Gayatri Vidya Parishad College of Engineering for Women
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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Vidyut- 2k19

...the electrical magazine

Issue 3

The real potential of electricity lies not in providing social amenities,
But in stimulating long-term economic development...

INDEX

EDITORIAL

Educational institutions are the " temples of learning ".in parlance of great thinkers. It is institutions which create individual values as contributing citizens of India.

Profession of Engineering is old as human life is yet to be synchronized globally thereby giving deserved respectability to the engineer. It is in this direction much work need to be done through continuous productive interactions between institutions, industrial associations and global regulatory bodies.

It is interesting to learn about the institution's services rendered in shaping lives of youngsters who arrive as raw individuals at the portals of this institution. Deep rooted conviction of management combined with dedicated faculty has made us stand out as an institution of reckoning for the past 10 years. Our best wishes to every member of the team for making expressions become the much awaited magazine of Indian fraternity.

We are happy to bring out the this issue of " VIDYUT" for the year 2019. In this issue the faculty article is on ‘MODIFIED BACK TRACKING ALGORITHM‘ by Dr.R.V.S.Lakshmi Kumari, who has explained about the implementation of back tracking algorithm for voltage deviation minimization problem with DG. There are two student articles one on "SMART IRRIGATION" and the other on " ANALYSIS OF WIDEAREA MONITORING SYSTEM ARCHITECTURES" . The articles have described the concepts relating to the latest technologies in the field of Electrical engineering. This is followed by the regular sections of Technology Review, Know a Scientist, Short Story and Puzzles, Arts. This issue also contains the contributions and achievements of the students and faculty of the department during the year. We are thankful to the entire department for their continuous support in bringing this issue successful.

VISION

To develop into a centre of learning that empowers students with contemporary knowledge in Electrical and Electronics Engineering.

MISSION

- Impart skills both in traditional and modern areas of Electrical & Electronics Engineering
- Provide exposure to latest developments in the field through Seminars, Industrial visits, Workshops and Paper presentations.
- Prepare the young minds to apply professional engineering practices by considering environmental and societal needs.

PROGRAM EDUCATIONAL OBJECTIVES

After successful completion of the program, the graduates will be able to:

- PEO-1: Possess a strong educational foundation in mathematics, science, electrical engineering and soft skills in the diversified sectors of the industry.
- PEO-2: Exhibit critical thinking, problem-solving skills, and design systems in professional engineering practice.
- PEO-3: Establish leading and supportive positions in society by adopting lifelong learning skills with a commitment to their ethical and social responsibilities.

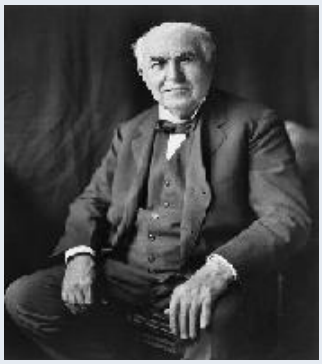
PROGRAM SPECIFIC OUTCOMES

Engineering Graduates will be able to:

PSO-1: Design and analyze systems that efficiently generate, transmit, distribute and utilize electrical power.

PSO-2: Demonstrate proficiency in the use of hardware and software tools for solving the complex engineering problems in renewable energy and other emerging areas.

KNOW A SCIENTIST



Thomas Alva Edison, (February 11, 1847 – October 18, 1931) was an American inventor and businessman, who has been described as America's greatest inventor. He developed many devices in fields such as electric power generation, mass communication, sound recording, and motion pictures. These inventions, include the phonograph, the motion picture camera, and the long-lasting, practical electric light bulb, had a widespread impact on the modern industrialized world. He was one of the first inventors to apply the principles of organized science and teamwork to the process of invention. He established the first industrial research laboratory.

Career and Contributions:

Edison began his career as an inventor in New Jersey, with the automatic repeater and his other improved telegraphic devices, but the invention that first gained him wider notice was the phonograph in 1877. In 1878, Edison began working on a system of electrical illumination, something he hoped could compete with gas and oil based lighting.

After many experiments, first with carbon filaments and then with platinum and other metals, Edison returned to a carbon filament. The first successful test was on October 22, 1879 it lasted 13.5 hours. Edison continued to improve this design and on November 4, 1879,filed for U.S. patent 223,898 (granted on January 27, 1880) for an electric lamp using "a carbon filament or strip coiled and connected to platina contact wires". This was the first commercially practical incandescent light. Edison made the first public demonstration of his incandescent light bulb on December 31, 1879, in Menlo Park. It was during this time that he said: "**We will make electricity so cheap that only the rich will burn candles**".

On December 17, 1880, he founded the Edison Illuminating Company, and during the 1880s, he patented a system for electricity distribution. The company established the first investor-owned electric utility in 1882 on Pearl Street Station, New York City. On September 4, 1882, Edison switched on his Pearl Street generating station's electrical power distribution system, which provided 110 volts direct current (DC) to 59 customers in lower Manhattan.

In January 1882, Edison switched on the first steam-generating power station at Holborn Viaduct in London. The DC supply system provided electricity supplies to street lamps and several private dwellings within a short distance of the station. On January 19, 1883, the first standardized incandescent electric lighting system employing overhead wires began service in Roselle, New Jersey.

Awards:

The President of the Third French Republic, Jules Grévy, on the recommendation of his Minister of Foreign Affairs, Jules Barthélemy-Saint-Hilaire, and with the presentations of the Minister of Posts and Telegraphs, Louis Cochery, designated Edison with the *distinction* of an Officer of the Legion of Honour (Légion d'honneur) by decree on November 10, 1881; Edison was also named a Chevalier in the Legion in 1879, and a Commander in 1889. In 1983, the United States Congress, pursuant to Senate Joint Resolution 140 (Public Law), designated February 11, Edison's birthday, as National Inventor's Day. In 2010, Edison was honoured with a Technical Grammy Award.

FACULTY ARTICLE

MODIFIED BACK TRACKING SEARCH ALGORITHM

Dr.R.V.S.Lakshmi Kumari,

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EEE Department

The existing backtracking search algorithm (BSA) is a modern heuristic optimization algorithm based on the randomness to obtain the global best solution using evolution algorithmic operations. This algorithm suffers from certain drawbacks such as increased number of mathematical operations, increased computational time, increased memory, premature convergence due to lack of control over the populations, etc. To overcome these drawbacks and to enhance the performance of the optimization process, a Modified Backtracking Search Algorithm (MBSA) is presented in this thesis.

Initialization

For the considered problem, DG size is considered to be the control variable. The initial population (N) for this control variable is generated randomly between its minimum and maximum limits.

$$X = \begin{bmatrix} P_{DG}^{1} \\ P_{DG}^{2} \\ P_{DG}^{3} \\ . \\ . \\ . \\ P_{DG}^{N} \end{bmatrix} \quad (1)$$

The considered distribution system is configured with this new population radial and weakly meshed load flow problem is solved. After this, the system voltage deviation ($Vdev_{System}$) is calculated for each of these population. For each of the population, the fitness value can be calculated using the function value respectively. This can be expressed as:

$$fit_i = \frac{1}{1+J_i} \quad ; \quad \forall \ i = 1,2,3.....,N \quad (2)$$

The consolidated vector of fitness value along with their function value for the considered 'N' population can be expressed as:

$$\begin{bmatrix} J_1 & fit_1 \\ J_2 & fit_2 \\ J_3 & fit_3 \\ . & . \\ . & . \\ J_N & fit_N \end{bmatrix}$$

where, '$J_1, J_2, ..., J_N$' and '$fit_1, fit_2, ...fit_N$' are the objective function and respective fitness values of the population.

Selection-1

This is one of the evolutionary operations performed on the population in first iteration. In this iteration, the initially generated population is arranged in ascending order of their fitness values. This operation is performed to increase the efficiency of the algorithm.

This algorithm has an option to redefine some of its population during the iterative process. This can be performed by using:

$$X_i^{new} = X_i^{min} + \left(X_i^{max} - X_i^{min}\right) \times rand \quad ; \quad i \in N \quad (3)$$

In this work, the top 50% populations are replaced using the above equation. For this new population, the function values and their fitness values are evaluated and consolidated vector of populations is updated. The schematic diagram for selection-1 operation is shown in Fig.1.

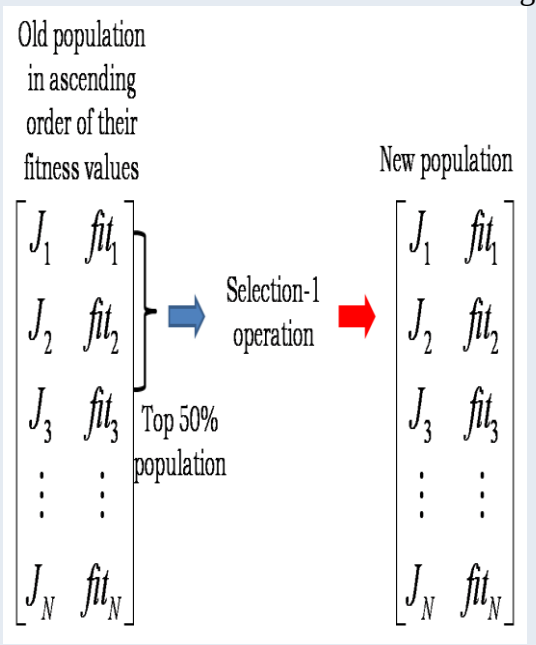

Fig.1 Schematic diagram of selection-1 operation

As per BSA, the next evolutionary operation performed on the populations is "mutation". This operation is used to control the amplitude of the search direction of the population. But, in the proposed MBSA, this mutation operation is replaced with the two-stage evolutionary operation .

Proposed two stage evolutionary operation

The developed two stage evolutionary operation replicates the operation of mutation and decreases the computational time. This is done by minimizing the number of populations processed in the iterative process. After first iteration, the pair-wise best populations are forwarded for the remaining iterative process. The worst population is discarded under survival of fittest. This process can be represented as:

$$\left.\begin{matrix} J_1 \;\; fit_1 \\ J_2 \;\; fit_2 \end{matrix}\right\} \text{ if } fit_1 < fit_2 \text{ then } \rightarrow J_2 \;\; fit_2 \text{ ; else } \rightarrow J_1 \;\; fit_1$$

$$\left.\begin{matrix} J_3 \;\; fit_3 \\ J_4 \;\; fit_4 \end{matrix}\right\} \text{ if } fit_3 > fit_4 \text{ then } \rightarrow J_3 \;\; fit_3 \text{ ; else } \rightarrow J_4 \;\; fit_4$$

$$\ldots \quad \ldots \quad \ldots \quad \ldots \quad \ldots$$

$$\left.\begin{matrix} J_{N-1} \;\; fit_{N-1} \\ J_N \;\; fit_N \end{matrix}\right\} \text{ if } fit_{N-1} < fit_N \text{ then } \rightarrow J_N \;\; fit_N \text{ ; else } \rightarrow J_{N-1} \;\; fit_{N-1}$$

(4)

After implementing this process, the remaining iterative process starts with good initial value and reaches best final value in less number of iterations. From the mathematical analysis, it is clearly observed that, the number of populations processed in the iterative process is halved. Because of this, the computational time is also reduced. After this operation, crossover operation is performed on the remaining 50% population.

Crossover operation

With this operation, once again the population is updated. The mathematical expression used to perform crossover operation is as follows:

$$X_i^{new} = (1-\lambda) \times X^{ref} + \lambda \times X_i^{old} \tag{5}$$

where, 'X^{ref}' is the reference population (i.e best population) and 'X_i^{old}' is the old population. 'λ' is the random number generated between 0 and 1. After this operation, the violation of the control variable boundaries is performed using the following expression:

$$\text{if } X_i^{new} > X_i^{max} \text{ ; then } X_i^{new} = X_i^{max}$$

$$\text{else if } X_i^{new} < X_i^{min} \text{ ; then } X_i^{new} = X_i^{min}$$

$$\text{else } X_i^{min} < X_i^{new} < X_i^{max} \text{ ; then } X_i^{new} = X_i^{new}$$

Using this new population, the new control vector consists of updated function and fitness values are computed.

Selection-2

In this operation, the best population and the respective control variables are selected from the new control vector formed

after crossover operation. After completion of iteration, the local and global best solutions are updated using the following process:

if global best solution <local best solution

then global best solution=global best solution

else if global best solution >local best solution

then global best solution=local best solution

Finally, after satisfying convergence criteria, the global best solution and respective population is considered to be the final solution.

Implementation methodology with DG

The outline of the voltage deviation minimization problem with DG using the developed optimization algorithm is described in the following steps:

Step1: Read the line and load data for the given distribution system.

Step2: Perform the load flow solution and store the node voltages, branch currents and total active and reactive power losses.

Step3: Set Iteration=0

Step4: Initialize the population randomly between their operating limits. The chromosomes are generated between their DG active power limits using Selection-1 operation.

Step5: Using Roulette Wheel Selection procedure, form one matting pool from the initial population.

Step6: Perform crossover operation of each of the population's pair and generate one off-spring population from each parent's chromosome pair.

Step7: Perform mutation operation on the offspring population generated after performing crossover operation and update the system data.

Step8: Perform load flow solution with modified system data and calculate new voltage magnitudes, branch currents and total active and reactive power losses.

Step9: Evaluate the voltage deviation objective function and the fitness value for each of the chromosomes.

Step10: Perform Selection-2 operation and save the population and increase the iteration count.

Step11: Repeat the steps from 5 to 10 till the solution converges (i.e. maximum iterations of 100)

Step12: Stop and save the control parameters and results.

STUDENT ARTICLE

SMART IRRIGATION

Ms. Sruthi Ravada & Ms. Ramya Reddi,

3rd B Tech.

I.INTRODUCTION

In India, agriculture plays an important role for development in food production. In conventional Automatic irrigation system based on ARMs and RF module. All the system will be setup using ARM and RF module [1], [2]. The most important factor of this system is RF module which is used to send and receiving the message to the controller. The set up consists of mainly ARM7TDMI core and GSM. GSM operates through SMS and is a link between ARM processor and centralized unit [2]. ARM7TDMI is an advanced microprocessor and forms the heart of the system.

In the design of a model an irrigation system based on wireless sensor network (WSN). The user-controller provided with information from the receiver board (master) that transmits the sensed data (as current parameter of the plant) through the transmitter board. In the prototype design of microcontroller based automatic irrigation system which will allow irrigation to take place in zones where watering is required, while bypassing zones where adequate soil moisture is indicated .Information given by the user through mail by python programming language. Raspberry pi, Xbee used to control the system wirelessly for short distance. The water can be dripped to the roots through tubes and solenoid valves. Raspberry pi serves as a pocket personal computer with Linux operating system.

II. ARCHITECTURE DISCUSSED

Humidity sensor and temperature sensor are directly connected to wifi module. To measure a chlorophyll and nitrogen value of a leaf, a device is connected to wifi module and ultrasonic sensor is also connected to it. The output from Arduino and wifi module is given to driver circuit and server respectively. Based on the information given to the driver circuit the pump gets on when it is required. The ultrasonic is an evolutionary step from the sensor, and has been designed to increase flexibility, increase range, and to reduce costs still further. Range is increased from 3 meters to 4 meters. A new operating mode (tying the mode pin to ground) allows the sensor to use a single pin for both trigger and echo, thereby saving valuable pins on controller. When the mode pin is left unconnected, the sensor operates with separate trigger and echo pins, like the sensor. The sensor includes a small delay before the echo pulse to give slower controllers such as the Basic Stamp and Picaxe time to execute their pulse in commands.

III. MEASUREMENT OF SOIL MOISTURE IN DISCUSSEDIRRIGATION SYSTEM

The is designed to measure the soil moisture content in the field so that it gives the accurate value of soil moisture content in terms voltage. It contains two electrodes and a very little quantity of plaster pairs. The gypsum material is used that shows water absorbing property, depending on the water content in the soil the absorbing rate varies. The conduction through electrode varies with content of water absorbed by gypsum and also there is a change in resistance of a conductor depends upon the moisture-content. This sensor module converts relative humidity (30-90%RH) to voltage. Simply the RH is the amount of water vapor in the air at a specific temperature compared to the maximum water vapor that the air is able to hold without it condensing, at a given temperature.

IV.MEASUREMENT OF TEMPERATURE AND HUMIDITY

Capacitive sensors are used in the discussed

irrigation system which has more linear response. These capacitive relative humidity sensors typically uses an industrial- proven thermoset polymer, three-layer capacitance construction, platinum electrodes, and except for high temperature versions, some have on-chip silicon integrated voltage output signal conditioning.

V.MEASUREMENT OF LIGHT INTENSITY IN DISCUSSEDIRRIGATION SYSTEM

In this Irrigation System Laser light source is used and the intensity of light is measured using Light Dependent Resister. This system is used for the development of chlorophyll content. A device that generates an intense beam of coherent monochromatic light (or other electromagnetic radiation) by stimulated emission of photons from excited atoms or molecules. When LDR is subjected to light, its resistance become 10K and hence the droop at the inverting terminal is less than at the non- inverting terminal. Hence the output from comparator is - Vsat indicating normal condition.When the LDR is subjected to darkness, its resistance 100 K and thus the drop at the non-inverting terminal is greater than that at the inverting terminal. Hence the output from this +Vsat indicating a faulty condition light dependent resistor or cadmium sulfide (CdS) cell is a resistor whose resistance decreases with increasing incident light intensity. Thus the light information is processed in microcontroller then given to Wi-Fi module and then it is transmitted through the IoT network to the user.

VI.ROLE OF CONTROLLER IN THE IRRIGATION SYSTEM

In the Discussed Irrigation System the Arduino Uno is used as a microcontroller board based on the ATmega328.The main purpose of the controller circuit is to compare the preset values with measured values and has produce the proper output. It has 14 digital input/output pins (of which 6 can be used as PWM outputs), 6 analog inputs, a 16 MHz crystal oscillator, a USB connection, a power jack, an ICSP header and a reset button. It contains everything needed to support the microcontroller, simply connected it to a computer with a USB cable or power it with a AC-to-DC adapter or battery to get started. The Atmega328 has 32 KB of flash memory for storing code (of which 0.5 KB is used for the boot loader). It has also 2 KB of SRAM and 1 KB of EEPROM for good processing speed of this discussed irrigation system. A watchdog timer (WDT) is a hardware timer that automatically generates a system reset if the main program neglects to periodically service it. It is often used to automatically reset an embedded device that hangs because of a software or hardware fault

VII.DISPLAY SYSTEM IN THE IRRIGATION SYSTEM

The ESP8266 Wi-Fi Module is used in this IoT based irrigation system for transmitting the real time data of the field for irrigation process to the user through the IoT network. The ESP8266 module comes pre-programmed with a default command set firmware, so that it is simply hooked up to the Arduino device and get about as much Wi-Fi-ability as a Wi-Fi Shield.

This module has a powerful enough on-board processing and storage capability of data involved in irrigation process that allows it to be integrated with the sensors which is used in the system and other application specific devices through its GPIO's with minimal development upfront and minimal loading during runtime.

VIII.CONTROLLER INTERFACING

In the irrigation system the controller is interfaced with the various devices which is used in the system. The Module, interfaced to the system, can be treated as RAM (Memory Mapping), Input/ output, expanded parallel I/O (Input/output Mapping). Since there is no conventional Chip Select signal, developing a strobe signal for the Enable signal (E) and applying appropriate signals to the Register Select (RS) and read/Write strobe. The resultant signal, applied to the LCD's Enable (E) input, clocks in the data. The 'E' Signal must be a positive going digital strobe, which is active while data and control information are stable and true. The failing edge of the Enable signal enables the data/ Instruction Resister of the Controller. All Module timings are referenced to specific edges of the 'E' signal. The 'E' signal is applied only when a specific Module transaction is desired. When the Controller is performing an internal operation the Busy Flag (BF) will set and will not accept any instruction. The user should check the Busy Flag or should provide a delay of approximately 2ms after each instruction. The

module presents to difficulties while interfacing slower MPUs.

In the relay section which contains relays and drivers. The microcontroller gives a logic high output has to drive deliver the corresponding load like pump ON /OFF. Relays have unique properties and are replaced with solid state switches that are strong than solid-state devices. High current capacities, capability to stand ESD and drive circuit isolation are the unique properties of relays

IX. IMPLEMENTATION IOT IN IRRIGATION SYSTEM

The purpose of the IoT in this system is, it has to share the data to the users. Thus the IoT server is connected with the Wi-Fi module. The information of the soil is transmitted to the Wi-Fi network through the signal conditioning circuit of the various sensor. The physical information of the soil such as soil moisture, humidity, temperature are send to the Wi-Fi, then it is shared to the user using IoT,If the moisture content of the soil is lesser than the reference value then the command from the user device is transmitted to the field section through IoT server then the irrigation system is activated and the water is supplied to the field. Whenever it reaches the span value if moisture content of the soil then the irrigation system is deactivated, that information is also transmitted to the user. This is the chain process of this particular discussed irrigation system.

X.RESULTS AND CONCLUSION

The discussed irrigation system for agricultural purpose can measure the Soil moisture, temperature of the field and transmits the real time data to the user through the Wi-Fi and IoT server, if there is any deviation from the span of reference value, then the user can send the command through the IoT server to maintain the set point value of field parameter for a proper irrigation and discussed IoT based irrigation system is better than the recently discussed other irrigation systems.

REFERENCES

[1] P.Rajalakshmi, S.Devi Mahalashmi (2016) "IOT based crop-field monitoring and irrigation automation"10th International Conference on Intelligent Systems and Control (ISCO).IEEE Press. Year: 2016 Pages: 1 - 6

[2] Ravi Kishore Kodali, Archana Sahu(2016) "An IoT based soil moisture monitoring on Losant platform "2nd International Conference on Contemporary Computing and Informatics (IC3I)IEEE Press. Pages: 764 – 768 Year: 2016.

[3] Zhaochan Li, Jinlong Wang, Russell Higgs, Li Zhou, Wenbin Yuan (2017) "Design of an Intelligent Management System for Agricultural Greenhouses Based on the Internet of Things"IEEE International Conference on Computational Science and Engineering (CSE) and IEEE International Conference on Embedded and Ubiquitous Computing (EUC). Volume: 2 Pages: 154 - 160 Year: 2017

[4] Pradorn Sureephong; Patcharapong Wiangnak; Santichai Wicha The comparison of soil sensors for integrated creation of IOT-based

ANALYSIS OF WIDE AREA MONITORING SYSTEM ARCHITECTURES

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4th B Tech

I.INTRODUCTION

Many of today's electrical grids are being operated closer to their stability limits because of ever expanding power demands, aging infrastructure, complex power transfers among regions, and challenging renewable integration. All these trends present an important challenge to the reliability and stability of the electrical grid and under such complexities, carrying out monitoring, protection on real time basis and responding to contingencies are critical for maintaining reliability and stability of the grid.

SCADA/EMS systems are widely used as situational awareness technology however they provide only the steady state view of dynamically changing power system. Wide area measurement systems (WAMS) have come forward as a prominent technology option to improve the visibility and situational awareness in both today's and the future electrical grids. Synchro phasor technology is at the heart of WAMS system that has enabled state measurement in WAMS compared to state estimation in conventional SCADA systems. WAMS measurements are more accurate and faster compared to their SCADA counterparts. The faster and more accurate synchro phasor measurements enable accurate and faster analysis of current grids situation almost in real-time which in turn provides operators with options to carry out preventive measures and time to act through early prediction of dangerous events. WAMS thus addresses not only the immediate reliability concerns but also operational issues by conducting real-time dynamic analysis, identifying and calculating security margins and indices, facilitating early detection and monitoring of system security, predicting emergency states and initiating restorative actions to mortem analysis of disturbances in power grid.

This article gives the studies of different types of architectures feasible for WAMS deployment considering the location of data collection, analysis, decision making and remedial action execution. The paper also brings out the detailed comparison of all WAMS architectures to highlight the advantages and disadvantages of implementing each one of them.

II.WIDE AREA MONITORING SYSTEMS

In a typical WAMS system, synchronized measurements are obtained from the PMUs and all the data is sent through communication networks, received and concentrated at a decision and control support system called as phasor data concentrators (PDC) that determines appropriate preventive corrective and protective measures. The decisions determined by the support system will then help operators at control centers to take smarter operator control actions. These actions are translated into feedback signals that are sent through communication networks to exploit the controllability and protection resources of the power system. PMU and PDC are thus backbones of any WAMS system. PMU is a function or logical device that provides synchro phasor (angle and magnitude), system frequency and rate of change of frequency measurements based on the data collected from one or more primary sensors like current (CTs) and potential (PTs) transformers. PMUs may optionally provide information such as calculated real (MW) and reactive (MVAr) powers, sampled measurements and Boolean status words [1] [2] [6].

PDC, a function or logical device, works as a node in a communication network where synchro phasor

data from a number of PMUs and/or PDCs is collected, time aligned, aggregated and sent out as a single stream to the higher level PDCs and/or applications. PDC optionally has to execute real-time wide-area protection and ontrol applications [3] [4] [6].With the increasing number of PMUs installed in the WAMS system a need of an efficient architecture of data collection and management grew necessary for the efficient utilization of the data provided by the PMUs.

III. WAMS ARCHITECTURE CLASSIFICATION AND DEFINITION

WAMS architectures can be classified as Centralized, Distributed and Decentralized architectures [5]. The distinguishing factors among these types are information or data flow between the location of data acquisition, the location of decision making and the location where action based on decision is performed. The following sections describe different types of WAMS architecture in detail.

Centralized WAMS Architecture

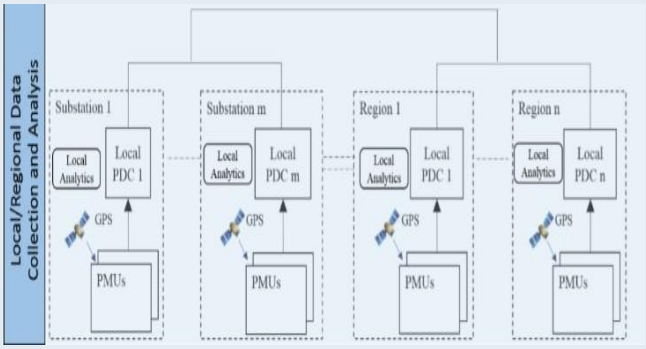
In a centralized WAMS architecture, PMU data acquisition, data analysis and enactment of remedial action is performed at central location. Fig. 1 encapsulates the centralized WAMS architecture. PMUs from various substations send the phasor data to Central PDC where time alignment and data concentration of all received PMU data activity takes place. The concentrated data is used for analytics and visualization. The remedial actions coming out of analysis are passed on to primary devices.

Decentralized

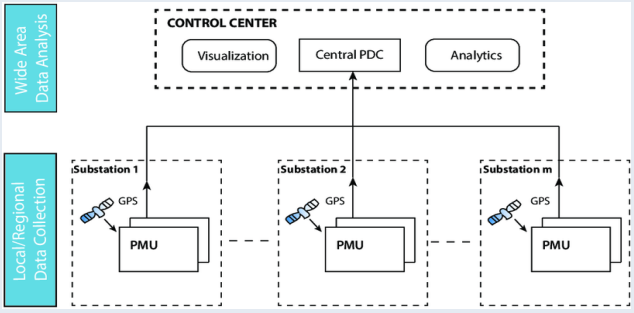
WAMS Architecture In decentralized WAMS architecture, the wide area monitoring is split into multiple small areas and PDCs control the small areas locally using local data. The local controllers are connected to each other if there is a need to solve larger area problem. Fig. 2 encapsulates the decentralized WAMS architecture. PMUs within a local area such as substation or particular region send phasor data to respective local PDC for processing. Local PDCs analyze the data to take any remedial action to protect or control respective local assets. Although all distributed local PDCs are connected to each other for data exchange in order to monitor larger area, this is not efficient solution for monitoring wider area. Coordinated concentrated data acquisition from local PDCs and their analysis for large area monitoring is often challenging and does not meet the goal most of the times.

Distributed WAMS Architecture

Distributed WAMS architecture can be mapped between centralized and decentralized architectures. It includes local as well as central controllers. It can be thought of as centralized control with decentralized execution stage. Fig.
3 encapsulates the distributed WAMs architecture. It comprises of local PDC situated at substation or region level and master PDC located at central control station. PMUs within a local area such as substation or particular region send phasor data to respective local PDC. All local PDCs are connected to master PDC at central control station. The difference is in the flow of information as local PDC may process the PMU data locally, supervised and controlled by master PDC.



Centralized WAM Architecture



Decentralized WAM Architecture

IV. CONCLUSION

WAMS architecture plays a key role in real time and data intensive WAMS systems to overcome the present challenges of power grid namely reliability and stability. Based on the location of PMU data collection ,analysis, decision making and remedial action execution, WAMS architectures are classified as centralized, decentralized and distributed architectures. Decentralized WAMS architecture can monitor and control smaller area covered by local PDC. This architecture cannot be used efficiently to monitor larger or wider area. Hence it is not used widely. This architecture finds application where area of monitoring is smaller and neighboring areas do not need coordination among them. Centralized and distributed WAMS architectures are widely used and preferred architectures for WAMS implementation. Centralized WAMS architecture uses the system elements efficiently to monitor wide area using smaller infrastructure however it does have single point failure opportunities leading to lower system availability compared to distributed architecture. One of the biggest advantages of centralized architecture is coordinated alarms and events management. The distributed architecture is advantageous over centralized architecture in terms of lower communication bandwidth, smaller data storage, increased data security and flexibility to implement additional substation functionality. Centralized WAMS architecture requires comparatively lower implementation cost however on costto-benefit ratio, distributed WAMS architecture scores over centralized architecture. Selection of centralized, decentralized or distributed WAMS architecture for WAMS deployment depends on the monitoring, protection, control schemes one wants to implement in a particular area. These schemes decide the data analysis, data required for analysis, the source of data, the location where data analysis needs to done and the location where enactment of action needs to be completed. Once the clarity is obtained on the above decision factors, the selection of WAMS architecture becomes easier. Proper selection of WAMS architecture is stepping stone in achieving the goals of WAMS i.e. increased reliability and stability of power grid.

REFERENCES

1. IEEE Standard for synchrophasor Measurements for power systems, IEEE C37.118.1-2011

2. IEEE Standard for synchrophasor Data Transfer for power systems, IEEE C37.118.2-2011

3. IEEE Standard Guide of PDC Requirements for power systems, IEEE C37.244-2013

4. Adamiak, M.G., Kanabar, M., Zadeh, M.D., Rodrigues, J., ”Design and implementation of a synchrophasor data concentrator,” IEEE PES Conference on Innovative Smart Grid Technologies - Middle East, (ISGT Middle East), 2011.

5. Kanabar, M., Adamiak, M.G., Rodrigues, J.,”Optimizing Wide Area Measurement System Architectures with Advancements in Phasor Data Concentrators (PDCs),” IEEE Power and Energy Society General Meeting (PES), 2013

ELECTRIC VEHICLES PRESENT & ITS FUTURE

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Medikonda Chinnari,
4 th B.Tech.

An electric vehicle, also called an EV, uses one or more electric motors or traction motors for propulsion. An electric vehicle may be powered through a collector system by electricity from off-vehicle sources, or may be self-contained with a battery, solar panels or an electric generator to convert fuel to electricity. EVs include, but are not limited to, road and rail vehicles, surface and underwater vessels, electric aircraft and electric spacecraft.

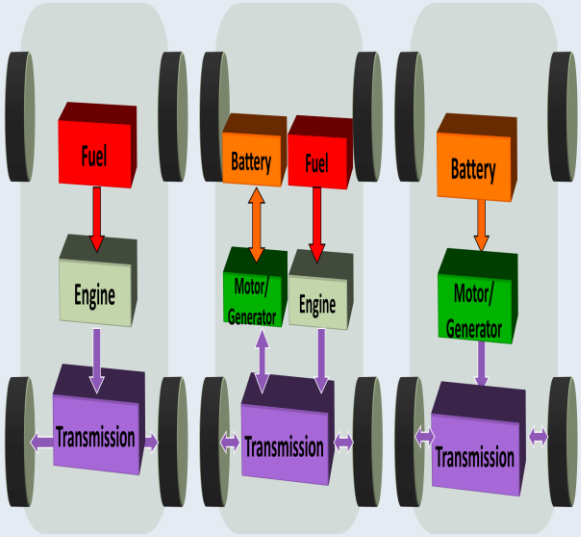
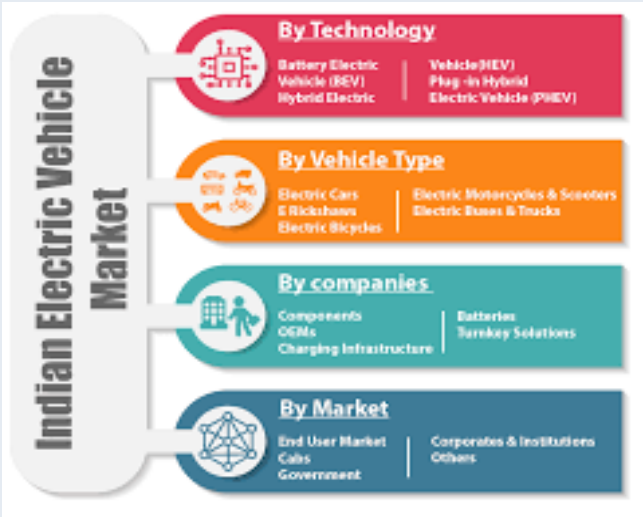


Fig. shows (a) Conventional (b) Hybrid Electric Vehicle (c) Plug –in or Battery EV

In India, We thought Electric Vehicle means just an Electric car but in fact the electric car will play a minor role in the future electric vehicle story of India as compared to the two-wheelers, three-wheeler vehicles and trucks. EVs offer a dramatically lower operating cost compared to conventional internal combustion engines. On an average, electric vehicles are 75-80% cheaper from a fuelling and maintenance perspective. With these significant advantages, you might be having doubt that why EVs haven't already overtaken by the internal combustion vehicles. The main reasons are limited range, high battery weight/size and long charging time of the



Batteries.

In India, the Department of Heavy Industry implemented the FAME-India Scheme Phase-I [Faster Adoption and Manufacturing of Electric Vehicles in India] from 1st April 2015. The salient features of Phase-II of the FAME India Scheme, called the FAME 2, was announced in first week of March 2019, which proposes to give a push to electric vehicles (EVs) in public transport and seeks to encourage adoption of EV's by way of market creation and demand aggregation.

DEPARTMENT ACTIVITES

Department Activities Organised For The Year 2019

S. No.	Activity type	Name of the Topic/subject	Date	Resource Person/ Judge	Student Participation
1	Guest Lecture	Case Study in Energy Audit	06-03-2019	Dr C.V.K. Bhanu	III-EEE
2	Guest Lecture	Introduction to Electrical Technology in Railways	22-06-2019	Sri Deverapalli V K V Prasad	II,III & IV-EEE
3	Industrial visit	33KV /11 KV Substation, APEPDCL, Nellimarla Vizianagaram,	06-07-2019	Sri M. Srinivas Rao	III-EEE
4	TESLA Inaugural (Guest Lecture)	Global Power Systems and Modern Power Technology	23-07-2019	Dr. Ch V V S Bhaskara Reddy	II,III & IV-EEE
5	TESLA Event (Poster Presentations)	Recent Trends in Electrical Engineering	23-07-2019	Dr. G V E Satish Kumar (Chief Guest)	II, III & IV-EEE
6	Engineers Day (15^{th} Sep)	Technical Paper Presentations	18-09-2019	Dr.P.Devendra	II, III & IV-EEE
7	Guest Lecture	Major Challenges in Indian Power Sector	23-11-2019	Dr. V.S.Vakula	III & IV-EEE
8	Guest Lecture	Super conductors and Its Applications in Electrical Engineering	18-12-2019	Dr.Vanapalli Srinivas	I,II,III,IV - EEE
9	Guest Lecture	Industrial Electrical Systems In Vizag Steel Plant	21-12-2019	Mr. M. Ayya Dorai	II,III,IV - EEE
10	Energy Conservation Day	TESLA Event (Model Presentation)	21-12-2019	Mr. M. Ayya Dorai	II,III-EEE

Guest Lecture on Case Study in Energy Audit and Management by Dr. C.V.K. Bhanu, Professor ,Dept. of EEE, GVPCE(A)

Guest Lecture on "Introduction to Electrical Technology in Railways" by Sri. D.V.K.V.Prasad

Guest Lecture on "Global Power Systems and Modern Power Technology", by Dr. Ch.V.V.S.Bhaskar Reddy, Professor, Dept. of Electrical Engg. , AU College of Engineering.

Guest Lecture on "Major Challenges in Indian Power Sector" by Dr. V.S. Vakula, Assistant Professor, JNTU Vizainagaram.

Poster Presentation on "Recent Trends in Electrical Engineering" on account of Engineer's day celebrations.

Guest Lecture on " Superconductors and Its Applications in Electrical Engineering " by Dr.Vanapalli .Srinivas from University of Twente, Netherlands.

Guest Lecture on Industrial Electrical Systems in Vizag Steel Plant , by Mr. M.Ayya Dorai, GM, Water Mgt. System, Visakhapatnam Steel Plant

Feedback given by Mr.M.Ayya Dorai on the presentations given by the students

STUDENT ACTIVITES

TOPPERS OF THE YEAR:

YEAR	ROLL NO	NAME OF THE STUDENT	AVERAGE CGPA	POSITION
IV	16JG1A0239	Yeruva Kala Bharathi	8.56	First
III	17JG1A0220	Palakurthi Saranya	8.53	First
II	18JG1A0205	Deepa Jain	9.19	First

CERTIFICATION COURSES BY STUDENTS:

SL.NO	STUDENT NAME	CERTIFICATE OF COMPLETION	PERIOD
1	M.Chandu	CEMS	21-09-19 to 30-09-19
2	Ch.Yamini	CEMS	21-09-19 to 30-09-19
3	B.Sravani selcia	CEMS	21-09-19 to 30-09-19
4	U.Swarna	CEMS	21-09-19 to 30-09-19
5	R.Ramya	CEMS	21-09-19 to 30-09-19
6	R.P. L. S.Sruthi	CEMS	21-09-19 to 30-09-19
7	Y.L.Archananjali	CEMS	21-09-19 to 30-09-19
8	K.Dhana lakshmi	CEMS	21-09-19 to 30-09-19
9	K.Jaya sri	CEMS	21-09-19 to 30-09-19
10	Ch. Gayatri	CEMS	21-09-19 to 30-09-19
11	P.Swayamprabha	CEMS	21-09-19 to 30-09-19

12	K.Sushma	CEMS	21-09-19 to 30-09-19
13	K.Sai Madhulika	CEMS	21-09-19 to 30-09-19
14	B.Prasanna Jyothi	CEMS	21-09-19 to 30-09-19
15	M.Pallavi Priya	CEMS	21-09-19 to 30-09-19
16	K.V.M.L.K.Varsha	CEMS	21-09-19 to 30-09-19
17	A.Jhansi Sai Sindhuri	CEMS	21-09-19 to 30-09-19
18	P.Divya	CEMS	21-09-19 to 30-09-19
19	V.Hema sri	CEMS	21-09-19 to 30-09-19


SIEMENS
Ingenuity for life

Certificate of Completion

This is to certify that HEMA SRI VELAGA
bearing number AP/VTZ/4002/09-2019/0055 has successfully
completed Basic of AC - DC Drives,40 Course
Conducted at
Centre Of Excellence in Maritime and Shipbuilding VISAKHAPATNAM
from 21-Sep-19 to 30-Sep-19

INTERNSHIPS ATTENDED BY STUDENTS:

SL.NO	STUDENT NAME	INTERNSHIP ATTENDED AT	PERIOD
1	R.P. L. S.Sruthi	220KV Substation,Bommuru	11-11-19 to 23-11-19
2	P.Sri lakshmi Tejaswi	NTPC Limited	1-06-19 to 15-06-19
3	Ch. Vatsalya	NTPC Limited	1-06-19 to 15-06-19
4	T.Mounika	APSSDC -Siemens Project	13-05-19 to 22-06-19
5	K.Neelima	APSSDC -Siemens Project	13-05-19 to 22-06-19
6	K.Varshini	APSSDC -Siemens Project	13-05-19 to 22-06-19

7	B.Suma	APSSDC -Siemens Project	13-05-19 to 22-06-19
8	L.Yasaswani	APSSDC -Siemens Project	13-05-19 to 22-06-19
9	Y.Sharmila	Vizag Steel Plant	20-05-19 to 01-06-19
10	L.Hari chandana	Vizag Steel Plant	20-05-19 to 01-06-19
11	I.Kavyasri	Vizag Steel Plant	20-05-19 to 01-06-19
12	Ch.Devi	Vizag Steel Plant	20-05-19 to 01-06-19
13	P.Sri lakshmi Tejaswi	Vizag Steel Plant	20-05-19 to 01-06-19
14	K.Varshini	Vizag Steel Plant	20-05-19 to 01-06-19
15	M.Chinnari	AP GENCO	13-05-19 to 25-05-19
16	M.Niharika	AP GENCO,Hydro power Plant,sileru	14-05-19 to 28-05-19
17	Y.Kala bharathi	AP GENCO,Hydro power Plant,sileru	11-05-19 to 25-05-19
18	A.Bharathi	AP GENCO,Hydro power Plant,sileru	11-05-19 to 25-05-19
19	O.Kusuma	BHEL	18-05-19 to 18-06-19
20	K.Jhansi rani	BHEL	18-05-19 to 18-06-19
21	S.Prathyusha	VSP Port Trust	30-05-19 to 13-06-19
22	K.Lakshmi prasanna	VSP Port Trust	30-05-19 to 13-06-19
23	Ch. Leela Prasanthi	VSP Port Trust	30-05-19 to 13-06-19
24	H.Akhila Sarvani	VSP Port Trust	30-05-19 to 13-06-19
25	K.S.M.Manjula	VSP Port Trust	30-05-19 to 13-06-19

WORK SHOPS ATTENDED BY STUDENTS:

Sl .No	Name of Student	Workshop Attended	Event	Organization / Date	Prize
1	P.Saranya	Home Automation System Using IOT	ENCURSO,2K19	JNTU, Kakinada March 2nd & 3rd, 2019	Participation
2	Y.Sowmya	Home Automation System Using IOT	ENCURSO,2K19	JNTU, Kakinada March 2nd & 3rd, 2019	Participation
3	K.V.V Sushma	Home Automation System Using IOT	ENCURSO,2K19	JNTU, Kakinada, March 2nd & 3rd, 2019	Participation
4	B.Sravani	IOT based Home Automation System Using IOT	ENCURSO,2K19	JNTU, Kakinada March 2nd & 3rd, 2019	Participation
5	AVS Jhansi Sinduri	Home Automation System Using IOT	ENCURSO,2K19	JNTU, Kakinada March 2nd & 3rd, 2019	Participation
6	S Prathyusha	Home Automation System Using IOT	Social media	Web Media Training Institute	Participation
7	S. Uma	MATLAB	ENCURSO 2K19	JNTUK, march 2 and	Participation

	Maheswari			3ed ,2019	
8	B.Pallavi	MATLAB	ENCURSO 2K19	JNTUK, march 2 and 3ed ,2019	Participation
9	Harika V	MATLAB	ENCURSO 2K19	JNTUK, march 2 and 3ed ,2019	Participation
10	Bhavani S	MATLAB	ENCURSO 2K19	JNTUK, march 2 and 3ed ,2019	Participation
11	S. Poojitha Vani	MATLAB	ENCURSO 2K19	JNTUK, march 2 and 3ed ,2019	Participation
12	Sri Varshini K	OOP with C++ Training	Datapro	Datapro 21-5-18 to 14-7-18	Participation
13	A.S.V.J. Sindhuri	Home Automation - IOT	ENCURSO 2K19	JNTUK 2 &3ed, March 2019	Participation
14.	K. Neelima	Recent trends in Power Electronics Converters and Real Time Control	2nd National Workshop at NIT, Raipur	December 9-13, 2019	Participation
15	P.Revathi	Recent trends in Power Electronics Converters and Real Time Control	2nd National Workshop at NIT, Raipur	December 9-13, 2019	Participation
16	P.Anitha	Recent trends in Power Electronics Converters and Real Time Control	2nd National Workshop at NIT, Raipur	December 9-13, 2019	Participation
17	Y.Kala bharathi	Recent trends in Power Electronics Converters and Real Time Control	2nd National Workshop at NIT, Raipur	December 9-13, 2019	Participation
18	O.Kusuma	Recent trends in Power Electronics Converters and Real Time Control	2nd National Workshop at NIT, Raipur	December 9-13, 2019	Participation
19	I.Kavya sri	Recent trends in Power Electronics Converters and Real Time Control	2nd National Workshop at NIT, Raipur	December 9-13, 2019	Participation
20	M.Neharika	Recent trends in Power Electronics Converters and Real Time Control	2nd National Workshop at NIT, Raipur	December 9-13, 2019	Participation
21	Ch.Kasi lakshmi	Recent trends in Power Electronics Converters and Real Time Control	2nd National Workshop at NIT, Raipur	December 9-13, 2019	Participation

Workshop attended by IV B.tech. EEE students at NIT Raipur during December 9-13 , 2019

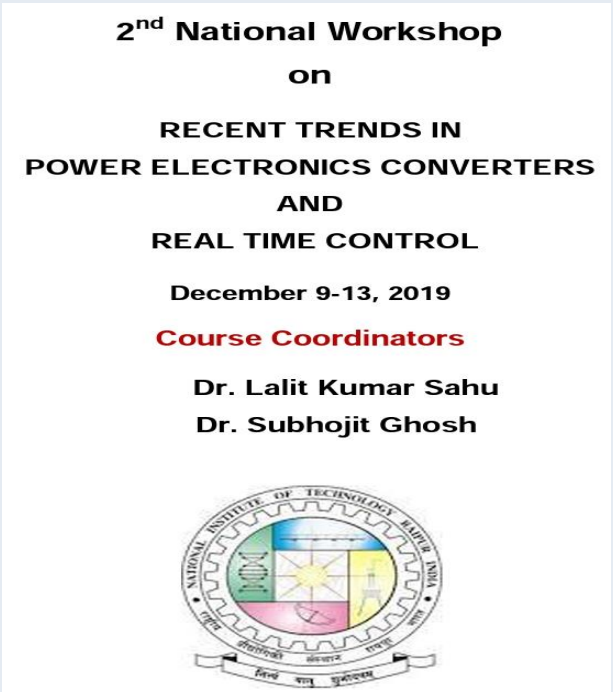
अब बैटरी चार्ज नहीं करनी पड़ेगी, फ्यूल सेल से चलेंगे इलेक्ट्रिक वाहन

वर्कशॉप

- रायपुर में चला इलेक्ट्रिक व्हिकल कंवर्टर और रियल टाइम कंट्रोल पर एनआईटी आयोजित
- छात्रों को दी इलेक्ट्रिक सेक्टर के बारे में विस्तार से जानकारी

वर्कशॉप: नॉर्मल साइकिल को बनाया इलेक्ट्रिक

रायपुर। आप अपनी नॉर्मल साइकिल को इलेक्ट्रिकल बना सकते हैं। इसके लिए ज्यादा कुछ नहीं 250 वॉट का मोटर, बैटरी और एक किट लगेगी। रफ्तार होगी 15 से 20 किमी और एक बार चार्जिंग से 60 से 70 किमी तक चला पाएंगे। एनआईटी में चल रहे नेशनल वर्कशॉप पॉवर इलेक्ट्रॉनिक्स कन्वर्टर और रियल मित्रा नागपुर एक्सपर्ट के रूप में शामिल हुए। डॉ. ललित कुमार साहू के मार्गदर्शन में एडवांस्ड इलेक्ट्रिकल ड्राइव्स एंड डिजिटल कंट्रोल लैब विजिट कराया गया, जहां उन्हें इलेक्ट्रिक साइकिल डवलप करने के साथ फ्यूल सेल, इलेक्ट्रिकल ड्राइव्स का डेमोंस्ट्रेशन कराया। इसमें छत्तीसगढ़ समेत देश के विभिन्न राज्यों के



2nd National Workshop

on

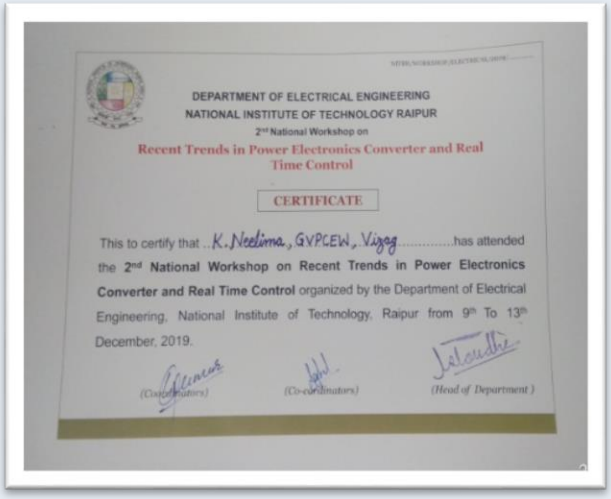
RECENT TRENDS IN
POWER ELECTRONICS CONVERTERS
AND
REAL TIME CONTROL

December 9-13, 2019

Course Coordinators

Dr. Lalit Kumar Sahu
Dr. Subhojit Ghosh

Organized by
Department of Electrical Engineering,
National Institute of Technology,
Raipur – 492010, Chhattisgarh.
Contact No.: 9630234305 / 9441162682
Email: rtpec.rtc@gmail.com



DEPARTMENT OF ELECTRICAL ENGINEERING
NATIONAL INSTITUTE OF TECHNOLOGY RAIPUR
2nd National Workshop on
Recent Trends in Power Electronics Converter and Real Time Control

CERTIFICATE

This to certify that ..K. Neelima., GVPCEW., Vizag.....has attended the 2nd National Workshop on Recent Trends in Power Electronics Converter and Real Time Control organized by the Department of Electrical Engineering, National Institute of Technology, Raipur from 9th To 13th December, 2019.

(Co-ordinators) (Co-ordinators) (Head of Department)

CO-CURRICULAR ACTIVITIES:

Sl .No	Name of Student	Workshop Attended	Event	Organization / Date	Prize
1	K.Pushpa	THROWBALL	Visakha Institution 0f Technology , Visakhapatnam	Inter Collegiate Sports Meet,4th Feb.2019	Winner
2	J.Jahnavi	THROWBALL	Visakha Institution 0f Technology , Visakhapatnam	Inter Collegiate Sports Meet,4th Feb.2019	Winner
3	S. Uma Maheswari	THROWBALL	Visakha Institution 0f Technology , Visakhapatnam	Inter Collegiate Sports Meet,4th Feb.2019	Winner

VISAKHA GROUP OF ENGINEERING COLLEGES
(SPONSORED BY VARAHA LAKSHMI NARASIMHA SWAMY EDUCATIONAL TRUST)
67th Division, Narava, Visakhapatnam

Department of MBA

SAMHITHA - 2K19
MANAGEMENT MEET

Certificate of Merit

This is to certify Mr/Ms S. Uma maheswari of ....MBA..... has participated/secured ..1st.... position in the event .....throwball..... in "SAMHITHA-2K19" conducted on 08th February,2019.

Chairman

Convener

SHORT STORY

Remember Your Guru Before Any Action!

Once young boy went to a Gurukula to learn the Vedas.He was so excited since his master was renowned and was adept at Shastras. He went to his master and thus said – "My dear Sir, I would like to learn Vedas from you". The master immediately replied "Oh Dear Boy, it is not a one or two year course. It is a twelve year course. Are you ready to learn Vedas"?

The boy was extremely passionate and immediately signed up for the course. In the ancient system of Vedic education the student goes into a Gurukulam and learns the Vedas for twelve years. So this boy enrolled with the master and learned the Vedas for twelve years. At the end of this course, there is an examination to certify that the student has passed all the courses. When it was time for the boy to graduate [Samavarthanam connotes graduation of a Brahmachari learning the Vedas]. This boy fixed the date with the master for graduation.

On that day, when the boy went and presented himself before his master for graduation, his master told him tha

t he was very busy and that he would not have time to conduct the exam for him.It is a normal procedure for the master to have his disciples recite certain portion of the Vedas and they are graded appropriately.He asked the boy to go to the backyard and stand next to a particular tree. He asked him to recite a certain part of the Vedas [Anuvaka]. The tree upon completion will shed some leaves.The master asked the boy to count the number of leaves as they signify the number of mistakes committed during the recital.This was a new test for the little boy and he was eager to take the novel test.

The boy was cognizant of the fact that before reciting the Anuvaka, he had to invoke Lord Ganesha.The moment he invoked Ganesha, all the leaves from the tree had fallen down. This little boy was baffled by the incident.He went into the master's chamber and narrated the whole incident.The master immediately knew what had happened. He told him that before one invokes Lord Ganesha, Lord Krishna or any other deity, one need to do a Dhyana on his Guru. The Guru is verily the compassionate soul who is the incarnation of the Lord itself.

Moral: Guru bestow us with the knowledge, so that we will lead to other positive thoughts and this is called Guru -Disciple Relationship

Puzzles:

1. If you had 5,623 participants in a tournament, how many games would need to be played to determine the winner?

2. The probability of finding the parking slot occupied is 1/3. You find it empty for 9 consecutive days. Find the probability that it will be empty on the 10th day.

3. You toss two coins. If you get heads with the first coin, you stop. If you get tails, you toss it again. The second coin is tossed regardless. What is the ratio of heads to tails?

4. This object has holes in its top and bottom. It also has holes on its sides and bottom, not only that it is riddled with holes in the middle. Despite this, it can still hold water. What is it?

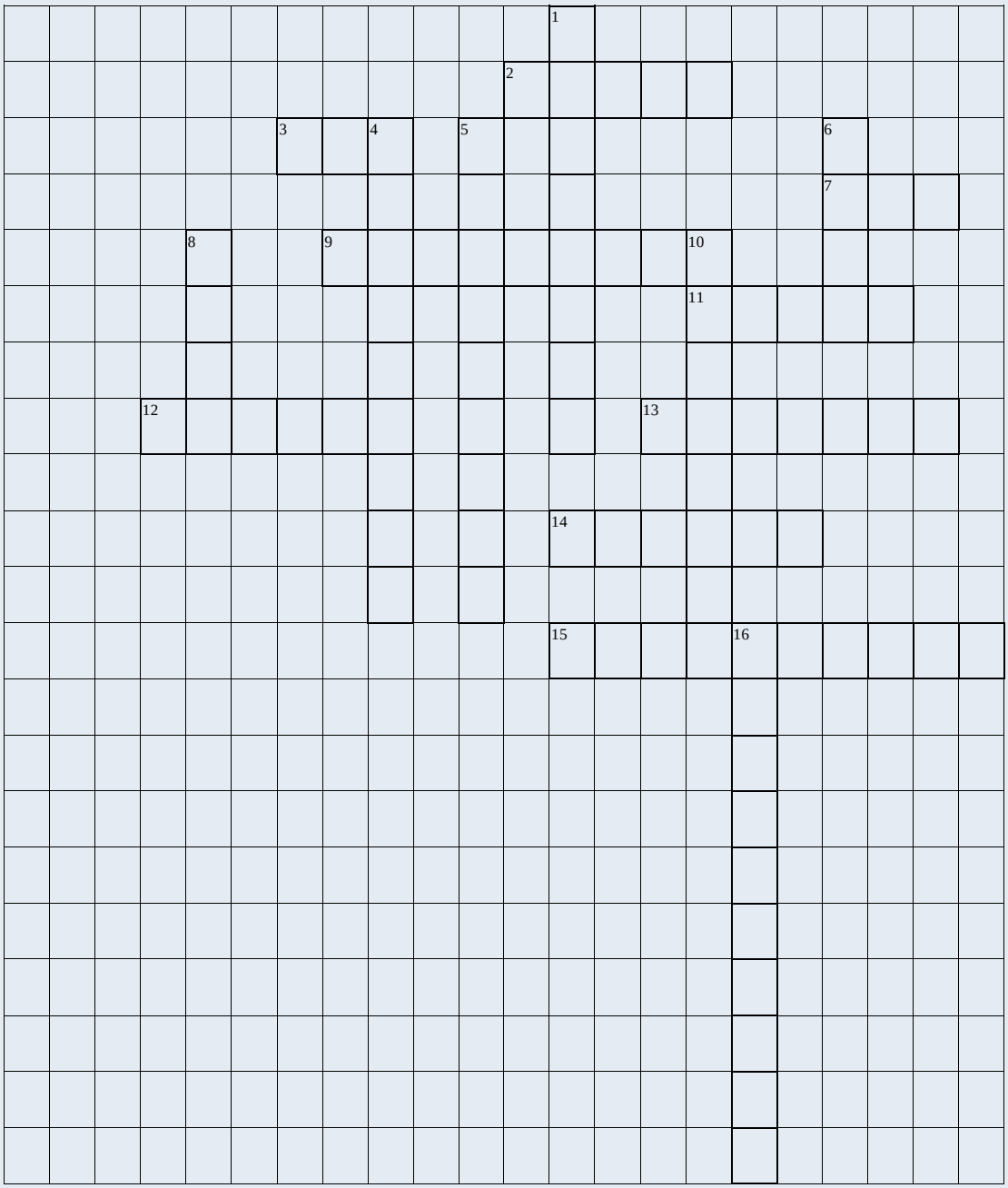
5. A man is sitting in a pub feeling rather poor. He sees the man next to him pull a wad of $50 notes out of his wallet. He turns to the rich man and says to him, "I have an amazing talent: I know almost every song that has ever existed." The rich man laughs.

The poor man says, "I am willing to bet you all the money you have in your wallet that I can sing a genuine song with a lady's name of your choice in it." The rich man laughs again and says, "OK, how about my daughter's name, Joanna Armstrong-Miller?"

The rich man goes home poor. The poor man goes home rich. What song did he sing?

(by Ch.Sruthi Varma,16JG1A0204)

CROSSWORD



Across

2. What current is measured in.
5. A device for disconnecting a circuit.
9. Lots of sockets connected together. (4,4) (2 words)
12. One of the towers that carries electricity around the country.
13. Device for stepping voltages up or down.
16. What the coloured plastic coating on wire is called.
17. The way the current in a domestic supply constantly changes.
18. A resistor that reacts to heat.
20. The bit that remains stationary in a motor.
22. Measures waveforms.
23. The study and use of semi-conductors.
26. Make connection by pushing it in.
28. The action of removing the insulation from wire.
31. A device that gives DC electrical energy from chemicals.
33. An attractive force that makes motors and other stuff work.
34. Melt it to fix components to the board.
35. Light emitter - one way too!
36. Unit of resistance.
39. Tool that grips and cuts sometimes.
44. The wire melts to protect you.
45. Something that replenishes a battery's energy.
46. An abreviation for a light sensitive device.

Down

1. Electromotive force and potential difference is measured in this.
3. What gives us turning power from electricity.
4. A unit that gives off light from an element.
6. Something that is good at passing a current.
7. A device that produces electricity.
8. The points where we attach wires or components together.
10. What we use to measure electrical energy.
11. A component that limits the flow of current.
13. Semi-conductor with 3 connections to it.
14. A type of lighting tube.
15. The box with all the fuses or circuit breakers in. (8,4) (2 words)
19. The unit of inductance.
21. Something that is bad at passing a current.
24. A device that stores electrical charge.
25. What most cables are made from.
27. A tool that squashes a connection onto a wire.
29. The unit of capacitance.
30. Full wave or half wave device to change AC to DC.
32. A portable supply of light.
34. Something you get when touching high voltage.
37. Abbreviation for a protective device.
38. Current only flows one way through this component
40. The bit that turns in a motor.
41. Popular brand of insulation tester.
42. Take the plug!
43. Another name for wire.

VOCABULARY – NEW ENGLISH WORDS (with meanings)

3rd Year Students

Sl.No.	Word	Meaning	Usage
1	**Toil**	work extremely hard or incessantly	He ***toil*** to get into IIT's
2	**Heed**	pay attention to	If he heard, he paid no ***heed***
3	**Ambiguity**	uncertainty or doubtfulness	The *ambiguity* begin to disappear when more explanations are made
4	**Pristine**	a state of being like new	The car is 20 yrs old but it is still ***pristine***.
5	**Exuberant**	Full of energy	She gave an ***exuberant p***erformance.
6	**Optimisation**	The action of making the best	That's all you need to ***optimize*** agriculture.
7	**Benevolent**	Willing to help	She was a ***benevolent*** women
8	**Droolworthy**	Attractive or desirable extremely	He is always an interesting man, he is even more ***droolworthy***
9	**Facepalm**	To hide face with palm as an expression of embarrassment.	They ***facepalmed*** as they loose in finals
10	**Totes**	Totally(in informal form)	**T**he scenery is ***totes*** amazing
11	**Unfettered**	Not bound by shackles	***Unfettered*** by bounds , my imagination flourished
12	**Render**	Provide or give	Money serves as a reward for the services ***rendered***
13	**Ascend**	To go up; to move upward	They watched their balloons slowly ***ascending*** into the sky
14	**Extravagant**	Spending too much money	The couple lived a simple life with no ***extravagant*** purchases
15	**Venture**	Proceed somewhere despite the risk of danger.	He nervously ***ventured*** out the ice.
16	**Vindictive**	Showing strong desire for revenge.	She smiles, but in a ***vindictiv***e way
17	**Blunder**	Careless mistake	She stopped finally realizing the ***blunder*** mistake she has made.
18	**Accord**	Occurrence of opinion	The committee worked in ***accord*** with bill.
19	**Deprive**	Prevent from using (or) having something	She was ***deprived*** of her royal privilege
20	**Milady**	Noble women	Good morning, ***Milady.***

21	**Inept**	Unskillfull	She is totally ***inept*** at dealing with people.
22	**Vape**	To giveup smoking in favour of electronics.	For the sake of his health he give up smoking and try ***vaping***.
23	**Accidial**	To dial some one's number accidently	I was trying to dial mona , but I ***accidial*** monika
24	**Bedunged**	To be old or old fashioned	The artists with their ***bedunged*** mannequins lost in competition
25	**Binge watch**	Watch multiple episodes of TV program in rapid succession	I'm currently ***binge watching*** all the episodes of Super natural
26	**Conlang**	An invented language intended for human communication.	He was a ***conlang*** expert , who invented 'Dothraki' for Game of thrones.
27	**Crunk**	Very excited, full of energy	The guys there get ***crunk*** with some raw hip hop.
28	**Ginger**	A person with red hair	Some, call john ***ginger*** because of his red hair.
29	**Hanger**	Anger because of hunger	People often ***hangry*** , when the sugar levels in their blood is low.
30	**Kadult**	A person who is technically an adult but acts as kid.	I can say my 23 year old brother a ***kadult.***
31	**Meh**	Uninspiring; impressed about something.	I ordered a new dress online , but when I tried it on ***meh.***
32	**Muggle**	A person who don't have a particular type of skill or talent	When it comes to cooking and cleaning she is completely a ***muggle.***
33	**Buko**	A person who is under 5 ft tall and angry.	No one dares to involve him, he is a ***buko***
34	**Buzz kill**	A person or thing that has a depressing effect.	Hearing how fattening this food will be a ***buzzkill***
35	**Usie**	A group selfie .	**C**ome on lets have a ***usie***
36	**Weaksauce**	Extremely bad or disappointing `	The design is ***weaksauce***

INTERNATIONAL YOGA DAY CELEBRATIONS

Yoga day is being celebrated on 21st of June every year which was started from the year 2015 with the efforts made by the Prime Minister Narendra Modi. So GVP College of Engg. for Women came forward and took initiative to celebrate international yoga day.

TESLA INAUGURAL

Nomination of new body of TESLA members in the TESLA INAUGURAL function and fecilitation to our chief guest Dr. Ch. V.V.S.Bhaskar Reddy, Professor , AU College of Engineering, Visakhapatnam.

GVP INSTITUTIONS MARATHON:

In View of World Heart Day GVP group of institutions organizes a 2-Km Marathon walk at RK Beach and a free Heart Check in Gayatri Medical College. All the students and faculty have actively participated and made a great success of the event.

CONTRIBUTIONS & ACHIVEMENTS

Few of our students have been placed in various companies like INFOSYS,TCS, WIPRO, and many more.

NPTEL CERTIFICATIONS:

IV-YEAR:


NPTEL Online Certification
(Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to
SRI VARSHINI KETALA
for successfully completing the course
Programming, Data Structures and Algorithms
Using Python
with a consolidated score of 50 %

Online Assignments	24/25	Proctored Exam	26.25/75

Total number of candidates certified in this course: 3813

Prof. A. Ramesh, Chairman, Centre for Continuing Education, IITM
Jan-Mar 2019 (8 week course)
Prof. Andrew Thangaraj, NPTEL Coordinator, IIT Madras

Indian Institute of Technology Madras
swayam
Roll No: NPTEL19CS08S11980030
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NPTEL Online Certification
(Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to
M CHINNARI
for successfully completing the course
Electric Vehicles - Part 1
with a consolidated score of 44 %

Online Assignments	24.17/25	Proctored Exam	19.5/75

Total number of candidates certified in this course: 1926

Prof. A. Ramesh, Chairman, Centre for Continuing Education, IITM
Feb-Mar 2019 (4 week course)
Prof. Andrew Thangaraj, NPTEL Coordinator, IIT Madras

Indian Institute of Technology Madras
swayam
Roll No: NPTEL19EE18S52280760
To validate and check scores: http://nptel.ac.in/noc

II-YEAR:


Elite
NPTEL Online Certification
(Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to
PREETI CHOUHAN
for successfully completing the course
Basic Electric Circuits
with a consolidated score of 80 %

Online Assignments	24.38/25	Proctored Exam	55.87/75

Total number of candidates certified in this course: 1155

Prof. Rajesh M.Hegde, Chairman, Centre for Continuing Education, IIT Kanpur
Jul-Oct 2019 (12 week course)
Prof. Satyaki Roy, NPTEL Coordinator, IIT Kanpur

Indian Institute of Technology Kanpur
swayam


Elite
NPTEL Online Certification
(Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to
DEEPA JAIN
for successfully completing the course
Basic Electric Circuits
with a consolidated score of 81 %

Online Assignments	25.00/25	Proctored Exam	55.5/75

Total number of candidates certified in this course: 1155

Prof. Rajesh M.Hegde, Chairman, Centre for Continuing Education, IIT Kanpur
Jul-Oct 2019 (12 week course)
Prof. Satyaki Roy, NPTEL Coordinator, IIT Kanpur

Indian Institute of Technology Kanpur
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- by U.BHUVANESWARI
(16JG1A0234)

- by P.SWAYAMPRABHA
(17JG1A0224)

- by L.BHAVANA
(18JG1A0216)

-

CAREER GUIDANCE

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- Stanford University
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- Naukri
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- Fresherworld
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