Department News Letter volume I ISSUE II March 2015 For internal circulation only

# **E&TC FLYER**

Department of Electronics & Telecommunication Engineering Sanjivani K.B.P Polytechnic, Kopargaon

# Vision of Department:-

To Create professionals & to provide developed and testing environment to meet ever changing and ever demanding needs of the Electronic Industry in particular, along with IT & other inter disciplinary fields in general so as to strengthen social economy.

# Mission of Department:-

To Create & achieve an educational environment by which students can meet the challenges of modern Industrial society by giving them:

- Sound Technical Knowledge
- o Analytical and Practical skills
- o Innovative Ideas to work
- 0

# **Programme Educational Objectives (PEOs)**

- 1. Identify, define and solve problems in the fields of electronics & communication engineering.
- 2. Employ necessary techniques and tools for advanced engineering applications, engage themselves in research and development and take up higher education.
- 3. Use their skills in ethical & professional manner to raise the satisfaction level of the stakeholders.

## **Programme Outcomes**

- a) Apply knowledge of mathematics, science, engineering fundamentals and core engineering specialization to the define and apply engineering procedures, processes, systems or methodologies to electronics & telecommunication engineering.
- b) Identify, formulate & study literature to analyses electronics and telecommunication engineering problems in reaching substantiated conclusions using analytical tools.
- c) Designing solutions for electronics and telecommunication engineering problems which helps in the design of systems, components or processes to meet specified needs with appropriate consideration for public health and safety, cultural, social, and environmental considerations.
- d) Conduct investigations of problems, locate, search and select relevant data from datasheets, standard databases and literature review & open ended experiments.
- e) Select and apply appropriate techniques, resources and modern engineering and IT tools, including prediction and modeling to electronics and telecommunication engineering activities with an understanding of the limitations.
- f) Demonstrate understanding of the social, health, safety, legal and cultural issues through awareness among the society about

environmental aspects, pollution control, conservation of resources and bio diversity.

- g) Understand the impact of electronics and telecommunication engineering on the environment and possible remedies or precautions needs to be taken to protect the environment.
- h) Demonstrate knowledge & understanding of engineering management principles, professional and ethical responsibilities.
- Demonstrate and develop the abilities and skills to perform at highest degree of quality as an individual as well as a member of core group or team, which helps to enhance capabilities in the field of searching, assimilating information, managing task, handling people effectively.
- j) Communicate effectively with engineering community and society at large through technical report writing, design documentation, project reports, and effective presentations and to give and receive clear instructions.
- k) Demonstrate knowledge and understanding technologies of electronics and telecommunication engineering which are thrown up new opportunities that transforming talented and enterprising personalities by exploring their capabilities into business ventures.
- Develop confidence in lifelong learning by adapting to rapidly changing technologies of electronics and telecommunication engineering and allied areas.

## FROM H.O.D.'s DESK



It gives me immense pleasure to present second newsletter to the readers. The main objective of publication of newsletter is to familiarize with the activities conducted in E&Tc department and to update the students with recent trends in electronics & telecommunication engineering.

I feel that electronic engineers in future have to take various challenges on their shoulders. I hope that this edition of newsletter will help the students to expand their horizon in department.

# **EDITORIAL**



It gives me an immense pleasure to address the readers on behalf of the editorial board. Let me congratulate all those who have submitted their marvelous

compositions for this issue. As such the global economy of 21<sup>st</sup> century demands a set of new competencies which includes not only intellectual skills but also soft skills, analytical skill, group learning and effective communication. The function of engineering education is not only to impart knowledge but also develop the product, processes and innovation through R&D.

# **ARTICLE SECTION**

## **Illumination Invariant Face Recognition:**

Now a day's face recognition has gained the at most attention for the image analysis. During the past several years face recognition has become an emerging technique in the wide range of commercial and law enforcement applications and also the availability of feasible technology makes it much more attractive. Face recognition involves the recognition of a person, his/her identity based on the geometrics or statistical features which are derived from the face. The face recognition system recognizes the face based on this features. But sometimes while recognizing the face the system has to go under some circumstances which affect the performance of the system and in turn the recognition rate of the system. The circumstances include the problem of variation such as pose, expression, illumination. Such type of problems must be avoided so as to correctly recognize the face and thus avoid the fraudulent use of the face recognition system.

Here we deal with the illumination problem of the face i.e. recognizing the face in the different lightning conditions. The system is to be developed such that it recognizes the face in the different lightning conditions that is what called as illumination. So we can say that we have to develop the system which avoids the varying illumination and the system so called is the illumination invariant system. The problem of illumination variation has involved hundreds of scientists to find an ultimate solution to this problem and the solution remains elusive. The system which deals with such a problem is developed here.

A biometric is a representation of a unique part or characteristic of an individual which has the potential capability to distinguish between an authorized person and an impostor. Since biometric characteristics are distinctive, cannot be forgotten or lost, and the person to be authenticated needs to be physically present at the point of identification, biometrics are inherently more reliable and more capable than traditional knowledge based and token-based techniques. Currently there are many biometric technologies personal used for authentication: face, fingerprint, hand geometry, iris, retina, signature, voice, etc. Despite the fact that other methods of identification (such as fingerprint, or iris scans) can be more accurate, face recognition has always remained a major focus of research because of its non-invasive nature and because it is human's primary method of identification. The technology of face recognition can be widely applied in security surveillance, authentication, access control and human computer interfaces. Since the late eighties there has been an explosive growth in research on face recognition because of the practical importance of the topic and theoretical interest from both cognitive scientists and computer vision and pattern recognition researchers.

Prof. Salkar S.R.

#### **Biometrics:**

Miss. Kajale Akansha (SYEJ)

## **4G Technology**

The fourth generation of wireless standard of cellular system is 4G. The IT has specified that the peak speed requirement for the 4G standard is to 100mbps for a mobile connection and 1gbps for stationary connection. It is the most carrier considerable network. It is faster than the latest HSPA+networks or the H+ sign you see on your phone.4G is a collection of fourth generation cellular data technology. At the advent of the 4g there were two more content, LTE and wi-max, both of which are IP based networks.4g is a wireless network communication technology stsndarad.4G infrastructure is consisting of a set of various networks using IP as a common protocol.

Feature of 4G:

- Support for interactive multimedia, streaming video, internet, and broadband services.
- IP based mobile system.
- High speed high capacity and cost per bit.
- Global access, service portability and scable mobile services.
- Better spectral efficiency

Applications of 4G:

4G car, 4G public safety, sensors in public vehicle, cameras in traffic light, first responder route selection, traffic control during disaster.

Miss. Rahi More (FYEJ)

### **Smart Energy Saver**

With the advancement of technology things becoming simpler and easier for use. are Automation is the use of control system an information technologies to reduce the need for human work in the production of goods and services. In the scope of industrialization, automation is the step beyond mechanization. Whereas mechanization provided human operators with machinery to assist them with the muscular requirements of work, automation greatly decreases need for human the sensory and mental requirements as well. Automation systems are being preferred over manual system. Through this project we have tried to show automatic control of the house as a result of which power is saved to some extent. Home/office automation is the control of any or all electrical devices in our home or office, whether we are there or away. Home/office automation is one of the most exciting developments in technology for the home that has come along in decades. Home automation (also called domotics) is the residential extension of "building automation".

#### Miss.Sayyed Karishma(TYEJ)

#### NEWS AT GLANCE

- Miss. Dongare Mayuri won second prize in Poster Presentation at S.N.D. Polytechnic Yeola.
- Miss. Roham Priya, Takate Gayatri, Sayyed Karishma and Jadhav Kanchan has been selected for DIPEX-2015 for the project entitled "Smart Energy Saver".
- Miss. Roham Priya won first prize in MSBTE Technical Paper Presentation Competition organized at S.N.D. Polytechnic Yeola.
- Miss. Dongare Mayuri, Mali Kanchan won second position in Paper Presentation at TechUnique spectrum of innovation at AVCOE.
- To give a practical field to the student department organizes an industrial visit for S.Y. and T.Y. students. An industrial visit helps the students to establish the practical

link between theoretically acquired knowledge with practical utilization.

- Prof. N. J. Khapale published his paper in IOSR journal of computer engineering entitled "Artificial Neural Network for Recognition of Handwritten Devnagari".
- E&Tc department won the first prize in the event poster competition in the annual social gathering "ARGHYA-2015".
- 13 students were placed in "Dhoot Transmission" pvt.ltd Aurangabad.



The Marathi film actress neha pense greeted Ms. karishma sayyed, for winning the department day award in ARGHAY-2015, annual social gathering.

## **E&Tc conquered toppers:**

| Year | Name of Student          | Percentage |
|------|--------------------------|------------|
| F.Y. | Miss. Patare Riddhi S    | 93.39%     |
| S.Y. | Miss. Khalkar Harshada B | 86.00%     |
| T.Y. | Miss. Sayyad Karishma S  | 85.88%     |

## **Editorial Board**

| Prof. V. V. Zalke     | H.O.D.  |
|-----------------------|---------|
| Prof. S. R. Salkar    | Editor  |
| Prof. D. B. Borse     | Member  |
| Prof. P.B. Khatkale   | Member  |
| Miss. Sayyed Karishma | Student |
|                       | Member  |
| Miss. Riddhi Patare   | Student |
|                       | Member  |