

E&TC FLYER

Department of Electronics & Telecommunication Engineering

Sanjivani K.B.P Polytechnic, Kopargaon volume I ISSUE I October 2014

For internal circulation only

Programme Outcomes

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
- Analytical and Practical skills
- Innovative Ideas to work

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.

- 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.
- i) 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.
- l) 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 this volume I October 2014 edition of Newsletter (Electronics flyer). I offer my whole

hearted congratulations for bringing this attractive issue. It also covers the issues from other sources. This newsletter is an informative magazine in the academic area. It provides the information regarding various events being organized in the department and also covers the views of industrialists, students and faculties on recent technological practices. I on behalf of my department congratulate the editorial board members and contributors for bringing out this issue of newsletter.

Prof. V. V. Zalke, HOD

EDITORIAL



It gives me immense pleasure to address the readers of ENTC FLYER. Let me congratulate all those who have submitted their marvelous compositions for this issue. As such, the global economy of twenty first century demands a set of a set of new competencies, which include Soft skills, Analytical skills, Group learning and effective communication. This newsletter is maintaining its benchmark by providing essential information on current updates. The function of engineering education can no more be restricted to imparting of knowledge, but also to generation of knowledge, development of products.

Prof. S. R. Salkar, Editor

ARTICLE SECTION

Single Electron Transistor

Single electron transistor (SET) is a novel idea and has been intensively studied. During 1980s, the main discoveries in macroscopic physics are the tunneling of single electron and Coulomb blockade phenomena, which make many scientists predict that if the size of the quantum dots is reduced to several nanometers, it is highly possible to produce applicable single electron transistor (SET) which works above liquid nitrogen temperature, and this will bring a revolution to electronic science. Since then SET has been a hot research area. The breakthrough of nanotech as well as its successful combination with semiconductor technologies gives hope to SET, and some think that it will be a mature technique in the coming decade. A conventional field-effect transistor, the kind that makes all modern electronics work, is a switch that turns on when electrons are added to a semiconductor and turns off when they are removed. These on and off states give the ones and zeros that digital computers need for calculation. One then has a transistor that turns on and off again every time one electron is added to it; we call it a single electron transistor (SET).

Black Box

As the technology progressing, the speed of traveling is also increased. The source to destination

became so closer to each other's. The main advancement in the field of the air traveling system is with the help of airplane. This is the major discovery of technology. But as the speed increases, the horror of air crash also introduced. Because at a height of 2000m and above if a plane crashes, it will be a terror for anybody. So to take the feedback of the various activities happens in the plane and record those engineers need a mechanism to record such activities. With any airplane crash, there are many unanswered questions as to what brought the plane down. Investigators turn to the airplane's flight data recorder (FDR) and cockpit voice recorder (CVR), also known as "black boxes," for answers. In Flight 261, the FDR contained 48 parameters of flight data, and the CVR recorded a little more than 30 minutes of conversation and other audible cockpit noises.



Fig:-Black Box

Fingerprint Technology

A fingerprint is an impression of the friction ridges of all or any part of the finger. A friction ridge is a raised portion of the epidermis on the palmar (palm

and fingers) or plantar (sole and toes) skin. Fingerprint may be deposited in natural secretions from the eccrine glands present in friction ridge skin (secretions consisting primarily of water) or they may be made by ink or other contaminants transferred from the peaks of friction skin ridges to a relatively smooth surface such as a fingerprint card. The term fingerprint normally refers to impressions transferred from the pad on the last joint of fingers and thumbs, through fingerprint cards also typically record portions of lower joint. Today fingerprint devices are by far the most popular form of biometric security used, with a variety of systems on the market intended for general and mass-market usage. Long gone are the huge bulky fingerprint scanners; now a fingerprint-scanning device can be small enough to be incorporated into a laptop for security.



Fig:-Fingerprint Technology

Bluetooth

A Bluetooth technology is a high speed, low powered wireless technology is used to transmit and

receive the data serially. The Bluetooth transceivers are consisted many devices such as mobile phones, computers and other electronic devices.



Fig:-Bluetooth Transmission

The Bluetooth technology is one of the best seminar topics for electronics and communication students. In the embedded system many of electronic project applications, controlling by the Bluetooth technology. The Bluetooth technology gets second place in Seminar topics for electronics and communication.

Features of Bluetooth:

1. It's wireless
2. It's inexpensive
3. It's automatic
4. It's standardized
5. It has low interference
6. It's low energy
7. You can share voice and data
8. You can create a personal area network
9. It's upgradeable
10. It's a worldwide, universal wireless standard

NEWS AT GLANCE

- Institute is awarded by ISO 9001:2008 standards for the period of 03 years.
- Mr. Deokar Rupesh, Shubham Kadam and Narkhede Vivek won first prize in Quiz Competition at Matoshri Institute of Technology.
- Department has arranged an entrepreneurship skill development program conducted by Floating Systems Mumbai and the resource person was Mr. Siddharth Prabhakar.
- Students from SY EJ Mr. Kadam Shubham, Amber Vaibhav, Deokar Rupesh and Narkhede Vivek bagged the first prize in Technical Quiz organized by MIT Yeola.
- Prof. V. V. Zalke, Prof. B. B. Dhanwate, Prof. A. D. Agrawal, Prof. Mrs. V. V. Pattewar, Prof. D. B. Borse, Prof. S. B. Jangmae, Prof. N. J. Khaple and Prof. P. B. Khatkale has satisfactorily completed 03 days training program on Soft Skill conducted by APART Pune.
- A guest lecture on entrepreneurship skills is organized by the department and the resource person was Mr. Vijay Naidu, Director Sai Computech and Industrial Estate Kopergaon.
- An Industrial Visit was organized by the department for SY and TY at IGTR Aurangabad.
- 08 students from TY EJ (13-14) were placed in EPITOM Components India Ltd, Supa Pune.



An industrial visit arranged at Ambad MIDC Nasik in “Yash Technologies” pvt.ltd.

E&Tc conquered toppers:

Year	Name of Student	Percentage
F.Y.	Miss. Pachpind Tejaswi B	86.59%
S.Y.	Miss. Abhale Pooja B	84.68%
T.Y.	Miss. Palaskar Maryada M	89.03%

Editorial board

Prof. V. V. Zalke	H.O.D.
Prof. S. R. Salkar	Editor
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