems.
2. Problem analysis: Identify, formulate, research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. 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.
4. 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.
5. Modern Tool Usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.
6. 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.
7. Environment and Sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of need for sustainable development.
8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. Individual and Team Work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. 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, and give and receive clear instructions.
11. 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.
12. 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