



ROYAL COLLEGE OF ENGINEERING & TECHNOLOGY (RCET)

CHIRAMANANGAD P O, AKKIKAVU, THRISSUR-680604

IEDC PROJECTS


PRINCIPAL
ROYAL COLLEGE OF ENGINEERING & TECHNOLOGY
AKKIKAVU



HOMEOPATHY CAPSULE FILLING

ABSTRACT

It is an equipment which is used in Homeopathy for filling small capsule in the capsule-can with precision. It is used in Health and Medical technology. We use this machine because presently filling homeopathy capsule-can tedious job. So we introduce this automatic machine is not currently present. Currently the people fill capsule counting for nearly 15 minutes for filling one can itself. By using this machine we can count automatically.



SUHAIL KP
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SREESHMA J
NEBULA

SOLAR POWERED DC AIR CONDITIONER

ABSTRACT

Solar Electric power is an energy source that is clearer, more reliable longer lasting and environmentally friendlier than nuclear, oil, coal or other fossil fuels based solutions. Reduces greenhouse gas emissions and air pollutants and decreases our impact on climate change. This, in turn, increases the traditionally non-quantitative 'quality of life' measures such as better respiratory health, decreased work or school absenteeism from smog-related asthma, and mitigating the broader personal and socio-economic impacts of climate change. So we introduce the DC Powered Solar Air Conditioner. Solar air conditioner which can save you as much as 80% on your electric bills during the daytime hours when the cost of electricity tends to be the highest... The DC powered solar air conditioners use less than half of the number of solar panels that would be required by the same capacity standard AC-powered air conditioner of the same max capacity running on solar panels through an inverter. The idea is to develop an air conditioner which works in DC, which consist BLDC motor Powered Compressor and BLDC fans in both indoor and outdoor units. Elimination the conventional "inverter" system can save 20% more energy and through using dc compressor inverter ac technology can be implemented without the use of AC to DC and to DC to AC reverse conversion. Also BLDC motor Consist has an efficiency above 90% and a unity power factor, the system consist of DC air conditioner ,solar panels, battery banks and inverter, the system can also run on ac The system is perfect for residential, commercial, telecom, portable classrooms or offices, or remote facilities where conventional or generator power is costly and/or unreliable.

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(Signature)
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A NOVEL HYBRID TWO WHEELER INCORPORATING REGENERATIVE BRAKING FOR BETTER SOC

ABSTRACT

According to the survey of ministry of transportation (2015) there are 210M registered motor vehicles in India. Out of which only 0.001% are EV and the remaining are conventional engine vehicles. ICE vehicles cause severe atmospheric pollutions due to the emission of carbogenic compounds and other greenhouse gases. Around 27% of the total atmospheric pollution is caused by gasoline vehicles. A 100cc two wheeler emits around 112 gram CO₂ per kilometre. Under this situation the government has encouraged manufacturing of electric or hybrid vehicle. The complete transformation from conventional vehicle to EV requires be a huge increase in electricity consumption and is time consuming. Also these challenges would accentuate the need for a hybrid vehicle instead of EV. A hybrid vehicle consists of two sources of energy, conventional IC engine and electric motor. The front wheel of the vehicle is to be connected to motor and rear wheel is to be engine powered. A regenerative braking system can be included in the vehicle, so that the energy developed in the motor during deceleration can be utilized for charging the battery. For the efficient recovery of this energy a super capacitor bank is used. The stored energy in super capacitor bank is then utilized for charging of the battery. With this periodic charging of the battery can be avoided and SOC of the battery can be maintained by the self-generated energy in the vehicle. This regenerative braking will improve the efficiency of the vehicle from 16% to 70%. So with this method a vehicle which has a maximum operating range of 50Km could be extended from 58Km to 85Km. The better operating range and reduced amount of CO₂ emission of around 66 grams per kilometre are the benefits. Simulations are validating the conclusions.



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**“ DROTO”:-DRONE BASED TOTAL
STATION FOR SURVEYING**

BY

MUFASSIL V P
REJEEB A R
RAFEEQ
FADHIL F

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ABSTRACT

DROTO is a drone based modified form of total station. It is a device used to overcome the dilemma of handling the total station. The device provide the easiness and also has much more advantage than the commonly used total station. The device is an alternative for total station, which is very less expensive compared to total station available in the market now. Handling and leveling of total station is hard and requires more labour.

DROTO measures larger area with less amount of time. The main aim of the total station is to determine distance height and angle measurement. If any obstacles present in the field the conventional total station cannot take the necessary readings. To overcome the dilemma DROTO is introducing. The main objective of DROTO is provide easiness in handling with the total station. Here helium based drone is used with newly designed total station module in it and which is capable of measuring required values. Thus the function of total station can be bought into a drone type system which makes the work of

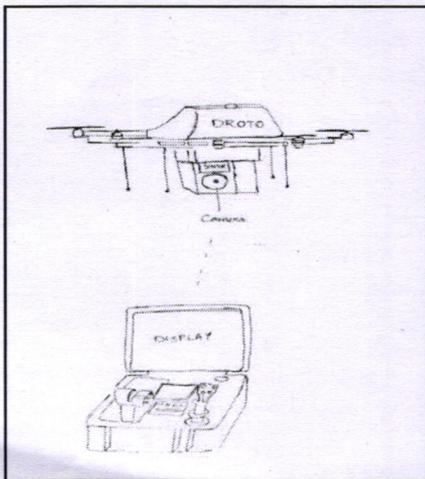
labours much easier and also calculate the measurement without even if there is interference caused by obstacles.

DROTO MODEL

HELIUM FILLED

**DROTO -DRONE
SYSTEM WITH
TOTAL STATION
MODULE**

**MODULE TO CONTROLL
DROTO WITH DISPLAY
TO READ
MEASUREMENTS**



- DROTO drone module is designed using 32 bit ARM processor.
- Capable of Camera and other sensors movement in any direction.
- The Data from DROTO is transmitted to Controlling and Displaying Kit via RF modules.
- The algorithm will predict area, distances, elevation and other coordinates.
- The memory capability can save the datas.
- Less costlier than conventional total station.



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No. YIP/Final Selection/Instn. 2019-22 dated 17/01/2020

Dear Sir,

Greetings from Kerala Development and Innovation Strategic Council (K-DISC), and Young Innovation Programme (YIP). I am extremely happy to inform you that subject to updating of the student records called for the following group from your institution has been adjudged as one among the hundred and two best innovative ideas for YIP 2019-22.

Idea no : 335

Idea Name : Homeopathy Pill Dispenser

The same has been intimated to the students in the mail contact registered with us. This is to formally intimate the same to institution head and facilitators.

I am extremely happy to invite you for the first Kerala Innovation Day inaugurated by the Hon'ble Chief Minister as a special guest at Jawahar Sahakarana Bhavan, DPI Junction, Jagathy, Thiruvananthapuram at 9.30am on 23rd January 2020.

Best Wishes,

Yours Sincerely,

Dr P V Unnikrishnan