



Message from the Chairman



Dear Members,

It gives me an enormous pleasure to present this 6th issue of IETE Bi-Monthly Newsletter. First of all on behalf of our executive committee members and me, my sincere thanks to all the corporate members,

governing council members, faculty and students for the encouragement and support extended to successfully complete one year of our term. During this one year we have completed all the yearly scheduled programs of our IETE Hyderabad centre 2020-21. Due to pandemic situation, we have done the programs in physical and online (hybrid) mode. We are proud to mention that our weekly webinars of KSS conducted on every Sunday without any break has crossed the 50 figure and given us very good feedback. The webinar topics presented are covered wider areas in Electronics & Computer Science engineering and are very informative and enriching to the participants.

Our IETE Hyderabad Centre's endowment, memorial & foundation day programs were conducted as per the calendar. On every event we conducted various student competitions in poster presentations, essay writing, hardware expo, crossword puzzle etc & prizes were distributed to all the winners and participation certificates issued to students.

IETE Hyderabad centre formed the new Advisory Committee with the eminent personalities led by the Padmasree Prof B L Deekshatulu as Chairperson and Prof. S. Narayana & Prof K. Laxminarayana as Vice Chairpersons. The first Advisory Committee meeting (online) was successfully conducted on 20th June, 2021.

I am happy to mention that our IETE Hyderabad Centre also conducted the Annual General Body Meeting (AGM) 2020-21 successfully in hybrid mode on 28th June 2021. All the Corporate members, GC members & EC members were present and made the AGM program a grand success.

For the year 2021-22, we have planned to conduct corporate trainings, webinar programs, workshops, student projects, women empowerment and skill development programs on a larger scale. I request all the corporate members, organizations and ISF co-ordinators, principals and HODs to support us in completing our task to reach the IETE's motto of strengthening in the Scientific and Technical areas of direct importance to the National Development and Economy.

Thank you all & Stay Safe.

Er. K. Gnaneshwar Rao (Chairman)



EVENTS

Webinar – 50

(Golden Jubilee Webinar)

TOPIC: ADVANCES IN COMMUNICATION TECHNOLOGY AND ITS UTILIZATION IN SATELLITE GROUND STATION

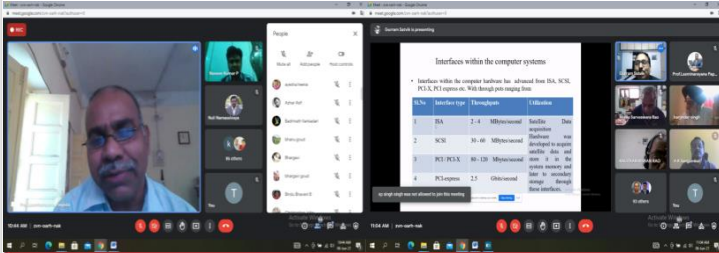
DATE: 06th June, 2021 (Sunday) at 10.30AM

ONLINE: Through Google Meet Video App



Dr. G. PRASAD

Scientist "SG", Group Head, ICIG / Data Processing Area National Remote Sensing Centre, Indian Space Research Organization (ISRO), Hyderabad.



సోమవారం 7 జూన్ 2021 నమస్త తెలంగాణ

ఘనంగా ఐఈటీఈ గోల్డెన్ జూబ్లీ వెబినార్

ఉస్మానియా యూనివర్సిటీ, జూన్ 6: ద ఇన్స్టిట్యూషన్ ఆఫ్ ఎలక్ట్రానిక్స్ అండ్ టెలికమ్యూనికేషన్ ఇంజనీరింగ్ (ఐఈటీఈ) హైదరాబాద్ చాప్టర్ ఆధ్వర్యంలో గోల్డెన్ జూబ్లీ వెబినార్ ను ఆదివారం నిర్వహించారు. విజ్ఞానాన్ని పెంపొందించేందుకు ఐఈటీఈ ఆధ్వర్యంలో వెబినార్లను నిర్వహిస్తున్నారు. కార్యక్రమానికి ముఖ్య అతిథిగా ఓయూ రిజిస్ట్రార్ ప్రొఫెసర్ లక్ష్మీనారాయణ హాజరయ్యారు. ఆయన మాట్లాడుతూ ప్రొఫెసర్ సీవీఎస్ రావు ఐఈటీఈ చైర్మన్ గా ఉన్నప్పుడు క్రమం తప్పకుండా సంస్థను సందర్శించేవాడినని గుర్తు చేసుకున్నారు. కృత్రిమ మేధ, మెషిన్ లెర్నింగ్, బిగ్ డేటా అనాలసిస్, శాటిలైట్ నావిగేషన్ సిస్టమ్స్, మెకట్రానిక్స్ రంగాల్లో పరిశోధన, అభివృద్ధి కార్యక్రమాలను వివరించారు. ఈ వెబినార్ కు దేశ



మాట్లాడుతున్న ఓయూ రిజిస్ట్రార్ ప్రొఫెసర్ లక్ష్మీనారాయణ

వ్యాప్తంగా 120 మందికి పైగా ప్రతినిధులు హాజరయ్యారు. 'అడ్వాన్స్ డిజిటల్ కమ్యూనికేషన్ టెక్నాలజీ అండ్ ఇట్స్ యుటిలిజేషన్ ఇన్ శాటిలైట్ గ్రౌండ్ స్టేషన్' అనే అంశంపై ఇన్వైట్ చేసిన ఎన్జీఎస్సీ శాస్త్రవేత్త డాక్టర్ జి. ప్రసాద్ ప్రసంగించారు. ఐఈటీఈ చైర్మన్ జ్ఞానేశ్వర్ రావు, గౌరవ కార్యదర్శి నూలి నమశ్శివాయ, ఉపాధ్యక్షుడు డాక్టర్ కె. సీతారాంబాబు, అశ్వనికుమార్, డాక్టర్ నవీన్ కుమార్, దేవయ్య తదితరులు పాల్గొన్నారు.

Screenshots of Golden Jubilee Webinar held on 06.06.2021

Webinar – 47

EVENT: World Telecommunication & Information Society Day & 16th Dr T. H. Chowdary - CTMS Endowment Lecture

TOPIC: ACCELERATING DIGITAL TRANSFORMATION IN CHALLENGING TIMES

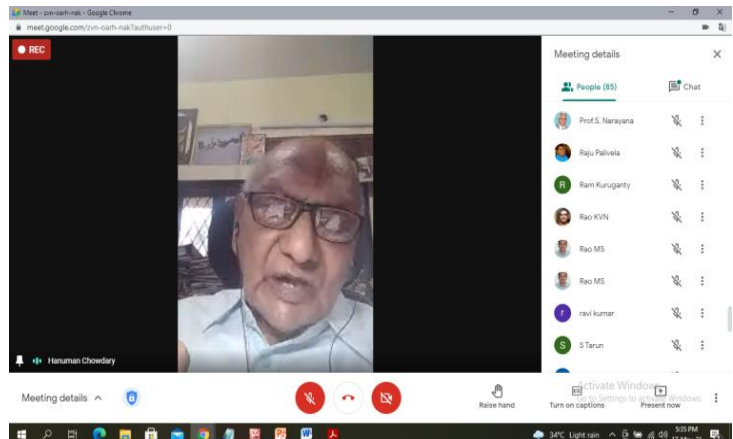
DATE: 17th May, 2021 (Sunday) at 05.00PM

ONLINE: Through Google Meet Video App

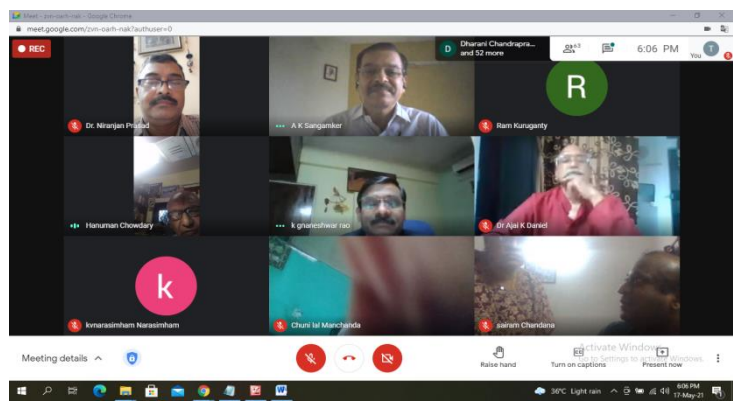


Dr Ram Sewak Sharma, IAS Retd

CEO, National Health Authority (NHA) Ministry of Health and Family Welfare (Govt. of India), Former Chairman, TRAI, New Delhi



Address by Dr. T. H Chowdary in the World Telecommunication & Information Society Day & 16th Dr T. H. Chowdary - CTMS Endowment Lecture held on 17.05.2021

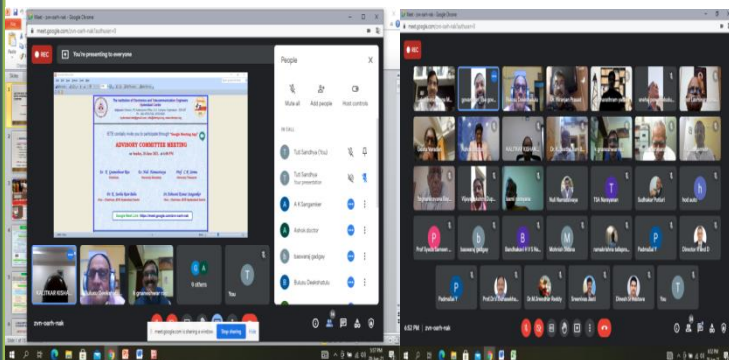


Screenshots of WT & IS Day & 16th Dr T. H. Chowdary - CTMS Endowment Lecture held on 17.05.2021

Advisory Committee Meeting

IETE Hyderabad Centre has Conducted Advisory Committee Meeting on 20.06.2021 (Sunday) at 6.00 P.M. through online Google Meeting. The IETE Hyderabad Centre Advisory Committee Chairman **Prof. B. L. Deekshatulu**, Advisory Committee the Vice Chairmen, **Prof. S. Narayana** and **Prof. K. Laxminarayana** and all the other Hon Advisory Committee Members attended the meeting. **Prof. B. L. Deekshatulu**, Chairman of the Committee concluded all the members valuable advises and suggestions towards Innovative ideas for revenue generation, strategic planning, Maintenance and upkeep of assets to Office Bearers of IETE Hyderabad Centre.

IETE Hyderabad Centre Chairman **Er. K Gnaeshwar Rao** explained about the activities and the developments done during the academic year 2020-2021. **Er. Nuli Namassivaya**, Honorary Secretary briefed about IETE Hyderabad Centre and invited all the Advisory Committee Members to introduce themselves. **Dr. K Seetha Ram Babu**, Vice-Chairman concluded the advices given by the all the Advisory Committee Member. **Sri. Ashwani Kumar Sangamker**, Vice-Chairman proposed vote of thanks before closing the meeting.



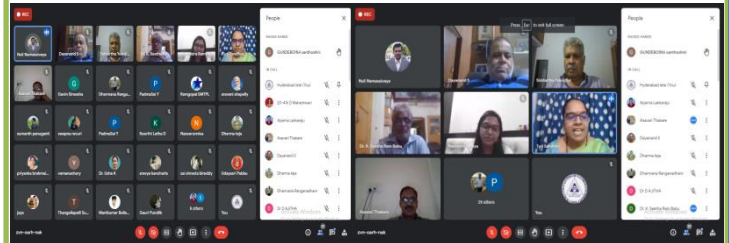
Screenshots of Advisory Committee Meeting

Webinar – 53

International Women in Engineering Day

IETE Hyderabad Centre has Conducted **International Women in Engineering Day** on 23.06.2021 (Wednesday) at 06.30 P.M. **Ms. Narendra Ramya**, Quality Specialist at Amazon, Hyderabad delivered lecture on “**Women in Engineering - It's you who makes the Difference**” through online Google Meeting App. **Dr. Yarlagadda Padma Sai**, Professor & Head Department of ECE, Dean Student Progression, VNRVJIET, Hyd. was the event Chief Guest and all EC Members, GC Members, Coopted

Members, Special Invitees, Distinguished Members, Scientists, Professors, Faculty and Students attended and made the event successful.

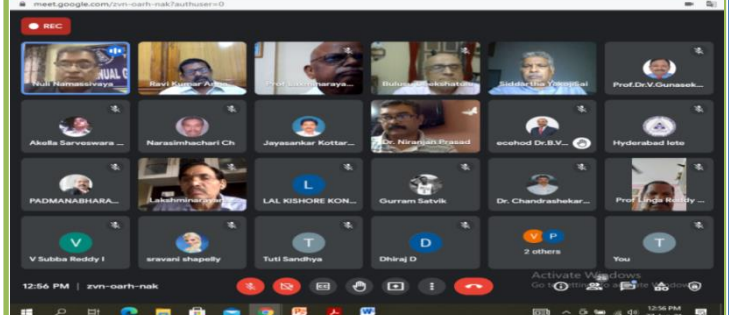


Screenshots of International Women in Engineering Day held on 20.06.2021

Annual General Body Meeting - 2021

The IETE Hyderabad Centre Conducted **Annual General Body Meeting** on **27.06.2021 (Sunday)** at **10.30 A.M.** through (hybrid mode) physical and online platform (Google Meeting).

Total 44 Corporate Members attended the meeting. **Er. K Gnaneshwar Rao**, Chairman Given welcome address and thanked all the members presented through online and physically. **Er. Nuli Namassivaya**, Honorary Secretary Presented Activity Report and Financial Report in the AGM. All suggestions noted given by the members. Meeting ended with vote of thanks given by **Dr. K Seetha Ram Babu**, Vice, Chairman IETE Hyderabad Centre.



Screenshots of Annual general Body Meeting

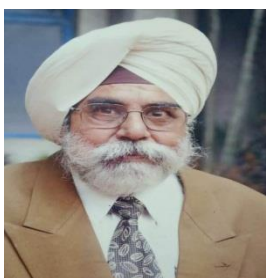
WEBINARS

Webinar – 44

TOPIC : EMBEDDED TECHNOLOGIES FOR MODERN RADAR SYSTEMS

DATE: 02nd May, 2021 (Sunday) at 10.30 AM

ONLINE: Through Google Meet HD Video Meeting App



Prof. HS BHATIA

Chairman of IMAPS-I
Former Chairman, Institute of Defence Scientists and Technologists (IDST) Bangalore Region. Immdt. Past Chairman, IETE- Bangalore Center.

Webinar – 45

TOPIC : NOVEL APPLICATION OF LEDS - A FILLIP TO APPLIANCE INDUSTRY

DATE: 09th May, 2021 (Sunday) at 10.30 AM

ONLINE: Through Google Meet HD Video Meeting App



Mr. K Vijay Kumar Gupta

CEO, Kwality Photonics & LEDchip Indus P Ltd.

Webinar – 46

TOPIC : 5G WIRELESS NETWORKS AND A GLIMPSE OF 6G

DATE: 16th May, 2021 (Sunday) at 10.30 AM

ONLINE: Through Google Meet HD Video App



Prof. C. Murali

Past Vice – President and Past Governing Council Member, IETE New Delhi.

Webinar – 48

TOPIC : TSUNAMI EARLY WARNING SYSTEM - INDIA

DATE: 23rd May, 2021 (Sunday) at 10.30 AM

ONLINE: Through Google Meet HD Video App



Dr. Tata Sudhakar

Scientist - G,
National Institute of Ocean Technology, Chennai.

Webinar – 49

TOPIC: INTRODUCTION TO LOW PROBABILITY OF INTERCEPT RADAR SYSTEMS

DATE: 30th May, 2021 (Sunday) at 10.30 AM

ONLINE: Through Google Meet Video App



Prof. HS BHATIA

Chairman of IMAPS-I
Former Chairman, Institute of Defence Scientists and Technologists (IDST) Bangalore Region. Immdt. Past Chairman, IETE- Bangalore Center

Webinar – 52

TOPIC: HIGH VOLTAGE STANDARDS, PROTECTION AND MITIGATION FOR ELECTRONICS SYSTEM

DATE: 20th June, 2021 (Sunday) at 10.30AM

ONLINE: Through Google Meet Video App



Mr. ANUPAM TIWARI

Senior Member - IETE (M-209735)

EVENTS

Webinar – 51

TOPIC: IS IT TOO EARLY TO START RESEARCH IN 6G? RESEARCH TRENDS IN 'BEYOND 5G' & '6G' TECHNOLOGIES

DATE: 13th June, 2021 (Sunday) at 10.30AM

ONLINE: Through Google Meet Video App



Dr. M H Kori

Vice - President, IETE New Delhi, Distinguished Fellow of IETE, Past Chairman IETE Bangalore Centre, Former Technical Director Alcatel-Lucent Technologies, Imdt. past Chairman of International Microelectronics & Packaging Society (IMAPS) India, Past Vice Chairman of IEEE MTT & ED Society.

Er. Nuli Namassivaya, Secretary, IETE Hyderabad Centre, while addressing the students, talked about professional membership and its importance. He also encouraged the students to submit research papers/ articles for the IETE students Journal. Mr. B. V. Subbarao, Scientist-G, ISRO delivered his brilliant lecture.



ISF College's Events

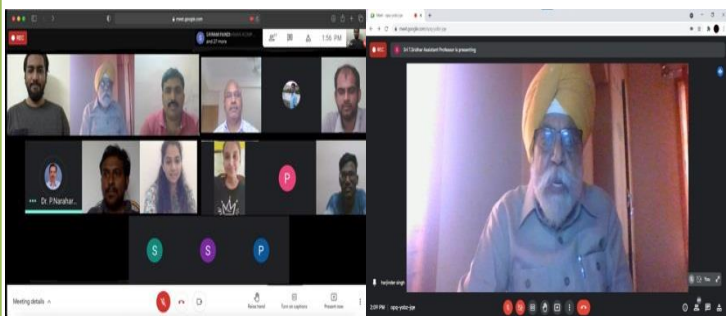
1. Chaitanya Bharathi Institute of Technology

Event Name : Guest Lecture

Topic : 'Latest Trends in Radar Systems'

Date: 27th May, 2021 , **Platform:** Virtual,

ISF Coordinators: Sri. T. Sridher, Fellow, IETE, Asst. Prof., Sri P Ranjith, Asst Prof.



2. St. Peter's Engineering College

Event Name : ISF Annual Meet – 2021 & Webinar

Topic : 'Tracking and Telecomm and systems support for satellite launch vehicle Missions'

Date: 26th May, 2021, **Platform:** Virtual,

ISF Coordinator: Mrs. Hemalatha Dalmia, Asst. Prof.

Er. K. Gnaneshwar Rao, Chairman, IETE Hyderabad Centre, delivered a vivid speech regarding the activity of IETE Hyderabad Centre & the activities that are regularly being organized at IETE during the year.

3. Vidya Jyothi Institute of Technology

a) **Event Name :** Webinar

Topic : 'Recent Trends in Electronics with Career Guidance'

Date: 26th May, 2021 , **Platform:** Virtual,

Resource Person: Ms. Geetha Gubbala, VLSI frontend Trainer, Project Developer & Director, AGM Techviz, Hyd.

ISF Coordinators: Mr. G. Parameshwar , Asst. Professor

b) **Event Name :** Webinar

Topic : 'Workshop on Drone Design'

Date: 28th May, 2021 , **Platform:** Virtual,

Resource Person: Dr. G V V Sharma, Associate Professor, IIT Hyderabad.

c) **Event Name :** Webinar

Topic : 'Smart UV Disinfection Device @ COVID-19 Pandemic'

Date: 29th May, 2021 , **Platform:** Virtual,

Resource Person: Dr. S. Arun Metha, Associate Professor, ECE, KLEF Deemed to be University.

d) **Event Name :** Webinar

Topic : 'Industrial Career Scope Awareness with Core Fields'

Date: 01st June, 2021 , **Platform:** Virtual,

Resource Person: Ms. Geetha Gubbala, VLSI frontend Trainer, Project Developer & Director, AGM Techviz, Hyd.

e) **Event Name :** Webinar

Topic : 'Design and Simulation of a Network using Cisco Packet Tracer'

Date: 04th June, 2021 , **Platform:** Virtual,

Resource Person: K.L.LOKESH, Asst. Professor in ECE Dept., CISCO certified CCNA Instructor, VJIT-Hyderabad.

ARTICLE

PV Powered Standalone (off grid) 0.5 HP 24 V DC Water Pumping System for Shallow Wells

Devanoori Bhanumurthy

According to an article published in TIMES OF INDIA on 23rd May 2021, 11 thousand agricultural workers are dying due to electrocution in India every year. The reasons are attributed to standards not being followed in wiring, inadequate earthing, usage of cheap quality control box etc.

Whatever be the reason it is very sad that our farmers, food providers for our nation are dying while sincerely carrying out their daily routines. A fool proof preventive measure which can be easily implemented and economically viable is given in this article. National Institute for Occupational Safety and Health (NIOSH) is US federal agency involved in conducting research and making recommendations for the prevention of work related injury and illness. According to this agency's observations a normal person feels the sense of current only if the magnitude is more than 1 milli ampere. Currents of magnitude less than this value are not sensed by human body. Here is an example. About 150 micro amperes of current flows through the body of the person using line tester.

Voltage is responsible for the flow of current. The resistance of the human body varies depending upon the points of contact and skin condition (moist or dry). Between the ears the resistance is only 100 ohms, hand to foot is close to 500 ohms. Hand to hand it is slightly less than 500 ohms. The skin resistance varies from 1000 ohms for wet condition to 500 Kilo ohms for dry.

Severity of electric shock depends on through which part of human body current flows and also skin condition at that instant (dryness).

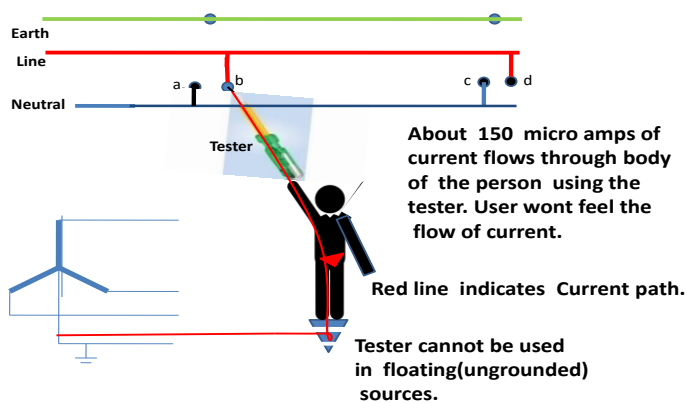


Fig . Usage of Tester

But sensation of current flow is not felt by the person. Harm to the body is a function of amount of shock current. Higher voltage allows for the more dangerous current. Any voltage above 30 V is considered to be capable of delivering shock currents. Effect depends upon current path in the body. Worst condition is the flow of current from hand to hand involving passage through heart. More than 100 milli amp current passing through human body is considered to be fatal.

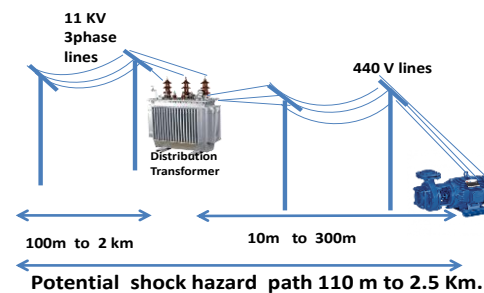


Fig . Existing agricultural pumping system

Normally distribution transformers are located close to agricultural lands or in the land itself. 11KV High voltage lines are laid from substation to distribution transformers and connected to primary. Agricultural pump sets are installed on 440 V side of the transformer at a distance anywhere between 10 to 300 meters. This entire path which is also shown in the figure can cause shock hazard.

Cut live wire falling on the ground is one of the causes of electrocution deaths. . Due to heavy winds, corrosion, animals rubbing their bodies to poles and proper standards not being followed during erection, power lines break and fall on the ground. Depending on the location where the wire touches the soil, resistance between wire and earth is decided. In most of the cases a good earth contact is not established. Most of the times earth offers less resistance but not a perfect short.

ARTICLE

Magnitude of the current that flows is not sufficient enough to trip the circuit breaker but enough to give fatal shock. The cut wire lying on the soil appears as if it is a dead wire. Sparking won't occur in majority of cases. A gap of a few mm is required between wire and ground and soil at the location should be a good conductor for sparking to occur. Humans and animals unknowingly stepping on this wire get electrocuted.

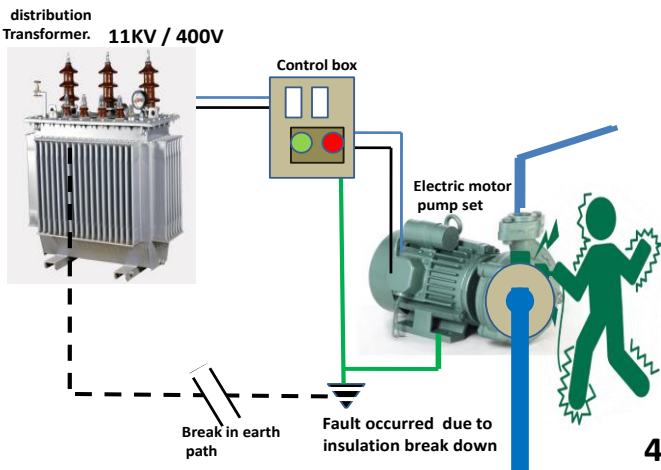


The size of the pipe used for earth is of 3.8cm diameter and 2.5m in length. More than 2 meters of the rod is buried in the 'earth pit'.

3

Fig. Earthing Setup

While installing electrical pump sets in agricultural fields, providing proper earth is not taken seriously. A break in earth current path can lead to dangerous condition if live conductor comes in contact with casing of the motor or control box due to reasons like insulation break down, corrosion and formation of conductive path during humid weather conditions. Circuit breaker won't trip as there is a break in earth current path. Anybody coming in contact with the casings will be electrocuted.



4

Fig. 4. Break in Earth wire causes electric shock

A standalone system, basing on 24 Volts photovoltaic power gives full protection from electrical shocks. Here are some practical observations. Nothing happens even if you hold two terminals of a 24 V battery with both hands. But sparking occurs if positive and negative wires are brought nearer to each other.

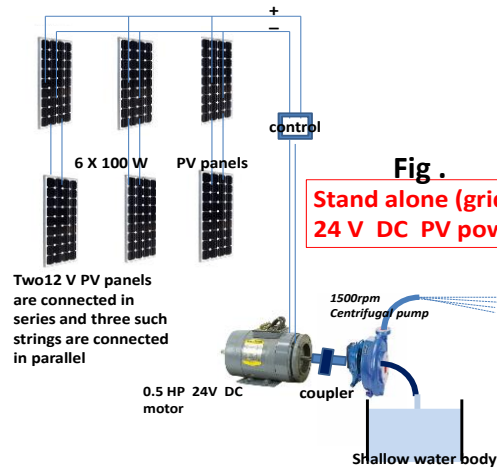


Fig. Stand alone (grid independent) 24 V DC PV powered system.

A standalone system, basing on 24 Volts photovoltaic power gives full protection from electrical shocks. Here are some practical observations. Nothing happens even if you hold two terminals of a 24 V battery with both hands. But sparking occurs if positive and negative wires are brought nearer to each other.

Standalone dedicated photovoltaic water pumping system for shallow wells are economically viable today. It can sustain even without subsidies. DC motors are available in a wide range of operating voltages right from 12 volts onwards. A solar photovoltaic powered 0.5 HP 24 V water pumping system costs about 0.5 lakh rupees and 1 HP system costs 1 lakh. Cost of the system is directly proportional to power. The cost includes the cost of photovoltaic power generation panels and their installation charges. This is one time investment and running cost is zero.



Sri Devanoori Bhanumurthy, Former scientist – F, DRDO, Hyderabad.

R & D Projects

❖ Mini Projects / Major Projects / Internships / Workshops / Virtual Industry Visits / Short Term Courses

- Diploma/ B.E./B.Tech./ M. Tech (ECE/EEE/CSE/EE/IT/CSIT)
- All Domains of Specializations with Industrial Experts
- Innovative Projects with hands on training
- Project Exhibition

Please visit : www.ietehyd.org , email : info@ietehyd.org

COVID Discounts for New Memberships

IETE is offering Covid-19 discounts extended till 30th September, 2021, for new memberships of various categories. The table below shows the discounts and fee details for the various categories.

Total fee for Life Membership including 18% GST (Fee depends on AGE and Category)

Age	Fellow Member		Member		Associate Member	
	Normal	25% Discount	Normal	25% Discount	Normal	25% Discount
Up to 35	NE	NE	7670	5752.5	6490	4867.5
36to 60	9440	7080	8260	6195	7080	5310
Above 60	7080	5310	5900	4425	5310	3982.5

Existing Corporate Members applying for higher category have to pay as follows:-

Associate Member to Fellow Rs.3000/- + 18% GST

Member to Fellow Rs.2000/- + 18% GST

Associate Member to Member Rs.2000/- + 18% GST.

We hope this Newsletter is useful to the members to know about the activities of the IETE Hyderabad centre and look forward to your feedback and suggestions for further strengthening of the Centre.



Editorial Team

Er. K Gnaneshwar Rao
Er. Nuli Namassivaya
Dr. K Seetha Ram Babu
Dr. Veluri Rama Rao

IETE NEWS invites from the readers short articles/letters on technological matters for publication in the newsletter not to exceed 300 words.

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