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Design a Circuit Used a Battery Replacement for Ups Circuit Three Phase and Inverter

Farheen Iqbal
engr_farheen@yahoo.com
Faculty/Student, NED University of Engineering & Technology Karachi
Corresponding Author: * Farheen Iqbal Engr_farheen@cloud.neduet.edu.pk

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ABSTRACT

Different companies used different techniques for battery charging ad storage.Some used solar panels but its storage time is limited and faces some critical phenomena.To resolve this its replace with materials that produce electricity and work as power supply for UPS.The purpose of that is low power consumption and cost.The main thing is that not deliver an issue of charging and discharging with time to time.To do this check different materials and doped with impurities to increase its efficiency and connect its voltage or electric field with main power supply board.Pspice is used for simulation of charging and discharging time.Three phase and inverter is used for flow of electricity and different techniques is used if grid or inverter fails or works.House wiring meter isused according to length and requirement of circuit designing.

Keywords: *ORCAD,PSPICE,JAVADIODE,PENNY & DIY CEMENT,THREE PHASE WIRING & INVERTER*

INTRODUCTION

UPS without battery or power supply is an important fact because battery take a fixed time to consume for UPS and after that UPS needs to charge a battery with sometime low battery life time and charge discharge issue.In this research paper different materials is used with resemblance of its characteristic. Different metals and non metals are used to find its conductivity or voltage foe charging and discharging.Use of cement,coins,sand,glasses and rocks allows electricity to produce to work as battery in UPS.Connect that power supply with UPS circuit with inverter and three phase.The circuit description and materials for battery or power supply is explained in this research paper in details.Java diode and ORCAD is used for simulation to check the circuit working properly.

Preparation of Battery Replacement Stuff

First collect the materials of high conductivity and interface it with different aspects.To do this take melted rocks or sand in a bowl and connected in series of three bowl of metal and design in a tray.Coins which is made of copper outside and zinc inside can also be put in a bowl for the reason of high thermal and electrical conductivity plus malleability. Set the positive and negative direction in series of bowl and voltage field in which it passes current.Capacitor of 22 micro is used to save metal bowl voltage and connected in parallel to equalize and retain for 3 minutes.Let check voltages for 6 minutes too for voltage field amount saving.Now take 8 bowls in series and stabilize the electric volt that is 6 v around.This can also be utilizes by combining rocks of different materials of surface area in a bowl and heated to exchange energies and surrounds it with copper wire and check the reading of voltage.Its control all fields like magnetic field,current,electric field,air resistance,temperature resistivity with moisture and calculate the voltage flow.

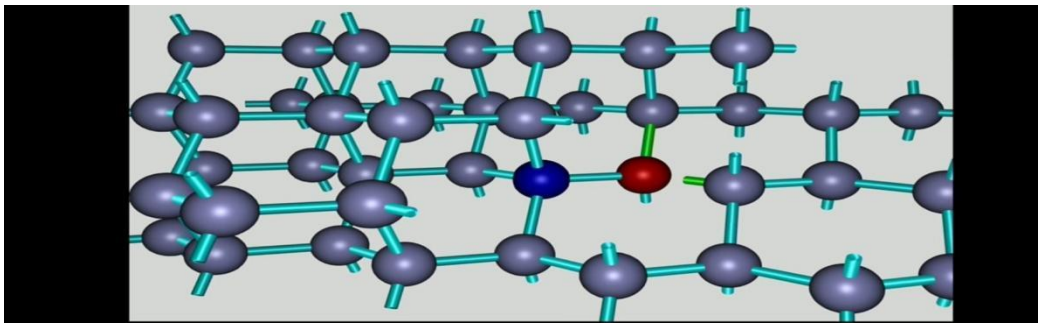
The interact between two metal make a good conductivity for electric flowConnect one metal bowl in parallel combination with rocks pot thatwas heated and produce electric and save in capacitor.. Coins in series can also be connected to produce good source of electric volt and supply source or charge holder.To do this copper side of coin is placed in bottom and zinc in upward and put some detox and sand to combine with another coin and check the flow of current and voltage across it.These are different source of collecting or saving charges for the replacement of batteries.The cement also perform vital role to pass or save electricity.To do this make a plate of cement or freeze it in a solid form and combine it in series with one bunch of cement rock link with metal of copper and zinc up and bottom.

Circuit Simulation with PCB(ORCAD) and PSPICE

To connect the circuit of ups and power supply(which we made from different materials),let us test the circuit in simulator that its working properly or not and characteistics resemblance to it.Set the transient time,input,types bias and variations.This measurements and designing can be done through ORCAD or PCB.Doping simulation is used to find the ions concentration by software java diode.

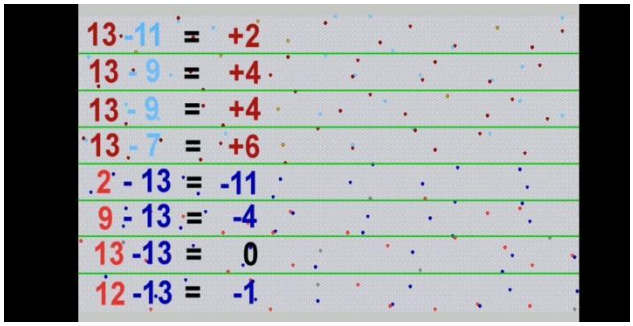
By using java diode finding software movement extra electrons and holes.Force on positive charge inside the crystal lattice is used for direction of next electrons transfer between hole and nearby item.By strength of external electric field moving charges are pushed near the junction and recombination occur.By constant voltage source holes are constant and electrons are injected into n-dopped half and

holes are created by extraction of electrons inside of p dopped half .Hole mobility can be increased by lowering the electron mobility.



As the movement of electrons showed down, the holes fastened u[inside of the virtual diode hence recombination occurs.The injected electrons at the p-doped half are annihilated by recombination with the holes inside of this half produce minorities charges decreases with holes in reverse bias.

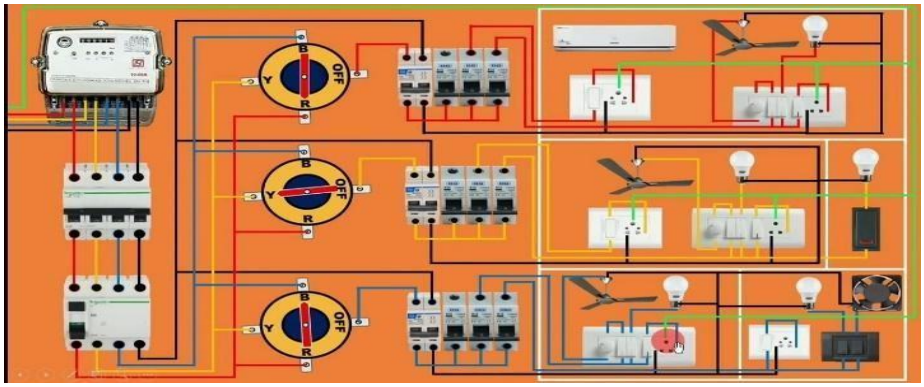
By adding pentavalent impurity inside Si in which 1 weakly bond electron walk and form positively charge impurity ion and negatively charged Si ion.By adding trivalent impurity atom inside Si in which 1 weakly bond electron walk and form negatively charge impurity ion and positively charged Si ion.If thermal energy greater then potential energy, the electron move away from impurity. Hanse probability of electrons around the impurity item increases and gradient of electric field decreases.



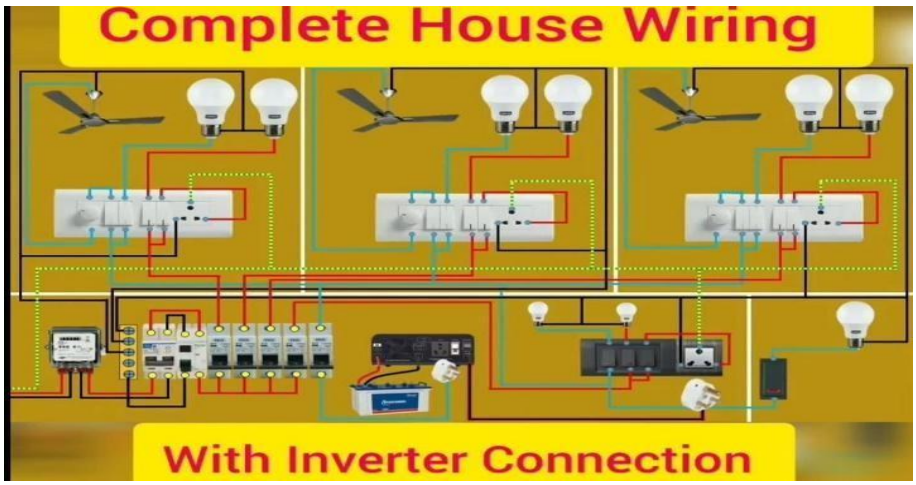
Circuit Wiring Design with Phases

First transformer is connected to KWH meter which is connected to dc/ac inverter which is directly connected to battery or the system designed already for power supply or battery replacement is used .which is connected to common point.Common point is connected to change over switch.common pont terminal is connected to UPS loads.Main CB1(direct supply) is connected to utility loads(non ups loads).CB2 is connected to common point and inverter.Alternate for UPS loads (if UPS fails)is applied to com point.UPS to battery for charging dc volts and battery to UPS for backup dc volts.If grid failure,battery will feed the backup loads.F or active grid,inverter now feed loads and charge batteries.If inverter fails alternate supply from COS to UOS loads.

For three phase house wiring with change over switch.Design a house with autocad software.For corridor we design AC ,fan and bulb with power switch board(for heavy load like AC and normal switch board for fan.For room no.1 used LED and fan with power switch and normal switch and same for room 2 with out power switch.For washroom use a bulb and single switch.Use bulb and adjust fan in kitchen and switch board with 2 switch and power switch board.Now use energy meter of three phase and circuit breaker for over load protection and cut off power supply.Connect electric pole phase wire to first terminal of energy meter(R phase) andsecond terminal(output of R phase) to MCB,Third terminal to electrical terminal with y phase.The output of y phase(fourth) to second terminal of MCB as input terminal.Now connect to B phase to fifth terminal to energy meter and sixth to make input of MCB and seventh terminal to neutral as third terminal of MCB.and same for 8th terminal.Now RCCB is used to to connect energy meter(R phase,B phase ,Y phase and neutral).Now use three selector switch with respect to ampee load .Let total load is 20 apmp for whole room is passing then use moe than that amperes selector switch board.RCCB output terminal to R Terminal of first selector switch,second with Y and third with B phase and ssame for second selector switch.Use single pole MCB set for R,Y,B phase.Now divide the load of two rooms with R ,two with Y and two with B Now connect neutral power supply from RCCB to all set of MCB selector switch.Now take selector switch output to input of all MCB phase supply and connect all selector switch output phase supply to input switch.Connect three pin switch board left hole to neutral for both power supply switch board and normal switch board.Connect one output pin of MCB to one switch of normal switch board and incoming power supply to second switch too. And output of one switch to right hole and second switch output to bulb.Connect one wire of regulator to switch and one to fan.Connect neutral to bulb and fan.Connect output of power supply switch to power socket right hole.Connect earthing to thick hole of power socket and normal socket.Same for another room,washroom and kitchen.

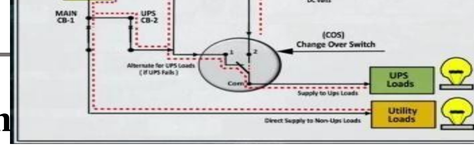


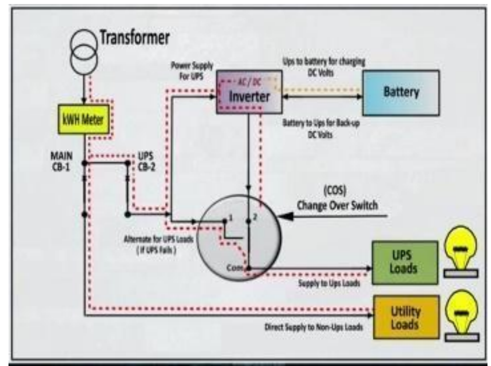
For inverter use MCB,RCCB and single MCB,battery and inverter.First connect phase terminal and neutral terminal in energy meter and third pin of energy meter to MCB switch and fourth to input power supply to RCCB and neutral output to input and bus to neutral output of RCCB.Connect all wire of MCB to RCCB.Connect red wire of inverter to positive terminal of battery and negative to negative.Connect main power supply of inverter to main power supply.Connect right side of three pin head to MCB and remaining connection is same as above.The inverter is connected to all switch in all rooms through MCB.

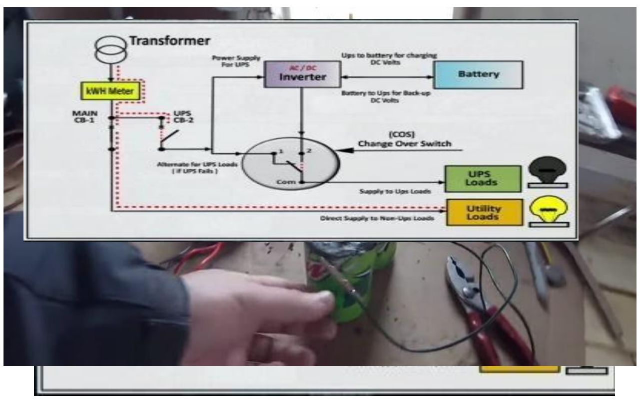


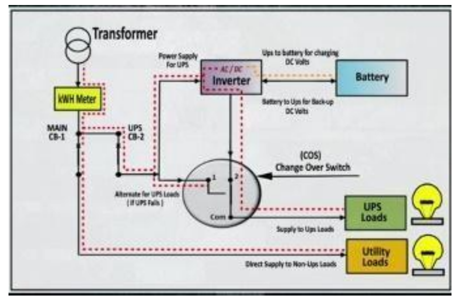
Interfacing Platform

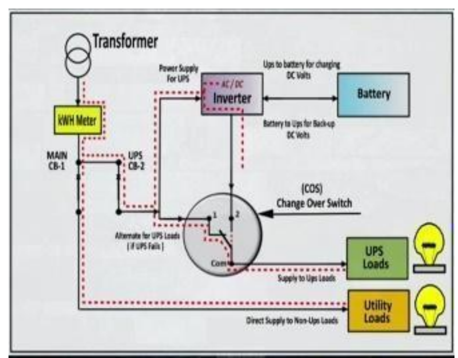
The interfacing techniques contain the whole procedure from which setting of circuit design entertained.Charging of electricity from cement or rocks by supply heating from different source and set the charging time.The materials which have high conductivity or voltage consumption is used to connect with main power instead of battery.Use three phase and inverter with main switch.Set the alternate for UPS load if UPS fails and then select the path of power supply through inverter and common point.CB2 to UPS load and CB1 to direct supply or non UPS load.Use change over switch 1 and 2 for inverter.For active grid,inverter is used to feed load and charge batteries.Also storage voltage is used as a battery back up.In case of grid failure use change over switch.

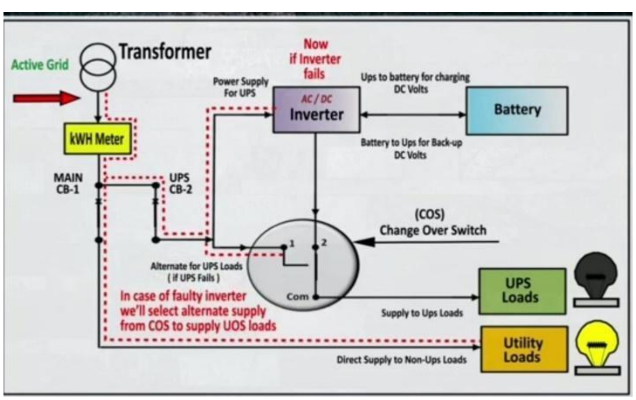




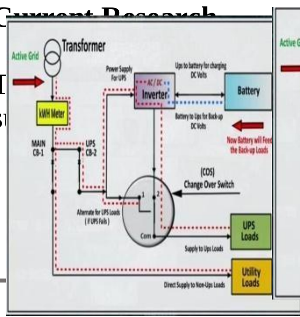


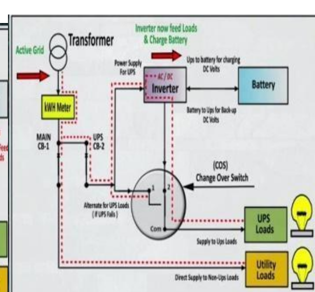






Current Research





T ... ment-based electrolytes to provide a low but potentially s ... e current, voltage, and lifespan of batteries produced

using different electrolyte additives, copper plate cathodes, and (usually) aluminium plate anodes were compared to identify the optimum design, components, and proportions to increase power output and longevity**.** In a sand battery, sand is heated using renewable energy sources such as wind, solar, or geothermal energy during off-peak hours when energy demand is small. This stored thermal energy can then be used during peak hours when energy demand is high. The sand battery has numerous advantages over other thermal energy storage solutions, such as its ability to store big amounts of energy, low maintenance cost, and scalability. The technology is still in the developmental stage, and researchers are working to improve its efficiency and performance.

A good battery shows a high cyclic stability. This means that such a battery's electrochemical behavior is stable with each charging and discharging process [1]. Moreover, the efficiency and the charge in the charging and discharging processes can be easily measured in the lab.

Phenomenal growth in the personal computer (PC) market has fueled a corresponding growth in the need for uninterruptible power supplies (UPSs) to back up the utility and prevent loss of data. This paper presents a new off-line UPS design suitable for PC backup applications. It is based on a novel isolated AC/DC converter derived from the integration of a non-isolated buck-boost AC/DC converter with an isolated bidirectional dual active bridge DC/DC converter. The features of the design include input power-factor correction, a single high-frequency transformer for charging and backup, simple control, inherent current limiting, low switch voltage stresses, and zero-voltage switching of the switches over a wide operating range.

CONCLUSION

The mentioned algorithm is little bit difficult to design but Its gives perfect output and simulation for self driving system.Moreover researches are not so much established regarding to that so its new idea to control robotics in the field of information technology.Models number can be change with respect to need of technologies but main phenomena is defined here.

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