



Electronica 19 of Electronics & Telecommunication Department

Date; 26/01/20

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. BHAKARE SWATI
RAMCHANDRA=94.59**

**2. KALE ABHISHEK
SHAM=94.47**

**3. KATHARE RAJNANDINI
RAHUL=93.18**

Student Activities

**1. Teacher's Day
Celebration**

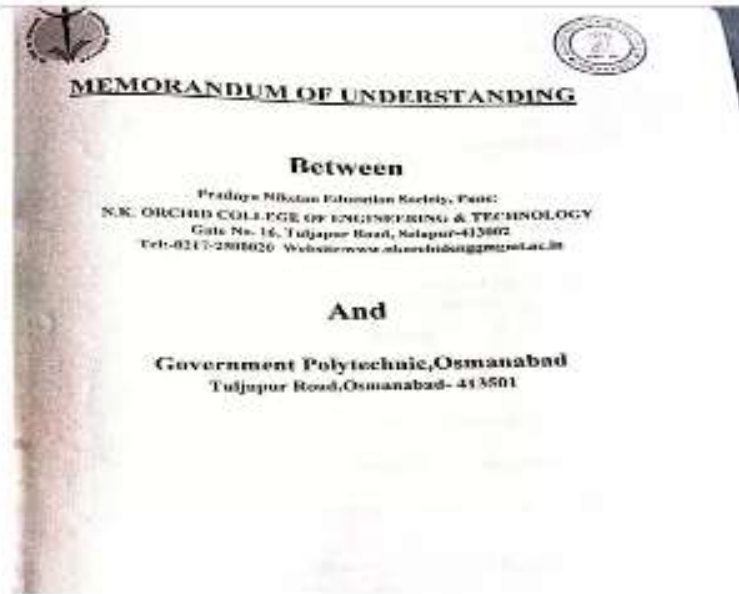




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Due to COVID -19 Offline various activities havent done. Some of the activities are as following MOUs Signed : Four MOUs have signed by Department



Expert Lectures Arranged

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

4. N.K. ORCHID COLLEGE OF ENGINEERING & TECHNOLOGY shall retain all rights and agree to be part of this alliance and shall be the responsibility of an alliance as specified in this MoU.

5. Both party agrees that the scope of the trademark and trade name by the other is only for the limited purpose of advertising in this alliance and does not grant any rights to either party to use the trademark / trade name of the other for any other purpose.

This MoU is not exclusive and N.K. 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 institutions/industry. However, the following terms are being agreed upon.

6. 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 extension services to students.

7. 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 intention of parties to continue should be indicated in writing to N.K. ORCHID college of Engg. & Tech. Solapur two months prior to the date of expiry of this MoU.

8. This MoU is not subject to any other law with respect thereto. There are no separate liability limiting obligations by both the parties. It only intends to lay out the spirit and intention of the engagement for mutual benefit of the respective parties.

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

IN WITNESS WHEREOF, the parties have signed this Memorandum of Understanding to be signed, in duplicate, with each being retained as original, in due course as of date first mentioned above.

The period of MoU will be two years effective from ... 01/01/2020 to ... 30/06/2022.

Date: _____

Place: _____

(Dr. J. B. Chitambar) Principal
N.K. ORCHID COLLEGE OF ENGINEERING & TECHNOLOGY, SOLAPUR

(Dr. Chaitanik D.M.) Principal
Government Polytechnic, Osmanabad

AY 2019-20

ETMVA/CONTROL/11

Page 11

S.No.	Name of Expert/Teacher	Topic	Course Code/Ch No.	Semester	Time/Date	No. of Seminars	Remarks
1	Prof. Rajeev P. Chitambar (Engg. Solapur)	Discrete system	Priority Embedded	EE214 E-8	01/04/20	12	
2	Dr. F. D. Chitambar (Orchid college/Engg. Solapur)	AI/Deep	NN202	E-8	26/04/20	8	
3	Mr. Dinesh U. Dabole	Performance of capacitor involving all cell combinations	DO204	E-8	01/04/20	8	
4	Mr. Gaurav P. D. (Orchid college/Engg. Solapur)	Logic level essential video	EE201	E-8	01/04/20	8	

Mr. J. B. Chitambar (Principal)

Mr. S. J. Kulkarni (Principal)



Technical Articles

1.Using VR to Improve Auonomous Vehicles

By: Aniket Mote

Using VR to Improve Autonomous Vehicles

The concept of self-driving cars may have advanced significantly since its birth, but it is still considered to be in its infancy by many. Understandably, there are several hurdles that need overcoming before self-driving cars become the norm, rather than the exception, in mainstream motoring. The unique abilities of VR can be employed to sidestep some of these hurdles.



The idea of self-driving cars, or perhaps even just self-driving cars, is not new. The increasing popularity of the latest autonomous and semi-autonomous vehicles represents a huge step ahead for consumers around the world. Moving forward, the advancements in autonomous systems as well as technologies such as AI and IoT, will allow self-driving cars to become the norm in mainstream motoring sooner than later. Today several

countries allow self-driving vehicles to run on their roads. In fact, as of 2020, 29 states in the US alone have passed regulatory legislation related to autonomous vehicles, thereby normalizing the concept to a greater extent. Naturally, autonomous vehicles have their shortcomings that prevent them from being adopted universally for daily usage. Aspects such as passenger and pedestrian safety, compliance with traffic rules and fuel efficiency come to mind

where one has to be cautious because of self-driving cars road trials. Virtual Reality (VR), or simulation, creating virtual world, can help autonomous vehicles with overcoming such shortcomings. The use of VR for better autonomous motoring forward is not a futuristic idea as the road has several hurdles to offer, seemingly unrelated fields too. We must understand that the field of autonomous driving includes the vehicles, their components and

2.RPWM for Three Phase App.

By: Gaikwad Bhagyajeet

APPLICATION DESIGN

Random Pulse Width Modulation for Three-Phase Inverter Applications

In power electronics, several Pulse Width Modulation (PWM) schemes have been successfully employed depending on the particular application. Most of the conventional PWM schemes, being deterministic in nature, produce a predetermined harmonic content. This can create several issues in real-world applications like the production of acoustic noise, radio interference, and mechanical vibration.

In applications where interference with the equipment needs to be mitigated, for example in industrial motor drives, traction drives, electric vehicles, the conventional PWM schemes inherently do not perform optimally and additional equipment like electromagnetic interference (EMI) filters need to be added (ref. [1]). One available option to cope with issues resulting in these applications is to increase the switching frequency of the conventional PWM schemes (e.g. 3 kHz (ref. [2]). However, this causes

switching losses to increase significantly. In such applications, random pulse width modulation (RPWM) is effective to mitigate the cited issues without the need of considerably increasing the switching frequency. In RPWM the width of each switching pulse varies stochastically. This causes the harmonic cluster to spread over a large range thus reducing the size of separate filters or entirely avoiding the use of filters in certain applications. RPWM technique has successfully been utilized in many power

electronics applications (e.g. in industrial motor control drives) where the acoustic noise needs to be checked. Usually, high-frequency RPWM and RPWM signals for commercial sophisticated systems are implemented using Digital Signal Processors (DSP) and Field Programmable Gate Arrays (FPGA). However, these devices are more expensive, powerful, and flexible which makes them quite expensive. Similar precision and high-frequency driving requirements needed for RPWM generation can be met with a low-cost





Technical Articles

3. Building Automation-Making Homes Smart

By: Aniket Mote

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.