



Electronica 20 of Electronics & Telecommunication Department

Date; 15/08/20

Vision

- To serve basic needs of rural society by imparting technical education training to electronics and communication engineering students.



HOD Desk



Mission

- M1- To provide excellent teaching and lifelong learning environment.
- M2- to contribute in the ethical, social and economic development of society by imparting updated technical education.
- M3- to develop institute industry interaction to produce competent professionals and promising entrepreneurs in the field of electronics and telecommunication

THE ELECTRONICS AND TELECOMMUNICATION DEPARTMENT NEWSLETTER IS A PLATFORM FOR SHARING EDUCATIONAL INFORMATION, ACTIVITIES AND RELATED EVENTS. I HOPE THAT THE NEWSLETTER WILL PROVIDE USEFUL AND RELEVANT INFORMATION. IT IS THE INTENT OF THE DEPARTMENT TO MAKE IT SEMI-ANNUAL PUBLICATION TO KEEP IN TOUCH WITH THE DEPARTMENTAL ACTIVITIES AND ACHIEVEMENTS.



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Departmental Laboratories Department is having well equipped laboratories to have hands on practices of students.



Student Performance

**1. SHINDE HINDAVI
SUNIL=92**

**2. SHAIKH USMAN
AYYUB=90.53**

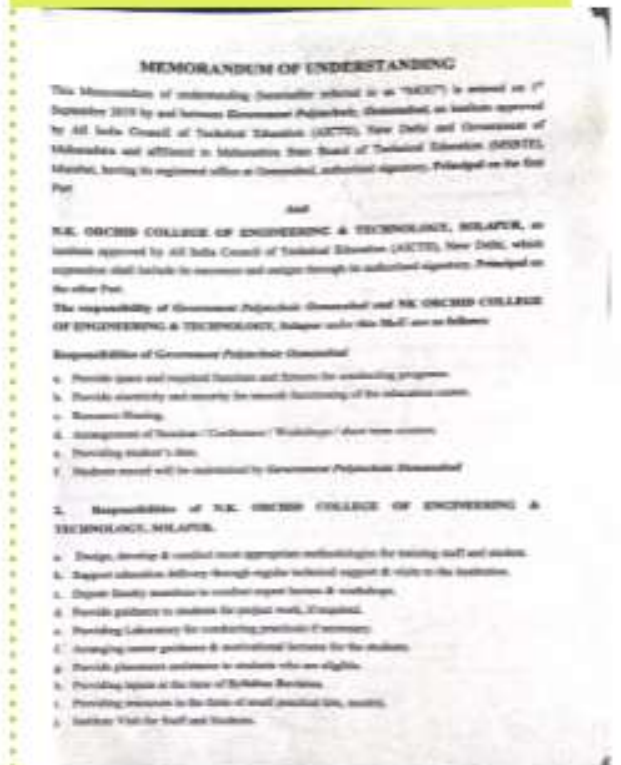
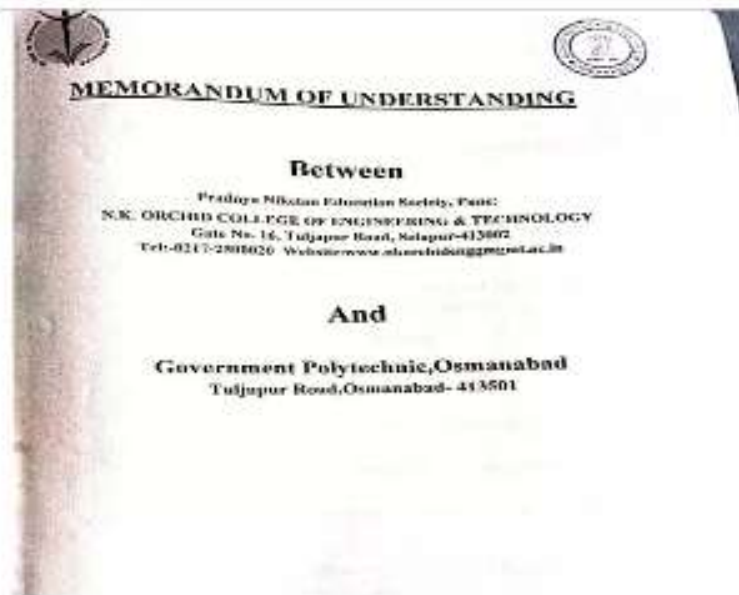
**3. PATHAN ASADKHAN
ASEFKHAN=89.87**



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Due to COVID -19 Offline various activities havent done. Some of the activities are as following MOUs Signed : Four MOUs have signed by Department



3. Further understanding of N.K. ORCHID COLLEGE OF ENGINEERING & TECHNOLOGY

ORCHID COLLEGE OF ENGINEERING finds this alliance meaningful and agrees to be part of this alliance and abide by the responsibility of an alliance as specified in this MoU.

Each party agrees that the usage of the trademark and trade name by the other is only for the limited purpose as envisaged in this clause and does not grant any rights to either party to use the trade mark / trade name of the other for any other purpose.

This MoU is not exclusive and *NK ORCHID college of Engg & Tech, Solapur* is free to enter into similar alliance with any other educational institution. Similarly, *Government Polytechnic Osmanabad* can continue to have alliance with other institution/industry. However, the following terms are being agreed upon.

4. Term of the MoU: This MoU will be in force for a period of Two years from the date of signing. Either party may terminate this MoU by giving a prior written notice of 30 days to the other party. In the event of this MoU being terminated *N K ORCHID college of Engg & Tech, Solapur* and *Government Polytechnic Osmanabad* will not be responsible for providing the further education services to students.

a. This MoU can further be extended, subject to mutual agreement of terms and conditions at the end of two years, on the expiry of this MOU. The intimation of desire to continue should be intimated in writing to *NK ORCHID college of Engg & Tech, Solapur* two months prior to the date of expiry of this MoU.

b. This MoU or any action of the parties with respect thereto does not constitute legally binding obligations by both the parties. It only intends to lay out the spirit and understanding of the arrangement for mutual benefit of the respective parties.

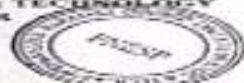
7. The Parties shall be responsible for their respective costs, loss and expense and no party shall be responsible to the other for any loss, cost, expense or damages.

IN WITNESS WHEREOF, the parties have caused this Memorandum of Understanding to be signed, in duplicate, with each being treated as original, in their names as of date first mentioned above.

The period of MOU will be two years effective from ...01/09/2019 to ...30/09/2021.

Date:
Place:

(Dr. J. H. ...
Principal
N.K. ORCHID COLLEGE OF
ENGINEERING & TECHNOLOGY
SOLAPUR



(Dr. Chaitanya D.M.)
Principal
Government Polytechnic Osmanabad

o/c





Technical Articles

1.5 Connected lighting benefits for industrial workspace

By: Om Kadam



5 connected lighting benefits for industrial workplaces

Connected lighting solutions are helping make industrial spaces into safer, healthier, and more productive places to work.

As Deloitte University Press explains in its report, The Smart Factory, an industrial facility with cutting-edge connected systems and sensors of Things (IoT) capabilities can increase production capacity by 25 percent and reduce defect rates by 80 percent. Just today, just today, just today, what these systems and capabilities can do for the well-being of workers. It is, in particular, these smart building innovations should focus on. Intensity in demanding manufacturing and other industrial areas — smart lighting is smart technology for self-empowerment.

It is a part of some of the smart benefits of an industrial connected lighting system can bring.

Safety, wellness, and improved focus across the board
In addition to various lighting needs to illuminate and illuminate workers with equipment such as, shop, map, and table.
These systems together can increase the ability of workers to work. So, getting light into off the place, workers need it is a good choice for connected lighting solutions. These

solutions might use sensors to create heat maps of worker activity and then, on their side, turn up light intensity in specific areas of specific times, as needed.
Sensors can also help a connected area use workers' safety. Combining the Deloitte report on the Smart Factory report, a factory's connected sensors might detect when workers are in a hazardous environment. On the basis of the data and functionality of a connected lighting system, the smart factory's control systems can use lighting changes to alert the workers.

2. Building Automation for making of smart home

By: Mandaq Pratik

BUILDING AUTOMATION



Building Automation — Making Homes Smart

Architects and designers are focused on building more efficient and green structures. Modern-day building automation systems can reduce inefficiencies, lower energy consumption, and lower the carbon footprint. Government support for these innovative systems also enables their installation in older homes, thus expanding the range of the building automation systems. Powering these modern systems is a challenge, and in this article, we will focus on ten key applications that have a major impact on the homes we build.

Building automation systems include many subsystems. Below are three main categories:
Energy Management System — An energy management system

monitors and analyzes the energy usage of the building. Depending on the setup, the system can collect data from the entire structure, room or even down to a single plug. The information collected can be

used to determine the power usage patterns. In addition to monitoring the power usage, the system can also be used to detect unusual power draw or patterns which could indicate failed or failing equipment.



Technical Articles 3. Precision Farming By: Hindavi Patil



Precision Farming Fueled by Big Data

Food security is a pressing concern, with the world's population forecast to increase from 7.6 billion in 2017 to 9.8 billion by 2050. It's estimated that an additional billion metric tons of grain and 200 million metric tons of meat will be needed annually to satisfy demand. Meanwhile, available arable land is predicted to expand by 0.2 percent over the same period, while water scarcity is also a concern, in part due to the aging population. Farmers have implemented systems to reduce water and crop and increase yields. Sensors and data are enabling new precision farming techniques to help address the emerging challenge.

Sensors Improve Irrigation

Solutions using sensors and cloud platforms can enable precision irrigation and fertilization for some crops, increase production rates, and improve yields. Long-range, low-power sensors from smart-weather.com or Inocean can be used. The autonomous irrigation system from SensiFi, for example, includes sensors that place a cloud server and water valve controller to manage data about soil temperature, soil moisture, humidity and other conditions about watering and scheduling irrigation cycles. This enables management of water watering so it effectively relies on the sensors to optimize their irrigation

schedule.

- **Hardware**™ Agri-Cloud from Intel Systems Platform takes real-time data from field sensors plus weather and satellite imaging data sources and analyzes it to be shared against a set of proprietary OpenAgri Cloud Models for growers' farms and recommendations. Farmers can interface with the system via smartphone.
- **Australia's Climate**, part of Asia Agriculture, helps farmers use data analytics to understand crop growth, analyze water demand, and accurately schedule irrigation.
- **Clouded earth** (Cloud) has worked with IBM Cloud Watson to analyze temperature, soil pH and other environmental data

4. Robust Protection Technologies for Mobile POS Devices By: Sawase Meera

CIRCUIT PROTECTION

Robust Protection Technologies for Mobile POS Devices



The article explains how to increase the Reliability of Mobile Point of Sale (POS) Devices with Robust Protection Technologies and latest design considerations help avoid damage caused by overcurrent, overvoltage and over-temperature conditions.

Today's increasingly sophisticated mobile electronics technologies are enabling the creation of highly robust and portable point of sale (POS) devices. Some are even being used for banking operations in the most remote and rugged areas. However, these devices must withstand harsh conditions. Although rugged in design, these devices are still vulnerable to big line surges, increasing the high reliability and maintaining the uptime of these devices. A major challenge for designers is protecting their latest product investments from harmful events like electrostatic discharge (ESD) caused by human touch as well as the overcurrent and overvoltage events from the AC power line when an adapter is in use. Another product development challenge is safely incorporating

battery recharging time while ensuring battery life and POS device safety. The low level amount of time out of service, while inherent in batteries, adds to the overall device life. A small battery pack and low power but charging capability, the electronics engineer needs to manage the charge cycle and protect the battery to avoid shortening the battery pack. Electronics designers must also ensure their products comply with the latest applicable safety standards. Failure to adhere to

these standards can prevent a new product's introduction to the market or a product to be returned to a customer for a potentially costly reason. Testing for robustness, which often delays launching the product to the market. There are many components that you can choose from for product protection and problem detection including fuses, MOVs, TVS, transient voltage suppressors (TVS), PTC suppressors, and temperature

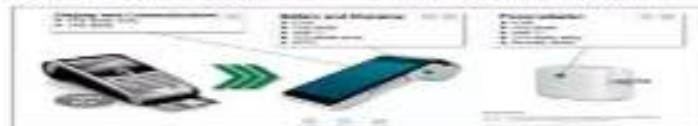


Figure 1. Recommended protection and sensing components for mobile POS devices