TAMASOMA JYOTIRGAMAYA

NEWSLETTER

ESTD. 2021

Department of ECE

ELECTROCOMM-IN-VISION

Department of Electronics and Communication Engineering

Quarterly News Bulletin

April - June 2022

Vision

A resource centre of academic excellence for imparting technical education with high pattern of discipline through dedicated staff which shall set global standards, making National and International students technologically superior and ethically strong, who in turn shall improve the quality of life.

Mission

- To provide quality education in the domain of Electronics and Communication Engineering through effective learner centric process.
- To provide industry specific best of breed laboratory facilities beyond curriculum to promote diverse collaborative research for meeting the changing industrial and societal needs.

Quality Policy

- Impart up-to-date knowledge in the students' chosen fields to make them quality engineers.
- Make the students experience the applications on quality equipment and tools.
- Provide quality environment and services to all stakeholders.
- Provide systems, resources and opportunities for continuous improvement.
- Maintain global standards in education, training and services.

Contents

Head of the Department

I am very happy that our Electronics and Communication department is publishing the 3rd isssue of our departmental newsletter, "ELECTROCOMM-IN-VISION". This Bulletin summarises the activities of the department from April 2022 to June 2022. I, as a head of the department would like to thank all the faculty members, non-teaching staffs and students for their support and sincere efforts for the betterment and development of department.

Dr. S. Rajendra Prasad

Department Profile

The Department of ECE was established in 1995 with an intake of 60. At present, the Department has an intake of 257 Students for the UG programme and an intake of 18 students for the PG programme in VLSI System Design and Embedded Systems respectively. PG programme Defense Technology was introduced in the academic year 2020-2021. The department indulges in cutting edge research in the areas of Sensor Networks, Wireless Networks, Wireless Communications, Internet of Things,VLSI, Cognitive Radio, Speech,Video and Biomedical Signal Processing. The faculty of our department has published 22 papers in various journals and conference publications during April to June 2022.

Faculty Updates

Faculty Joined

S.No.	Name of the Faculty	Designation	Date of Joining
1.	Dr. A Sai Kumar	Assistant Professor	21-04-2022
2.	Mr. T. Srinivas	Assistant Professor	09-05-2022
3.	Ms. M. Bhagya Lakshmi	Assistant Professor	26-05-2022
4.	Ms. N. Neelima	Assistant Professor	01-06-2022
5.	Mr. E. Vijay Babu	Assistant Professor	23-06-2022

Faculty Relieved

S.No.	Name of the Faculty	Designation	Date of Joining	Date of Relieving
1.	Mr. K. Naresh	Assistant Professor	23-06-2016	10-06-2022
2.	Ms. L. Ramya	Assistant Professor	20-06-2016	30-06-2022

"A man's mind, stretched by new ideas,
may never return to its original dimensions."
Oliver Wendell Holmes Jr.

Awards & Recognitions

- **Ch. Abhilash** (20071A4K1), participated in swimming (400M individual Medley) of the Khelo India University Games 2021 held in Bengaluru from 24th April to 3rd May 2022 and stood second.

Events Organized

- Organized guest lecture on "**Higher Education and National Development**" under **AICTE-DCP scheme** on 31st May 2022 by **Sri. Anil Kakodkar**, Chancellor, Homi Bhabha National Institute, Chairman, Rajiv Gandhi Science & Technology Commission, Former Chairman, Atomic Energy Commission.
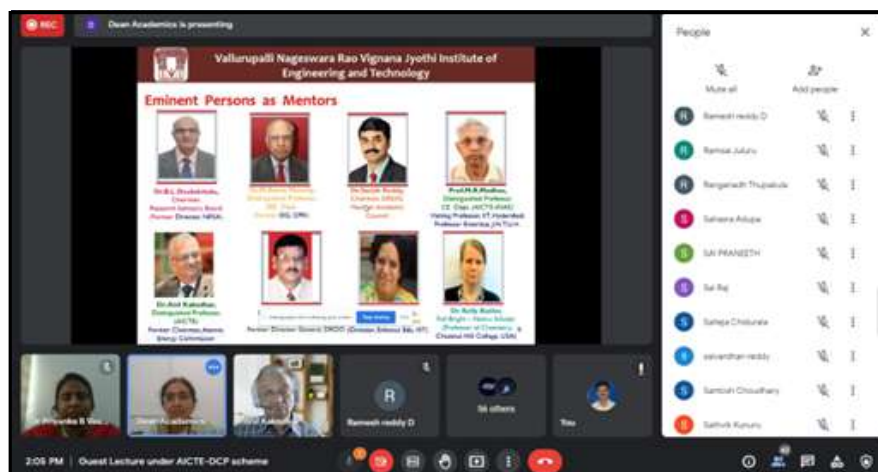
Guest lecture on "Higher Education and National Development"

Your attitude, not your aptitude,
will determine your altitude."

-Zig Ziglar

- Guest lecture for II B.Tech ECE students on "**Embedded Systems** " by **Sri. M Dinakar**, Co-Founder & Chief Solution Architect SecurWeave, Hyderabad on 18th June 2022.
- Final year **major projects exhibition** was held on 24th June 2022.
- Alumni Guest Lecture on the topic "**Introduction to Data Analytics and Business Intelligence**" for II B.Tech ECE students was organized on 25th June 2022 by **Mr. Sandeep Vellanki**, Data Science Manager at Deloitte, Hyderabad.

Alumni Guest Lecture on the topic "Introduction to Data Analytics and Business Intelligence

- Alumni Guest Lecture by **Mr. S. Krishna Teja**, Architect, Siemens EDA on " **Design Challenges in Digital VLSI** " for II B.Tech ECE students was organized on 25th June 2022.
- Guest Lecture by **D Srikanth**, Application Engineer, AMD for M.Tech students (VLSI System Design & Embedded Systems) on "**Opportunities in VLSI Industries**" was organized on 25th June 2022.
- Lecture on "**Relevance of Nuclear Energy in achieving net Zero Emissions**" for faculty and students by **Dr. Anil Kakodkar**, Chancellor, Homi Bhabha National Institute, Chairman, Rajiv Gandhi Science & Technology Commission, Former Chairman, and Atomic Energy Commission under AICTE-Distinguished Chair Professor (**DCP**) scheme on 25th June 2022.
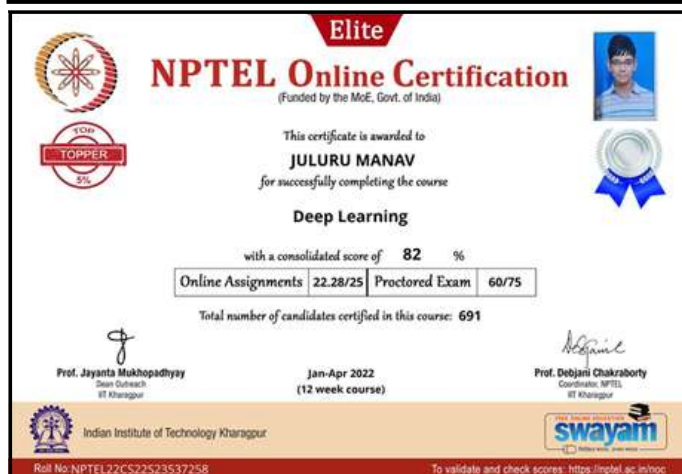
Events Attended

- **Dr. Y.Padma Sai**, Professor attended Faculty Training Program on **Industry 4.0 organized by IEEE India Council** from 2nd-3rd April 2022.
- **Mr. B.B. Shabarinath**, Assistant professor attended **FPGA Architecture and Programming using Verilog HDL** jointly organized by **Arm Education and NIELIT Calicut** from 4th - 30th April 2022.
- **Mr. C. Kaushik**, Assistant professor attended FDP on "**Data Analytics Tools & Python Framework**" from 11th May 2022 to 17th May 2022 organized by the **Department of CSE, VNRVJIET**.
- **Mr. G.Vijaya Kumar**, Assistant Professor & **Ms. K.Manasa**, Assistant Professor attended the faculty orientation program on "**Data Structures** " organized by the **Department of CSE, VNRVJIET** on 31st May 2022.
- **Ms. G.Ramya**, Assistant Professor & **Dr. V.Sagar Reddy**, Assistant Professor attended Faculty Orientation Program on "**Data Structures** " organized by the **Department of CSE, VNRVJIET** on 07th June 2022.
- **Ms. D.Kanthi Sudha**, Assistant professor attended the webinar "**NEP-2020 Implementation of Multidisciplinary and Holistic Education**" organized by **UGC HRDC JNTUH** on 18th June 2022.

Online Certifications

S.No.	Name of the Faculty	Name of the NPTEL Course	Month
1.	Ms. Ch. Naga Deepa	NBA Accreditation and Teaching and learning in Engineering (NATE)	April
3.	Ms. D. Kanthi Sudha		April
4.	Mr. B.B. Shabarinath		April
5.	Dr. Y. Chalapathi Rao		April
6.	Mr. K. Sarath Chandra	Python for Data Science	April
7	Ms. G. Sahitya	Introduction To Industry 4.0 And Industrial Internet Of Things	April

Student Toppers List

S.No	Name of the Student	Roll Number	Name of the NPTEL Course	Topper
1	Mr. K. Abhilash	19071A0488	Deep Learning	Top 5%
2	J. Manav	19071A0483		

Be miserable. Or motivate yourself. Whatever has to be done, it's always your choice."

Wayne Dyer

Ph.D Awarded

- **Dr. G. Shanthi,** Assistant Professor was awarded Ph.D by KL University for the thesis "**Design and Analysis of Novel Type RF MEMS Switch Integrated Band-Reject Filters for KU band applications**" under the guidance of **Dr. K. Srinivas Rao**, Professor and Head (Micro Electronics Research Group), KLU on 14th April 2022.
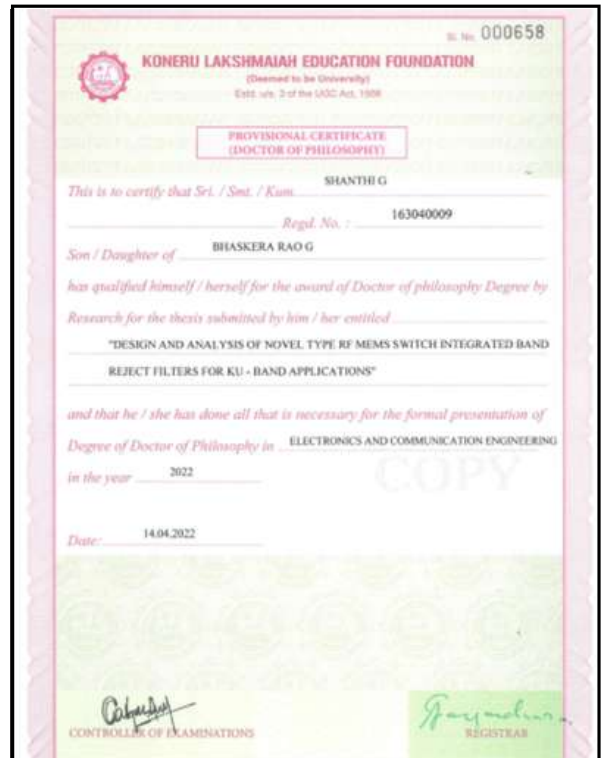
Research & Development

Journals/ Conferences/Book Chapters

S.No.	Name of the Faculty	Title of the Paper	Conference/Journal
1	Dr. S . Rajendra Prasad, Professor and Head	A Symmetric Novel 8T3R Non-Volatile SRAM Cell for Embedded Applications	**Symmetry** April 2022
2	Ms. Helan Satish, Assistant Professor	A simulation Study on Propagation of Action Potential in Epicardial Tissue due to SCN5A L812Q Mutation	**Recent Advances in Applied Mechanics**, pp 57–67 5 April 2022
3	Ms. J. L. V. Ramana Kumari Assistant Professor	Passive Neighborhood Pattern Sensitive Fault Testing In Memories Using LCA and LFSR	**ARPN Journal of Engineering and Applied Sciences** ISSN 1819-6608, VOL. 17, NO. 9, May 2022

Keep away from people who try to belittle your ambitions
Small people always do that, but the really great make you feel that you, too, can become great."
-Mark Twain

4	Ms. B. Alekhya, Assistant Professor	Development Of a Modular L-Band Profiler for Atmospheric Boundary Layer and Precipitation Studies	**International Journal of Mechanical Engineering**, ISSN: 0974-5823 Vol. 7 (Special Issue 5, April-May 2022)
5	Dr. Kandala Kalyana Srinivas, Assistant Professor	Artificial Intelligence based Forecasting Techniques for the Covid-19 pandemic Artificial Intelligence Techniques for Chatbot Applications	**MECON2022** Organized by AMITY University, April 2022
6	Dr. Kandala Kalyana Srinivas, Assistant Professor	Benefits of Artificial Intelligence in the Legal System and Law Enforcement	International Mobile and Embedded Technology Conference **(MECON2022)** Organized by AMITY University,April2022
7	Dr. Kandala Kalyana Srinivas, Assistant Professor	Artificial Intelligence Based Optimal Biometric Security System Using Palm Veins	International Mobile and Embedded Technology Conference **(MECON2022)** Organized by AMITY University,April2022
8	Dr. Kandala Kalyana Srinivas, Assistant Professor	Artificial Intelligence based Early Detection and Timely Diagnosis of Mental Illness - A Review	International Mobile and Embedded Technology Conference (**MECON2022**) Organized by AMITY University,April2022
9	Dr. Kandala Kalyana Srinivas, Assistant Professor	Artificial Intelligence based Techniques for COVID-19 Vaccinations – A Review	International Mobile and Embedded Technology Conference (**MECON2022**) Organized by AMITY University,April2022

The difference between school and life? In school,
you're taught a lesson and then given a test. In life,
you're given a test that teaches you a lesson.

Tom Bodett

10	Dr. Kandala Kalyana Srinivas, Assistant Professor	Artificial Intelligence-Driven Techniques to Advanced Signals and Communication Systems	International Mobile and Embedded Technology Conference (**MECON2022**) Organized by AMITY University,April2022
11	Dr. L. Padma Sree, Professor	Statistically Empirical Integrated Approach for Knowledge Refined Text Classification	**Journal of Information and Knowledge management** Vol. 21, Issue 2, Jun 2022
12	Ms. K. Jyostna, Assistant Professor	Machine Learning Based Spectrum Sensing in Cognitive Vehicular Networks	**ARPN Journal of Engineering and Applied Sciences** ISSN 1819-6608, VOL. 17, NO. 9, May 2022
13.	Dr.Y.Chalapathi Rao, Associate Professor	Design And Development of novel Accident Detection and Emergency Reporting System	**10th International Conference on Contemporary Engineering and Technology 2022**,21st & 22nd May 2022.
14.	Dr.Y.Chalapathi Rao-Associate Professor, ECE	Smart Application Based Parking System Using Internet Of Things	**10th International Conference on Contemporary Engineering and Technology** 2022, 21st & 22nd May 2022.
15.	Mr. D. Ramesh Reddy-Assistant Professor, ECE	Design and Development of Pulse Oximeter Using Internet of Things	**6th International Conference on Intelligent Computing and Control System**, 26th May 2022

Who questions much, shall learn much, and retain much."
-Francis Bacon

16.	Dr. Rajendra Prasad Somineni	Design and Analysis of 16nm GNRFET and CMOS Based Low Power 4kb SRAM Array Using 1-Bit 6T SRAM Cell	2022 IEEE IAS Global Conference on Emerging Technologies (**GlobConET**),21st May 2022
17	Ms. G.Ramya Assistant Professor	SNR & BER Aanalysis Of Different Systems Mimo, Massive MiMO Using Channel Awgn, Rayleigh,Racian	**International Conference on Advanced Communication Control and computing technology**,29th June 2022
18	Dr. K. Kalyana Srinivas, Assistant Professor	Design and Comparison of Advanced Low Power SRAM cells using GNRFET Technology	International Conference on Communication information and Computing Technology (**ICCICT**) 978-1-6654-0430-3, pp.1-6 25th-27th June 2022
19	Dr. K. Kalyana Srinivas, Assistant Professor	Artificial Intelligence Techniques for Prevention of Cyber Attacks and Detection of Security Threats	**International Journal of Engineering Research and Applications** ISSN: 2248-9622, Vol. 12, Issue 6, (Series-V), pp. 37-44, June 2022
20	Dr. K. Kalyana Srinivas, Assistant Professor	Machine Learning Techniques to Predict, Forecast and Diagnosis of Covid-19	**International Research Journal of Modernization in Engineering Technology and Science** Volume:04/Issue:06 June 2022

Real learning comes about when the competitive spirit has ceased."
-Jiddu Krishnamurti

21	Ms. B. Alekhya, Assistant Professor	Design and Development of Wearable Antenna: A Literature review	**International Journal for Research in Applied Science & Engineering Technology** ISSN: 2321-9653, Volume 10 Issue VI, June 2022
22	Mr. K. Sarath Chandra, Assistant Professor	Design Of Low Power FINFET SRAM and Analysis of Different Leakage Current Reduction Techniques	**ARPN Journal of Engineering and Applied Sciences** VOL. 16, NO. 11, 819-6608 Jun 2021

Tech News

- Congatec has introduced computer-on-modules and single-board computers for smart factories and industrial automation at Smart Factory & Automation World.

- The newly merged 2022 IEEE VLSI Symposium on Technology & Circuits is organized around the theme: "Technology & Circuits for the Critical Infrastructure of the Future."

- Researchers at Intel and QuTech – consisting of the Delft University of Technology (TU Delft) and the Netherlands Organization for Applied Scientific Research (TNO) – have created silicon qubits at scale at Intel's D1 manufacturing factory in Hillsboro, Oregon.

- Toshiba has added five new MOSFET gate-driver ICs in the TCK42xG series, suitable for a wide range of applications including battery powered, consumer and industrial equipment.

- AWS has set up a Centre for Quantum Networking (CQN), focused on how to build a "scalable, commercial quantum network." "To unlock the full potential of quantum devices, they need to be connected together into a quantum network, similar to the way today's devices are connected via the internet," says AWS.

- Weebit Nano has tapped out demonstration chips integrating its ReRAM module at SkyWater. This is the first tape-out of Weebit's ReRAM technology to a production fab and is a major milestone toward commercialisation.

Learning is like rowing upstream: not to advance is to drop back."
-Chinese proverb

Industrial Visit

Insights

- *Observed a VSAT aided Emergency Communication System (VECS) (a fail-safe satellite-based communication system) to provide tsunami warnings with the least possible time delay even when there is a failure in conventional communication systems.*
- *A national network (Indian Seismic and GNSS Network (ISGN)) that integrates Seismic and GNSS stations and provides high quality data for research and operational use.*
- *Observed high performance computing systems and data communication networks at ESSO-INCOIS with 100% redundancy and reliability to support the computational requirements of ocean state forecast models etc*
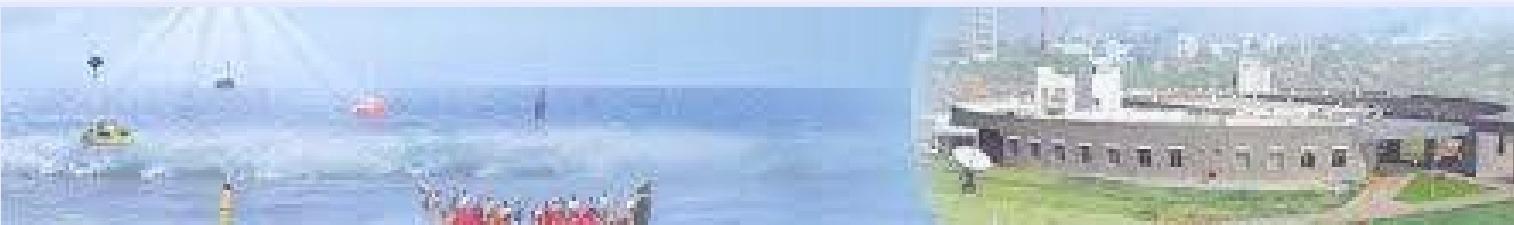
Everyone you will ever meet knows something you don't.

-Bill Nye

INDUSTRIAL VISIT GALLERY

Articles

D.Kanthi Sudha
Assistant Professor, ECE

Outcome Based Education

Being the Geriatric millennial of 80's brought up by my grandparents, the only hobby considered to be flawless at that time was reading books. Reading books is my hobby and library was my Alice in wonderland. I fondly remember my school days where the emphasis had always been to summarize and write our understanding or learnt points from any book which we picked up from the library. This had a major influence on everything I experienced. My lateral thinking skills improved due to this habit that I started disseminating even a movie creatively on that basis. The art of looking for take-off points subconsciously developed, which enabled me to lead a life where I started thinking progressively. A sense of foresightedness has developed without my intervention due to this childhood habit. An outcome starts developing in my mind once I start doing any task and work determinedly towards reaching the goal, I set for myself.

As part of my professional commitment, I had to mentor a team of students who were short listed for Smart India Hackathon-hardware edition final organised by All India Council for Technical Education. The Smart India hackathon was an initiative by the government of India to welcome innovative solutions from Engineering student community for the technical problems faced by the public sector units or private sector units. This has created a perfect platform to guide my team to pitch their idea effectively. The efforts put in by me and my team has helped us to be declared as the winner of the contest for the problem statement given by Oil India Limited a public sector unit.

The advent of Outcome Based Education in 2015 has led the Higher Education system of India marching towards progress in a goal-oriented fashion. Though outcomes pertaining to Academic performance, Placements, Higher studies, Research and so on were existent there was no provision to document it in an organized way. Outcome based education has enabled Higher Education Institutes (HEIs) to do both quantitative and qualitative analysis thereby enabling them to understand their gaps and initiate corrective measures required in that direction. This has given a scope for a closed loop feedback system. The National Board of Accreditation (NBA) has brought in immense amounts of reforms in the accreditation process that today Higher educational institutions do understand their lapses through the mandated self-assessment report which is furnished to the NBA committee for evaluation.

Outcome based thinking is one of the habits that have to be fostered into our millennial generation. The inquisitiveness along with curiosity have to be developed and nurtured so that they understand the importance or outcome of any task taken up by them. This will repose their confidence in the decisions made by them at any point in life. This also rules out the ambiguity or indecisiveness which are ruling the roost among the present youth minds. Outcome based education is a very practical oriented approach which can help anyone to accomplish their goals.

The cure for boredom is curiosity. There is no cure for curiosity.
-Dorothy Parker

Creative Corner

AKANKSHA
19071A0413

SAI VINEELA
20071A04A8

Time is the best teacher, but unfortunately,
it kills all of its students."

-Robin Williams

జీవితం

తినడానికి తిండి లేకపోతే ఇతరులని అడగాలి బిక్ష.
ੰక్షాటన చేయకుండా ఉండటానికి ఆ దేవుడే మనకు రక్ష.
కానీ ఒక్కోసారి ఆ దేవుడు కూడా పెడతాడు పరీక్ష
అప్పుడు చెయ్యాల్సి ఉంటుంది మనం సమీక్ష.
దాంతో అందరూ అనుకుంటారు మాకెందుకీ శిక్ష.
ఇవన్నీ కాకుండా చూడాలంటే ఆ దేవుడే మనకి శ్రీరామరక్ష.
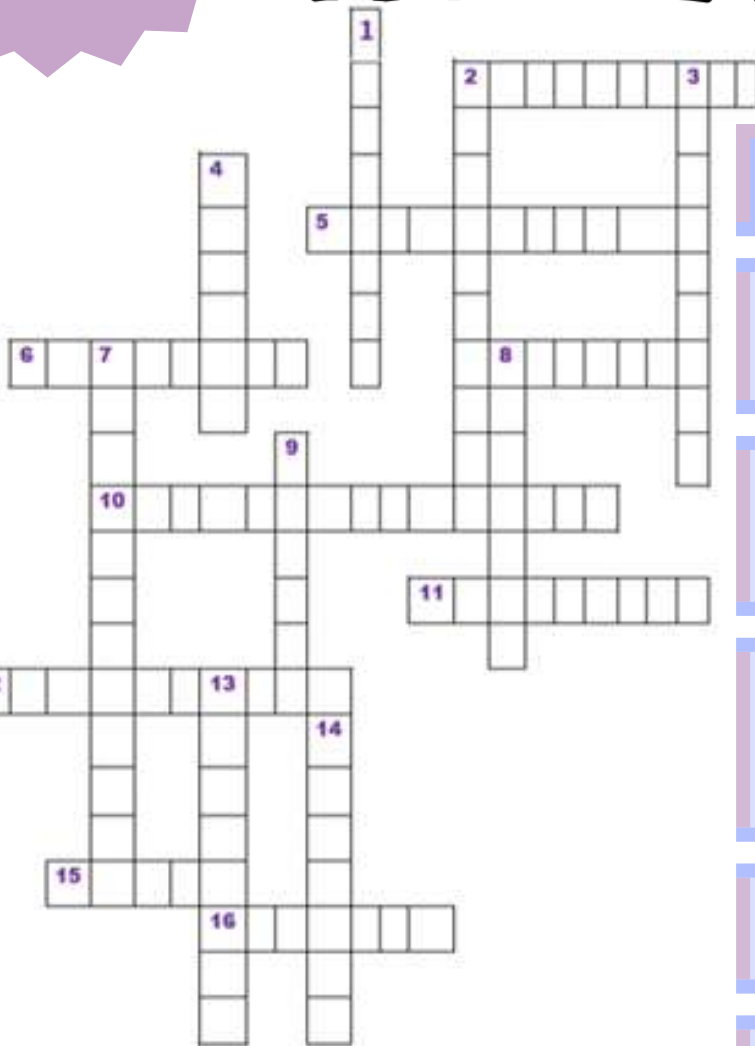
-రాధిక
20071A0475

కల మెలకువ

నిద్రలో వచ్చిన పీడ కలలు
మనసు మీద ముద్ర వేసి
మనిషినే ఛిద్రం చేస్తున్నాయి..
మెలకువలో జరిగేవన్నీ
హేయమైన బతుకుల్ని
మనిషిగా పుట్టిన నాకు
రోతగా చూపుతున్నాయి…

- పోపూరి సురేష్ బాబు

The authority of those who teach is often an obstacle
to those who want to learn."

-Cicero

To solve or not to??

Across

2. A diagram that shows the electrical connections of the electronic components

5. Current is considered to be the movement of _____.

6. A voltage source that converts chemical energy to electrical energy

8. A flow of electric charge

10. A characteristic of a secondary cell

11. A material that is composed of a mixture of elements

Down

1. A voltmeter is used in _____ with the circuit.

2. A device that opens or completes an electrical path

3. A material that opposes the movement of free electrons

4. One coulomb passing a point in one second

7. A resistive component that is designed to be temperature sensitive

8. A unit of charge that contains 6.25×10^{18} electrons

12. The term used to designate electrical pressure

9. An atom's atomic number is determined by its number of _____.

15. A short circuit will have a _____ current flow.

13. A substance that is found only in its pure form

16. The part of an atom that has no electric charge

14. It is used to measure current.

Answers to Issue 2 (To solve or not to?):

SIGNAL
CIRCUIT
ELECTRONICS
ANALOG
DIGITAL
TRANSISTOR
DIODE

RESISTOR
VOLTAGE
CAPACITOR
AMPLIFIER
CURRENT

Life itself is your teacher, and you are in a state of constant learning."
-Bruce Lee

ECE, VNRVJIET

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