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Hundreds Ideas That Can Be Applied With Research and Development Work On Those: Part 1

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Abstract: *Many ideas which are new are reported here, some can be applied directly and some needs research and development works on those ideas. Some of which are based on chemical reaction pathways which needs to be verified. Around half of are already reported ideas by other researchers on which research and development work is going on across the world. Among of these half ideas, some ideas gives possible solution for improvement and rest of these ideas are to remind ourselves which in turn are ignored by all of us. These ideas which are a reminder to all of us needs focus to rethink and apply those ideas in different way for possible application.*

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1) To increase the efficiency of galvanic cell and to make it work longer as long as the Zn and Cu electrodes do not disintegrate. I mean oxidizes and reduces.

Galvanic cell generally consists of two different metals (Zn and Cu) immersed in an electrolyte, or of individual half-cells with different metals and their ions (ZnSO4 and CuSO4)) in solution connected by a salt bridge or separated by a porous membrane. Generally the electrodes are immersed in salt solution of same metal type. Therefore it has little current output. In order to increase its efficiency and makes it works longer the electrodes have to be immersed in salt of other metal type. This will work as long as the Zn and Cu electrodes do not oxidizes and reduces i.e. redox reaction. There is no need of salt bridge. Oxidation means losing of electron and reduction means gaining of electrons. One need to check, whether the reversible reaction is possible or not by interchanging the electrodes or reverse the terminals.

The galvanic cell redox reaction is $Zn + Cu^{2+} \rightarrow Zn^{2+} + Cu$

2) If one try making bigger cells around twenty times that of cells like the smaller cells which are used in remotes and wall clocks and need to check whether is it possible to produce 240 V and power a house bulbs and lights for longer times when there is power cut, one need to check whether it is cost effective or not if it works for longer times. One can make these bigger cells with many concentric Zn cathodes thereby increasing its power output or efficiency in short time. If it works one need to check how long will it works. Both ammonium chloride salt and copper sulphate salt can also be used. Twenty cells costs around Rs. 250. Galvanic effect and Leclanche cell work on same principle. Please think over it. This needs a trial.

3) To enhance the capacitance of X7R material and prepare any new material with giant capacitance or dielectric constant by adding the above materials with very very low content K, Na, Cu, Zn etc. during final sintering of these previously prepared ceramic materials and also by microwave sintering. This needs a trial.

4) Recycling of Plastics

It is known to everybody that when plastics are exposed to sunlight for very very long time it first becomes brittle and with further exposure to sunlight it becomes powder. This may be due to evaporation of plasticizer from it. But it takes very long time. In order to recycle the plastic which cannot be done only by heating and moulding it should be exposed with UV rays or Infra rays to make them brittle and then to powder in short time and this in turn may be due to evaporation of plasticizer and the residue can be reused to prepare plastic by adding the plasticizer again. Please think over it and check whether this is correct or not. One need to check whether plasticizer is converting in to CO2 and H2 or hydro carbons, if it is then there is no problem to environment. One need to check this and plastic should be recycled.

5) By Removing plasticizer from PVC there is a possibility of producing gas and petrol from PVC or recycling it. This needs to be investigated whether it works with alcohols ($C_8H_{17}OH$) to produce petrol and gas with suitable method. This needs a trial.

Industrial production entails the reaction of phthalic anhydride with 2-ethylhexanol to produce plasticizer diethylhexyl phthalate

$C_6H_4(CO)_2O + 2\ C_8H_{17}OH \rightarrow C_6H_4(CO_2\ C_8H_{17})_2 + H_2O$

6) To check whether plasticizer can be removed with PVA and after that it can be transformed in to petrol and gas or recycled it.

$2C_6H_4(CO_2\ C_8H_{17})_2 + 2[CH_2CH(OH)]_n + 2.5O2 + (n+3)H2 \rightarrow 2C_6H_4(CO)_2O + 4C_8H_{17}OH + nH2O + 2nCH4 + 4CO2$

(under Sunlight)

7) Needed research and development work to convert plastics like PVC to propane which is one of the constituent of petrol to check whether below reactions are possible or not.

PRODUCTION OF PROPANE ONE OF THE CONSTITUENT OF PETROL FROM POLYVINYL CHLORIDE (PVC)

$(C_2H_3Cl)_n + n\ CO_2 + n\ H_3PO_4 + nH_2 \rightarrow n\ (CH_3\text{-}CH_2\text{-}CH_3) + 2n\ O_3 + n\ HCl + n\ P$ ion
under ultra violet radiation irradiation and suitable conditions.
Or
$(C_2H_3Cl)_n + n\ CO_2 + n\ H_3PO_4 + nH_2 + 2.5n\ O_2 \rightarrow n\ (CH_3\text{-}CH_2\text{-}CH_3) + 2n\ O_3 + n\ HCl + n\ PO_5\uparrow$
under ultra violet radiation irradiation and suitable conditions.
or
$(C_2H_3Cl) + CO_2 + H_3PO_4 + H_2 + 2.5\ O_2 \rightarrow (CH_3\text{-}CH_2\text{-}CH_3) + 3O_2 + HCl + PO_5\uparrow$
Under optimized conditions.

8) PVA is dangerous to ocean life. Stop draining in to oceans.
Solutions containing up to 5% PVA are nontoxic to fish

9) Toluene to benzene and then benzene to toluene conversion for hydrogen production enormously with different chemical route. This can be used to run the vehicles and heavy duty fuel cells to produce electricity.

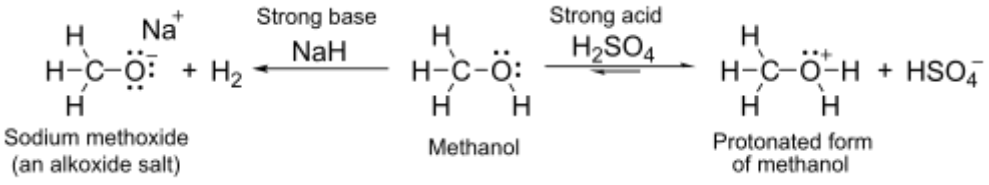
$C_6H_5CH_3 + Br_2 \rightarrow C_6H_5CH_2Br + HBr$
$C_6H_5CH_2Br + Br_2 \rightarrow C_6H_5CHBr_2 + HBr$
$C_6H_5H + CH_3Cl \rightarrow C_6H_5CH_3 + HCl$
$C_6H_5CH_3 + H_2 \rightarrow C_6H_6 + CH_4$
$2C_6H_6 \rightleftharpoons H_2 + C_6H_5\text{–}C_6H_5$

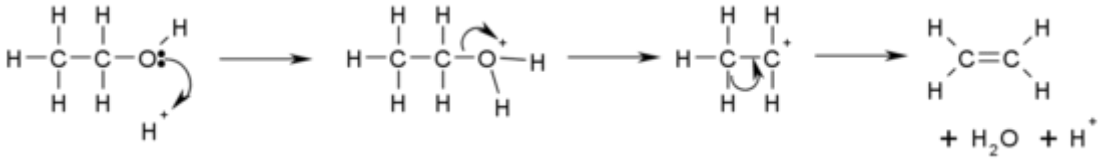
10) Production of H2 with alcohols and toluene according to literature on Wikipedia.

Deprotonation reaction of alcohols
$2\ R\text{-}OH + 2\ NaH \rightarrow 2\ R\text{-}O^-Na^+ + 2\ H_2$
$2\ R\text{-}OH + 2\ Na \rightarrow 2\ R\text{-}O^-Na^+ + H_2$

Toluene hydrodealkylation
$2\ C_6H_6 \rightleftharpoons H_2 + C_6H_5\text{–}C_6H_5$

11) Protons production reactions available in Wikipedia and possible use as proton batteries





12) To check whether one can produce hydrogen from the methane gas by decomposing it using inductively coupled plasma in chemical decomposition reactor. Similarly we can check on water vapour, kerosene vapour to produce hydrogen using inductively coupled plasma in chemical decomposition reactors because these are good source of hydrogen in it. Produced hydrogen can be utilized to produce electricity using SOFC's with YSZ solid electrolyte thick films arranged in much M type shape to increase the surface area so as to adsorb and conduct oxygen ions.

13) It is known that rotating coil in magnetic field produced by permanent magnet produces electricity as in the case of olden day's dynamo. Such dynamo's can be installed to ceiling and table fans to produce back the electricity to some extent which was already utilized to operate the fans. This can be used stored in a battery and used to lighting the homes when there is power cut.

14) Laser pulses induced hybrid memory application with magnetic material to read, write and erase it to make it faster and to increase the memory capacity.

15) Cooking oil and its high uniform temperature retainment and supply when heated on gas and this can be utilized for producing steam in power plants to increase the efficiency. There will not be any waste of gas if one does like this instead of heating the pipe lines to produce steam directly.

16) To check the possibility of hydrogen, oxygen and methane gas production from water, ammonia, sodium carbonate by heating at higher temperature and pressures and by using catalyst.

$H2O+2NH3+Na2CO3 \rightarrow 2H2+O2+CH4+N2+Na2O$

17) Another way of producing hydrogen and oxygen at elevated temperatures using catalyst one need to check. Important point to be noted is that one can try various combinations of chemical reactions with different type of compounds to produce hydrogen and oxygen.

$Na2CO3+2Li3N+2CH4 \rightarrow H2+O2+Na2O+N2+6LiH+2C$

$Na2CO3+2Li3N+2CF4 \rightarrow H2+O2+Na2O+N2+6LiF+2C+F2$

18) To carryout research and development work on the production of hydrogen and oxygen gas from the water vapours instead of liquid water under mediation of sunlight and by plasma CVD because vapour has less bond strength than liquid water. This needs a trial. If successful the steam produced in thermal power plants can be used to make hydrogen and which in turn can be used to produce electricity using heavy duty solid oxide fuel cells. Please think over it and this needs research and development work.

19) Ammonia to produce hydrogen and for use in making battery. Research and development work on it is needed.

20) To check the effect of microwave heating on the water vapours to see whether it produces hydrogen and oxygen and whether input energy for microwave generation and output energy generated using H2 and O2 is high or not. Needs to be investigated.

21) Protonation of water by sulphuric acid and the protonated water should be treated with microwave radiation to produce hydrogen. It needs to be checked regarding its feasibility.

22) 1,2 dichloro ethane for H2 production which needs research and development work.

23) Production of hydrogen from gastric acid with digene and other liquid and tablets.

24) To check the thermal conductivity related production of electricity (ohms law) using LiMnO3 and rare earth doped BaTiO3 by generating charge imbalance at A and B sites and using these materials as electrodes in any type of batteries.

25) It is know that every compound has its tolerance limit above which it is not formed in to single phase compound. But by making charge imbalance at A and B sites completely one can increase the tolerance factor and new compounds can be discovered and prepared. For example BiFeO3 if one substitutes Nb+5 at A site, electrons are retained in the lattice and may be this material becomes thermoelectric instead of ferromagnetic or ferroelectric. IT is a guess through the thinking which i got and this needs a trial. This way of going beyond tolerance factor to discover new materials needs a trial otherwise one cannot discover new compounds. Please think over it and act accordingly. It applies to all other compounds material which are used for one purpose of application and may have suitable other application.

26) Operational devices are used as rectifiers to convert AC voltage and current in to DC. It is known that there are operational rectifiers which convert AC voltage (sinusoidal) in to square wave shape. If by proper combination of resistor and capacitors are used to make off state in square wave to on state then steady state DC voltage can be converted from AC voltage with same magnitude as AC sinusoidal wave. With additional resistors this can be modulated to desired value. This needs a trial and error studies to successfully develop it. There is possibility of making good rectifiers, amplifiers and converters.

27) If there is frequent voltage fluctuations and voltage trip caused in transformers then one need to change the primary and secondary coils wounded on magnet. Then the problem does not arise frequently and can be avoided and it works for long without any problem. Another problem of transformers it the blast of transformer due to increase of transformer oil conductivity due to rust formed in it. Hence from time to time the transformer oil need to be changed to avoid that and the rusted oil should be treated with acids and bases to precipitate the rust and use it again. Possibility of making a more efficient transformer by considering two cylinders of different diameter placed inside each other by wounding coils on it instead of rectangular (two sides of rectangle are wound by coil) or toridal shaped (two half's are wound by coil) for the electricity to transform from once coil to other; in this type of transformers length of the cylindrical wound of coil will determine the voltage that can be regulated instead of electromotive force generated on the second coil by first coil in traditional transformers. This needs a trial.

28) To prepare Nd-Nd sintered and bonded magnets and to check they can be used as super magnets. There is a need also to check it can used as micro resistive device for any suitable application. It needs a trial. Nd substituted as a single ion doping or combination with other dopant at A site in ABO3 and BLSF compounds to get magneto-electric property.

29) Probable new type of rechargeable battery utilizing sea water in the presence of sunlight operating at and above RT which needs to be verified as the equation is balancing reversibly, it may probably works. There may be many others by products at right hand side of the equation which needs to be balanced and verified. Its feasibility with respect to cost needs to be checked.

$$H_2O + 2NaCl + MgCl_2 + BaCO_3 + TiO_2 + CH_3\text{-}CO\text{-}CH_3 + 3O_2 \Leftrightarrow H^+ + OH^- + 2NaHCO_3 + Mg(HCO_3)_2 + Ba(OH)_2 + 2TiOCl_2$$

$$H_2O + 2NaCl + MgCl_2 + 2BaCO_3 + 2TiO_2 + CH_3\text{-}CO\text{-}CH_3 \rightarrow 4H^+ + 4OH^- + 2BaO + Na2O + MgO + 2TiOCl_2 + CO_2 + 4C$$

30) Probable new type of battery utilizing sea water operating at RT-100 degree centigrade which needs to be verified as the equation is balancing; it may also probably works as device to control the mosquitoes as it produces chlorine gas.

$$H_2O + 2NaCl + MgCl_2 + BaCO_3 + TiO_2 + CH_3\text{-}CO\text{-}CH_3 + 3O_2 \rightarrow 2H^+ + 2OH^- + 2NaHCO_3 + Mg(HCO_3)_2 + BaTiO3 + 2Cl_2$$

31) Possibility of making high temperature batteries using ethyl alcohol at optimized pressure and by using catalyst. It can be used in nuclear and thermal power plants to produce additional electricity. This needs to be verified through trial and error studies as the equation is balancing.

$$2C_2H_5OH + CH_3COCH_3 + NaCl + NaOH + HCl + 4.5O2 \rightarrow 10H^+ + 10\ OH^- + CO2 + Cl2 + Na2O + 6C$$

$$2C_4H_9OH+CH_3COCH_3+NaCl+NaOH+HCl+4.5O2\rightarrow$$
$$10H^{++}10\ OH^{-}+CO2+Cl2+Na2O+10C+4H2$$

By trial and error any equations can be balanced by taking any materials as initial reactants and products on right side of equation of any kind materials can be formed and these equations can be used for wide variety of appropriate applications. Hence trial is needed to discover new balancing equations. Please think over it. Above equations are examples for that trial and error. Please give a try.

32) Possibility of making the current transmitted in transmissions lines by using the heavy duty current and voltage amplifiers with higher gain factor which are used as electronic components in electronic devices to avoid power losses in transmission lines. Research and development work is needed in this direction.

One need to check whether the losses in the transmission lines can be reduced by using alloy made out of Cu, Al and Ni with less percentage of Ni (<1%), Ni is found little in amount on earth. Ni electrodes are used to study the electrical property of materials which shows little electrical output signals. This means that it is good conductor of electricity. It can be used to detect resistivity of the order of G.Ohm.cm and capacitance of the order of p.F or even less. One cannot make transmission lines made out of Ni only as it is little abundance on earth where as Cu and Al is abundant on earth. Hence there is a need to study the alloy made out of Cu, Al and Ni. Please think over it and this needs a trial.

33) Bi nano wires and its possibility of application in transistors and biosensors

One of my colleagues was working on BLSF materials. His name is E. Venkata Ramana. During synthesis of these materials he adopted very slow heating rate and this has resulted in formation of bismuth nano-wires during the pre-sintering using mixture of needed constituents. Because of slow heating rate bismuth was evaporated and formed in to bismuth nano-wires. He called these nano-wires as buju in telugu word. I also don't know what they are at that time. When I started working on Si nano wires I realized that the buju are nothing but nano wires. Bismuth nano-wires can be directly prepared from its oxide by adopting slow heating rate up to 800 degree centigrade for total time of 24 to 48 hours taken in a crucible with covered lid. These nano-wires would be semiconducting in nature and can be used to prepared nano-wire based transistors for application in displays and also as high sensitive biosensors making use of these transistors.

34) To check whether the efficiency of thermoelectric materials to produce electricity can be improved by heating them in preheated oils instead of heating directly. Needs a trial by placing half part in preheated oil and half part in water or not preheated oil as thermoelectric materials works when there is thermal gradient across the thermoelectric material. Please think over it and there is a need for trial studies.

35) Possibility of making electricity producing device utilizing the sun's heat using fabric especially silk and chiffon clothes which gets electrically charged when heated on.

Around two decades back i found that fabric (saree) when ironed gets electrically charged with charges developed on it and it gets sticks to white wash paint on wall i.e. CaCO3 this may be due to the production of oppositely charges on CaCO3. Similar behaviour can be observed for chiffon and silk cloth but it is strong in silk. It is also observed that these fabric materials also develop charges when exposed to sun's heat and it also develops charges on CaCO3 on wall. This gave me thinking that we can produce electricity by extracting the charges developed on CaCO3. For this we need to make a stack of fabric and thin film of CaCO3 placed in close proximity but not in contact with each other. Then the charges developed on the thin film of CaCO3 can be extracted by some means to apply it to load when we expose the stack to sun's heat. This can be done by placing magnet which helps to extract charges to electrodes and then to external circuit. If Successful in doing so then this would be a electricity producing device utilizing the sun's heat using the fabric which gets electrically charged when heated on. This thought and observation needs a trial.

36) There may be devices to which both the magnetic field and electric field is applied for different purpose separately. But one faces problem because both are acting on it and it shows degradation behaviour. Then one needs to use thick paper or plastic sheet to cut off electric lines of force to that particular electrical component and to pass only magnetic lines of force. For example electromagnetic waves like microwave and radio waves produces both magnetic and electric filed though it is small. One can cut off electric field and can pass magnetic field by using thick paper as a shield. Magnetic field can also be blocked by using very very thick paper for example a book with hundred pages in it.

37) Recycling of radioactive materials with the technology to produce new elements in order to avoid problem with dumping and handling of nuclear waste. There is also need to check whether the uranium can be produced with thorium with the technology to produce new elements. There is also need to check whether reversible reaction as given below occurs or not. One need to check this while operating nuclear power plants to produce electricity by uranium fission simultaneously for reversible reaction. If successful one can save time, money and power. If it is so then one can generate enormous amount of electricity with nuclear power plants. Research and development work in this direction is needed. Please think over it and action is needed to do this.
The fission of one atom of uranium-235 releases 202.5 MeV (3.24×10^{-11} J) inside the reactor. That corresponds to 19.54 TJ/mol, or 83.14 TJ/kg.[2] This is around 2.5 million times more than the energy released from burning coal.

$_0n^1 + _{92}U^{235} \rightarrow _{56}Ba^{141} + _{36}Kr^{92} + 3_0n^1$

38) Conversion of lower alkanes in to higher alkanes i.e hydrogenation which needs to be verified

Liquid Lower alkanes are treated with ethyl alcohol and sodium carbonate in the presence of nickel or iron catalyst by application of thermal heat and also by adding NaOH and by passing hydrogen gas.

$CH4 + C2H5OH + NaOH + 1.5Na2CO3 + 4.625H2 \rightarrow 1.125C4H10 + 2Na2O + 4.5H2O$

39) Conversion of higher alkanes in to lower alkanes with the production of hydrogen which needs to be verified

$C9H20 + CH3COOH + 2H2O2 \rightarrow 2C4H10 + 3CO2 + 4H2$
$C9H20 + CH3COOH + 2H2O2 \rightarrow 2C4H10 + 3C + 4H2 + 3O2$
$C15H32 + CH3COOH + H2O2 \rightarrow 3C4H10 + 8.5C + 4H2 + 2O2$
$2C15H32 + 2CH3COOH + 2H2O2 \rightarrow 6C4H10 + 10C + 8H2 + 4O2$
$C60H122 + CH3COOH + H2O2 \rightarrow 12C4H10 + 14C + 4H2 + 2O2$

Dehydrogenation of higher alkanes using actetic acid and hydrogen peroxide to produce hydrogen. This needed to be checked.

40) Production of electricity from liquefied propane using NaOH which needs to be verified

$C3H8 + 2NaOH \rightarrow 2CH3Na + 2H^+ + 2e + CO2$

Liquefied propose gas on electrolysis in the presence of NaOH using some potential between two electrodes results in above reaction and this has the effect to produce electrons which can be extracted by another two electrodes.

41) Production of electricity from by running the steam turbines in thermal power plant and the source of thermal energy is by the utilization of CO2 i.e. by reaction with lithium nitride at 330 degree centigrade which shoots up surrounding temperature to 1000 degree centigrade.

$CO2 + Li3N \rightarrow C3N4 + Li2CN2$ [1]

During this reaction surrounding temp shoot up to 1000 deg. C, we can use this temp to run steam turbines to produce electricity

42) Decomposition of formaic acid to produce hydrogen

In the presence of platinum, Formic acid it decomposes with a release of hydrogen and carbon dioxide [2].

$CH_2O_2 \rightarrow H_2 + CO_2$

H2 can be utilized to produce electricity and run vehicles.

CO2 in combination with Li3N produce temperature which inturn produce electricity

$CO2 + Li3N \rightarrow C3N4 + Li2CN2$

During this reaction surrounding temp shoot up to 1000 deg. C, we can use this temp to run steam turbines to produce electricity

43) Production of electricity from the Redox reactions of sodium dithionate with water

Sodium dithionite is a reducing agent. At pH=7, the potential is -0.66 V vs NHE. Redox occurs with formation of sulphite [3]

$S_2O_4^{2-} + 2\ H_2O \rightarrow 2\ HSO_3^- + 2\ e^- + 2\ H^+$

44) Aqueous hypochlorite as the proton ion battery electrolyte.

$OCl^- + H_2O \rightleftharpoons HOCl + OH^-$

The following species and equilibria are present in solutions of NaOCl [4]

$HOCl\ (aq) \rightleftharpoons H^+ + OCl^-$

$HOCl\ (aq) + Cl^- + H^+ \rightleftharpoons Cl_2\ (aq) + H_2O$
$Cl_2\ (aq) + Cl^- \rightleftharpoons Cl^-_3$
$Cl_2\ (aq) \rightleftharpoons Cl_2\ (g)$

45) Designing a cartwheel machine and wind turbine with coupled springs action and its matching dynamo to produce more electricity when compared to conventional wind turbines without the coupled springs

Cart wheel which rotates infinitely when rotated by hand which was developed by golden age scientist whose name is not known is among many amazing facts which I used to hear from my friend. It is also said that the golden age scientist destroyed his own invention because he could not convince other scientist/people where it can be used. Now I tried to explain how it can be developed, how it works and where it can be applied. This idea/explanation is raw and the cartwheel engine can be developed through research and development.

Below I am writing the raw idea on how to design a cart wheel engine and its physics part.

Consider a cartwheel or heavy cycle wheel with fixed and rigid axial mounted on narrow stages which in turn are connected with ball bearings to rotate smoothly when rotated by hand. The rigid axial is also fixed with small four wheels on both side of the cartwheel. These small wheels have two handles with optimized mass and are fixed to the wheel perpendicular to the radius of the cart wheel near the edge (not at the center) in opposite directions. These four wheels on each side of the cartwheel are connected to extended wheel each with chains like in the bicycle. These extended wheels are fixed with rigid support. A spring of optimized spring constant with optimized stored potential energy is connected to each of the handles and to the extended another supporting rods. The four extended wheels on each side of the cartwheel are placed each one at top, bottom, left and right position. This makes the complete design. The cart wheel is rotated by hand with small work to orient the wheel to take its effect. The spring gets activated and this keeps the cartwheel in complete rotation. This follows in cyclic process if the friction between the ball bearings is negligible constant. This can be simulated using AUTOCACD and simulation software. The wheel will be in rotation as long as the spring constant of the spring remains constant (may be few months or for many years in rotation). If the rotation speed reduced to half, the springs should be exchanged with new one or wheel should be forcibly rotated by hand once again. This would keep the cart wheel in rotation for longer time. If this wheel is connected to matching dynamo with optimized frictional forces which converts mechanical work in to electricity, then large electrical output can be produced with this cart wheel with less input work done by man and by the springs and the handles. This type of cartwheel engine would be more effective in producing electricity when compared to wind mills and also would be more cost effective than solar cells. It is common trend that springs exert forces which tends to damp down with time. But in my view the two springs exert forces in opposite direction and these coupled forces would not damp down with time so easily it takes longer time to damp down with time may be few months. The stored potential energy in the coupled spring in series with each other and forces acting in opposite direction would be infinitely larger than the springs acting solely. With small force to orient the wheel and with the coupled springs with forces acting in opposite direction will convert the stored potential energy in to mechanical energy to rotate the wheel for longer times. This rotation of wheel is coupled with the dynamo to convert the mechanical energy in to electrical energy. A matching dynamo should be developed. In my view this cart wheel machine with matching dynamo would produce sufficient power output to extract energy around 600-800 KW-Hr or more energy in one month which when used and this would be more than sufficient for one family in India.

In my view same coupled spring may also be used to run the wind turbines for longer time when compared to wind turbines operating because of normal wind blow only in wind mills. When wind blows the wind turbines rotate and generate electricity. If two springs with coupled forces acting in opposite direction are attached to wind turbines then when ever wind blows the wind turbines rotates and this would activate the coupled springs and this in turn has the effect to rotate the wind turbines for longer times even if wind is not blowing. The wind turbine rotates as long the infinitely large stored potential energy in the coupled spring is completely utilized to rotate the wind turbine even if the wind is not blowing and this has the effect to produce more electrical output when compared to wind turbine with no coupled springs. If the coupled forces damp down or the potential energy of the coupled springs is completely utilized after longer time then again when wind blows the springs will come in to action to rotate the wind turbines for longer times. This has the effect to generate more electricity with coupled springs attached to wind turbines when compared to without springs may be multiplied a number of times. I am not from the engineering background, hence it would be difficult for me to develop the cartwheel and wind turbine machine with matching dynamo to produce electricity. Thinking that this may be useful to the researchers in related field I am sharing my views through Researchgate.

46) Highly effective way to control the mosquitoes population by using a simple and effective electrolytic device installed in water tanks which produce chlorine gas which in turn plays a role in controlling the

population of mosquitoes instead of adding chlorine based liquid daily in water tanks this in turn helps us to save time, money and control mosquitoes

In today's life mosquitoes population has grown very large and it poses health risks in the form of mosquitoes bite based diseases like malaria, dengue , Chikungunya, Zika fever, Lymphatic filariasis etc. Muncipal corporation of India are struggling to cope with the growing population of mosquitoes. To control their population chlorine based liquid is added in open and closed tanks twice a week and gassing of the houses once a month is done with medicine which kills them; but failed to control the population of mosquitoes. In my view best way to control the mosquitoes population is to installation of wire mesh based additional doors, windows and ventilators. In addition to this best way is to install simple and effective electrolytic device in water tanks which produces small amount of chlorine gas through electrolysis of salty water using IrO_x catalyst. We can control the production of chlorine gas using MnOx layer as reported in literature [5]. This device will work for many years for electrolysis to take place with little electrical supply and this can be provided by simple battery. Installation of this type of simple and effective electrolysis device in water tanks allows us to save time, money and control the mosquitoes population to very large extent. To my knowledge based on my thinking this is the best way to cope with the problem and also request others to think the other possible ways to control the mosquitoes.

47) New and cost effective way to produce electricity utilizing the thrust exerted by the burning of propellant heavy water and by running the electricity producing turbines

Usually heavy water is used as propellant in space rocket in olden days. This propellant when burned exerts thrust to give motion to the rocket for half to one year of time with appropriate quantity of heavy water. If we can utilize the thrust exerted by the burning heavy water to run the turbines which in turn produces electricity then huge electricity can be produced. This would be cost effective.

48) Paper industry has already existing technology to produce millions of tons of hydrogen via sodium chlorate prepared for paper bleaching through electrolysis of hot sodium chloride solution which needed to be tapped as clean fuel ($NaCl + 3\ H_2O \rightarrow NaClO_3 + 3\ H_2$)

Over the last few decades, researchers have been trying to produce clean fuel in the form of hydrogen to produce electricity suing SOFC's and to run the heavy vehicles. Extensive research has been taking place to produce hydrogen from solar mediated catalysis of water and also from the metal hydrides but was not successful in mass production of hydrogen fuel. There are also reports on the production of hydrogen from higher alkanes by catalytic decomposition of alkanes at elevated temperature in reactors. But little attention has been given to already existing technology for hydrogen production in paper industry where sodium chlorate is used as beaching of paper. Millions of tons of sodium chlorate are produced every month for bleaching of paper. In the preparation of sodium chlorate through electrolysis of hot sodium chloride a lot of hydrogen is produced which will be very useful when tapped it as clean fuel. This is for your kind useful information which I came across while searching for sodium chlorate and sodium perchlorate based batteries in Wikipedia [6].

($NaCl + 3\ H_2O \rightarrow NaClO_3 + 3\ H_2$)

49) Possibility of making new sodium based batteries using the anodic oxidation of sodium chlorate (NaClO3) at an inert electrode to form sodium perchlorate (NaClO4) using NaOH

Batteries especially rechargeable batteries finds wide range of application for use in to power computers, phones, emergency lights, light and heavy vehicles. Extensive research has been carried out on lithium ion based batteries and is commercially available and sold for various use. But it is also reported that battery-grade salts of sodium are cheap and abundant than those of lithium. This makes sodium ion batteries a cost-effective alternative. It is also reported in literature that these cells/batteries can be completely drained (to zero charge) without damaging the active materials. They can be stored and shipped safely. Lithium-ion batteries must retain about 30% of charge during storage, enough that they could short-circuit and catch fire during shipment. Moreover, it is also reported in literature that sodium-ion batteries have excellent electrochemical features in terms of charge-discharge, reversibility, coulombic efficiency and high specific discharge capacity. In a search for more effective in power output for sodium ion batteries, the author has come across the compounds of sodium i.e. sodium chlorate (NaClO3) and sodium perchlorate (NaClO4) and their formation reaction and properties. The formation of sodium perchlorate (NaClO4) using the sodium chlorate (NaClO3) in acidic and basic medium is as follows [7]. It is interesting to find that two electrons are produced in this reaction, I am happy to learn about it and this means discharging occurs or production of electrical output. This means that we can use it as battery material to produce electricity. One has see whether application of voltage would lead to reversible reaction or not. If the reverse reaction is favourable during the application of

voltage then this would be a new type of rechargeable battery using sodium chlorate and perchlorate as the active materials. Research in this direction is needed to verify this thought and finding.
Sodium perchlorate is produced by anodic oxidation of sodium chlorate at an inert electrode, such as platinum.
$ClO_3^- + H_2O \rightarrow ClO_4^- + 2H^+ + 2\ e^-$ (acidic medium)
$NaClO_3 + H_2O \rightarrow NaClO_4 + 2H^+ + 2\ e^-$ (acidic medium)

$ClO_3^- + 2\ OH^- \rightarrow ClO_4^- + H_2O + 2\ e^-$ (alkaline medium)
$NaClO_3 + 2\ NaOH \rightarrow NaClO_4 + H_2O + 2Na + 2\ e^-$

50) Possibility of simultaneous production of electricity, hydrogen fuel and useful chemicals by additional installation of catalytic decomposition reactors via NaOH & KOH using higher alkanes in already existing thermal power and nuclear power plants there by making it to save time, reduce CO_2 emission fully or partially and cost effective in one run

Over the last few decades, researchers have been trying to produce clean fuel in the form of hydrogen to produce electricity suing SOFC's and to run the heavy vehicles. Extensive research has been taking place to produce hydrogen from solar mediated catalysis of water and also from the metal hydrides but was not successful in mass production of hydrogen fuel. There are also reports on the production of hydrogen from higher alkanes by catalytic decomposition of alkanes at elevated temperature in reactors. It is also known that alkanes generally do not react with NaOH and KOH at room temperature. But the author believe that this reaction between higher alkanes (which posses number of hydrogen in it) and the above bases can be facilitated at higher temperatures to produce hydrogen fuel and other useful chemicals. Hence research in this direction is also needed. The author presents some possible reaction between alkanes and NaOH to produce hydrogen fuel and useful chemicals using catalyst at elevated temperature which needs to be investigated. The possible reaction for other alkanes also needs a trial. If these reactions are possible, then there is a possibility of simultaneous production of electricity, hydrogen fuel and useful chemicals by additional installation of catalytic decomposition reactors via NaOH & KOH using higher alkanes in already existing thermal power and nuclear power plants there by making it to save time, reduce CO_2 emission fully or partially and cost effective in one run.

$C_4H_{10} + 8NaOH \rightarrow 2Na_2CO_3 + 2Na_2O + 2C + 9H_2$
$C_4H_{10} + 8NaOH \rightarrow 2Na_2CO_3 + 2Na_2O + 2CH_4 + 5H_2$
$C_4H_{10} + 8NaOH \rightarrow 4Na_2O + 2CO_2 + 2C + 9H_2$
$C_4H_{10} + 8NaOH \rightarrow 4Na_2O + 2CO_2 + 2CH_4 + 5H_2$

51) Production of Electricity from microwave heating method instead of coal in thermal power plants to run the steam turbines

Steam turbines are used to produce electricity and the out put power generator is given below.
The steam is produced in boilers using Heated coal as main source of energy.

• Inlet Steam Condition (Steam Pressure / Temperature) :0.2MPaG / Sat. ~ 14MPaG / 570℃
• Power Output :~150MW / unit

GE Energy reports 830 Gwatt per 6000 units.

It is reported that heating the coal to temperatures exceeding 1200 ^oF, the mass of the coal changes to pure carbon substance also known as coke after two hours.

The energy density of coal, i.e. its heating value, is roughly 24 megajoules per kilogram (approximately 6.7 kilowatt-hours per kg). For a coal power plant with a 40% efficiency [8], it takes an estimated 325 kg (720 lb) of coal to power a 100 W light bulb for one year.

Modified microwave oven which is used for sintering the metals and ceramics, produces temperatures around 1500 oC or greater in few minutes using a succeptor made up of mixture of alumina and silicon carbide powder (SiC). 1500 oC can be achieved in 5 min or less at input power 13kW per unit of microwave oven. 1500 oC can be maintained in 5 min or less at input power of 13MW per 1000 unit of microwave oven. If the thousand units of microwave oven are sufficient to generate heat 1500 oC or the desired temperature so as to heat the conventional boilers in order to produce steam faster and this has the effect of running the conventional two steam turbines or even more steam turbines then the power output produced would be greater than 300MW.

Hence a microwave system consisting of many units should be developed to heat the conventional boilers to produce steam very faster than conventional heating method which uses coal which produces maximum temperature 1200 oF (649 oC). This may result is more electrical output power than the conventional method of producing electricity. There is need to check the feasibility with respect to the power output and cost. If feasible then we would be producing electricity from electricity via microwave heating method. If the power output is more
recycling of power can be done. There is no need of coal and gas again to run the steam turbines. The microwave system would run for years with less maintenance cost.

52) Nuclear power plants and needed precautions to avoid Japan like disaster in near future around the world

I saw in news that nuclear fuel is being loaded in nuclear power plants in Tamilnadu. The local people are objecting to the operation of nuclear power plants to avoid Japan like disaster which had occurred two years ago due to earth quake. This would lead to serious disaster if necessary precautions are not taken to avoid such disaster in India in near future.

I have one question to higher authorities/chief scientists/director; do you have an automated system to detect the primary seismic wave (an alarm) before the earth quake in the nuclear power plants? It is necessary to avoid such disaster which has occurred in Japan. Please contact seismologist regarding the same. The primary seismic wave is less destructive. There is some time interval between primary and secondary seismic wave. The secondary seismic wave causes the disaster.

An automated system (an alarm) should be installed around and in the nuclear power plants to detect the primary seismic wave before the secondary seismic wave which leads to disaster. An automated system should also be made to immediately stop the nuclear power plants once the primary seismic wave is detected and the nuclear fuel is automatically enclosed in a nuclear fuel container that is to store in a nuclear waste container for further safety. This precaution would stop the Japan like disaster in India and around the world in near future.

Precautions should also be taken to avoid uncontrolled reaction, for this purpose an automated detecting and immediate stopping system should be needed and also the nuclear fuel should be immediately enclosed in a nuclear fuel container for further safety if such reaction is occurring in the nuclear power plants.

Please forward this mail to senior/chief/ scientists and director all over the world and ask them to take necessary action and assures local people regarding the safety measures they would take, till then the nuclear power plants should not be operated.

53) Preparation of Gold and diamonds in a laboratory which needs to be verified

Nano diamonds have been prepared in laboratory using a purified carbon source all over the world. If temperature and pressure are optimized then the bulk diamonds can also be produced in a laboratory. This process would be cost effective process once the parameters like high temperature, pressure and purity of the carbon source is optimized. It should be noted that time is also be optimized to keep optimized parameters constant to produce bulk diamond. This is safest experiment.

Similarly my view is that gold can also be produced in a laboratory at high temperatures and pressures from the SiO_2 (Sand) source. It requires a perfectly closed chamber made up of hardest metallic alloys which withstands high temperatures and pressures, a high temperature source which withstand high pressures, pyro-electric detectors to measure temperature, pumps to create high pressures which also with stand high temperature and pressure, an electron, proton and neutron beam sources which also withstands high temperature and pressure. If all the parameters are optimized like pulse of number of electrons, protons and neutrons incident on SiO_2, temperature and pressure then gold can be prepared in a laboratory. This process would also be cost effective once the parameters are optimized and can be produced as much as one can if successful. It should be noted that time is also be optimized to keep optimized parameters constant to produce gold. In this process intermediate elements can also be produced which then can be separated out by using proper techniques.

Very important point to be noted is that a theoretical modelling on the above to optimize the parameters is needed before experiment because it is very dangerous experiment.

All those whose interest is to prepare radioactive elements would surely die during this experiment and surely go to hell.

Precaution should be taken so that radioactive elements are not formed during the process by optimizing (through theoretical modelling) the pulses of number of electrons, protons and neutrons incident on the SiO_2 (sand).

Parameters should be optimized through theoretical modelling so that we don't go beyond production of gold. If elements beyond gold are producing then the parameters should be optimized to produce gold only.

Hence again I specify that a monitoring system is needed to check what is formed in the chamber. If unstable radioactive element is formed and results in a nuclear fission then explosion will occur. This would be very dangerous to all.

Hence a constant monitoring system is needed, if a trace of minute first radioactive element in the radioactive series in periodic table is formed then the entire process should be stopped immediately otherwise explosion will definitely occur.

Very important point to be noted is that we should not produce elements beyond gold to reduce the chances of producing unstable radioactive elements and risking their lives and others.

54) Procedure to see distant stars through your eyes which you cannot see through normal view this may have some application in designing better resolution cameras for normal and space researchers use

Few years back we used to sleep on the top of building in summer from where we can view the full sky, I used to stare at stars. Coincidently I found that when I focused my both eyes on a particular star. I can only see that particular star and remaining sky was black. After few seconds I found distant star emerging from the back ground which is near to that particular star, then I focused my eyes on that second distant star so that I see only that star and the remaining was black sky. Then again I found third distant star emerging from the dark background near to that second distant star. This would continue as long as we focus on the emerging star so that remaining sky appears black. This is very interesting and may have some application in space science research because we are seeing the distant star by eyes, which cannot be seen by normal view. It is needed to check whether this procedure would be helpful to space science researchers in making high resolution cameras.

55) Some amazing events/facts that needed to be investigated which was observed by me through my eyes by varying the focus of my eyes

Since very long time (child hood) I am seeing a shower of cosmic rays like rain continuously in night under the moon light by focusing my eye to see that event. I see that event at focused area through my eyes. My eye sight was very good at that time and now I cannot see what is written on television news channels from long distance. These rays are non-interacting at normal conditions. If these are dust particles we would have be drowned because it is a continuously showering of cosmic rays like rain. I see them coming from the sky and is slantly falling from west to east direction and is non-interacting with the matter. What I feel is that these showers of cosmic rays like rain interacts with matter under high pressure (interior of earth) and dissipates as heat and matter in the earths interior. This might be the reason for the high temperature of earth core and is still hotter even after millions years of formation of earth. Because of this hot molten lava present in the earth interior there results the magnetic field of the earth according to the scientists. This may also be the reason for the lava coming out of active volcanoes around the world. This lava inside the earth core may also be responsible for the movement of tectonic plates resulting in earth quakes.

I also see creeping thin layer of matter and energy along the walls during night as well as at day by focusing my eyes to see that event/fact. I see that energy and mater travel very slowly in particular direction by focusing my eyes. The direction changes by varying the focusing. It means that I see that energy and matter travelling slowly in different direction depending up on my focusing of eyes. This may be the slow downed photons or something else. Once again I refer that I see that event only on walls. I can distinguish the color of the wall and that thin layer of matter and energy but I cannot say which color that thin layer has. All we know that we see color of walls because all the colors of the visible light is absorbed by walls and that particular color is reflected back, hence we see that color. What I feel is that I see slowed down photons.

Another thing which I observe sometimes is a spark in air which lasts for 1 sec. I also see bubbles (circles) like many sparks in air in front of wall; the sun is behind the wall.

I told about these observations to my family, friends and colleagues, but they cannot see the same and ignored saying may be I have eye defect. I can still see those effects.

56) Failure reason of Newton's law of gravity

We studied that the planetary orbit around the sun is due to the gravitational force between the sun and the planets. This again is wrong concept according to my knowledge. We saw astronauts floating as they go beyond the uppermost atmosphere. This means that the gravitational force comes in to effect only below the uppermost atmosphere.

The planets may be orbiting around the sun due to magnetic field of sun and the planets across the magnetic lines of force. This we have studied in intermediate by drawing the compass needle deflection around the magnet and these lines are called magnetic line of force. Based on this observation I believe that the planets orbit around the sun due to magnetic field rather than gravitational force. The line of magnetic forces does not pass through the middle of the sun; this is needed to be investigated.

Another wrong concept is that the waves produced in the oceans on the earth are due to gravitational pull of the moon. The moon cannot retain the atmosphere due to less gravitational field, how can it effects the waves in the oceans. The water is diamagnetic hence I believe that the magnetic field of sun causes these waves or the movement of oceanic life will cause waves in oceans. Example the tsunami waves are caused due to earth quakes in the oceans or due to volcanic eruption. This would be proof for my belief.

57) Failure and success of Big bang theory and its related theories

According to big bang theory, there was a dense point which when exploded gives rise to solar system, universe, galaxies etc and these are expanding with time.

My question is who created that dense point?

This question means that there exists something else which created this dense point. According to QURAN this something else is nothing but the Almighty ALLAH and is one. Quran mentions that the almighty ALLAH has created himself and everything instantaneously. This everything undergoes cyclic process.

This means that there is nothing in the beginning, this nothing is nothing but the almighty ALLAH and ALLAH has created everything (infinity in every aspect) instantaneously and this everything is undergoing a cyclic process.

The almighty ALLAH has no form and shape cannot be seen by perception of vision of human beings and all forms of life, this can be proved by the spirit of human being which cannot be seen, has no form and shape. It gives life when it is present in human being a one example. This proves that the almighty ALLAH exists. This almighty ALLAH has been called by different peoples of religion with different names. This means that GOD is one to all of us.

Let us next comes to big bang theory. Before going to that theory, let us consider black holes as is evidenced by space science researchers. Black hole is nothing but a dead star. This black hole absorbs matter and energy surrounding to it and even light cannot escape through it and this black hole grow with time due to enormous gravitational and magnetic field. This will continue till the tolerance factor is reached. Once the tolerance factor is reached, the black hole burst to form supernova, pulsars, stars and planets etc. In this case the big bang theory applies. The expanding universe and galaxies to infinity is the wrong concept because everything is created instantaneous by the almighty ALLAH and everything is undergoing a cyclic process.

Next comes the drain hole theory to explain the spiral nature of Milky Way galaxy. This theory is correct. I can explain this with simple example. Let us consider a drain hole in bathroom. Initially if it was covered fully so that not to allow water to flow through it and water is filled in the bathroom. If we open the drain hole the water will drain through the hole spirally. Another example is tap water. If we rotate the tap slantly and fixed at that position and allow the tap water to fall in a small container then the water will be filled spirally in the container. This is the proof of drain hole theory. The container and the bathroom means that there is one container which holds the matter and this container is referred as dark matter by space science scientists. The physical significance and properties of dark matter are not known.

58) Production of more output electricity from input electricity consumed for bore wells to draw water from ocean and to fill the dam by utilizing the hydro turbines and gravity of earth

1. Introduction:

Hydropower or water power is power derived from the energy of falling water and running water, which may be harnessed for useful purposes. Since ancient times, hydropower has been used for irrigation and the operation of various mechanical devices, such as watermills, power houses etc.

Calculating the amount of available power for traditional methods

A hydropower resource can be evaluated by its available power. Power is a function of the hydraulic head and rate of fluid flow. The head is the energy per unit weight (or unit mass) of water. The static head is proportional to the difference in height through which the water falls. Dynamic head is related to the velocity of moving water. Each unit of water can do an amount of work equal to its weight times the head.

The power available from falling water can be calculated from the flow rate and density of water, the height of fall, and the local acceleration due to gravity. In SI units, the power is:

$$P = \eta \rho Q g h$$

where

- P is power in watts
- η is the dimensionless efficiency of the turbine
- ρ is the density of water in kilograms per cubic metre
- Q is the flow in cubic metres per second
- g is the acceleration due to gravity
- h is the height difference between inlet and outlet

To illustrate, power is calculated for a turbine that is 85% efficient, with water at 62.25 pounds/cubic foot (998 kg/cubic metre) and a flow rate of 2800 cubic-feet/second (79.3 cubic-meters/second), gravity of 9.80 metres per second squared and with a net head of 480 ft (146.3 m).
In SI units:

$$\text{Power (MW)} = 0.85 \times \frac{998 \times 79.3 \times 9.80 \times 146.3}{1000000}$$

which gives 96.4 MW
In English units, the density is given in pounds per cubic foot so acceleration due to gravity is inherent in the unit of weight. A conversion factor is required to change from foot lbs/second to kilowatts:

$$\text{Power (MW)} = 0.85 \times \frac{62.25 \times 2800 \times 480}{(1000 \times 737.5)}$$

which gives 96.4 MW
Operators of hydroelectric plants will compare the total electrical energy produced with the theoretical potential energy of the water passing through the turbine to calculate efficiency.
A small dam would be created to fill the dam using number of bore wells established near the ocean using its water, the water flowed out of dam will flow back to the ocean. The water can also be made to flow from higher level to the ground by constructing such an arrangement. An average bore well motor uses input power approximately equal to 840 kW/hr in 5 years. If we establish 100 bore wells or more to allow the water to flow through the dam gate then by using traditional method power can be generated. The power input for the 100 bore wells would be 84 mega-watt per hour in five years. From the above traditional method of generation power from dam waters is 96.4 MW i.e. 96.4 x 60 MW/hr which is equal to 5784 MW/hr. This means that the power output would be much larger in 5 years of time than the input power required to run the bore well motors. The power output is more because gravity of earth is coming in to effect. If 100 bore well motors are not sufficient to draw water from the ocean to fill the dam more motors should be established to make it possible. There is a need to consider whether it is cost effective or not and also output power is more than input power.

59) Possibility of making effective and powerful camera using lenses made up of diamonds which needs to be verified.

If one can make lenses like concave, convex, double concave and double convex and plain lenses from diamonds and are arranged in a suitable arrangement then a most effective and powerful camera can be developed in terms of resolution, magnification and probable can see very distant stars or planets very good focusing as if nearby.

60) Production of electricity from the black mica utilising the thermoelectric property of it which was obtained by short circuiting it with high voltage.

61) Possibility of production of high ultra sound for better imaging of child growing in mother's womb by frictional forces of water molecules by rotating the water containing in a container in the presence of switchable magnetic field greater than earth's magnetic field.

62) Possibility of amplifying the current transmitted in transmissions lines by using the heavy duty current and voltage amplifiers with higher gain factor which are used as electronic components in electronic devices.

63) Possibility of producing electricity from the stacking device made up of piezoelectric and magneto-electric thin films by utilizing the mechanical energy of sound and earth's magnetic field.

64) Possibility of making hydrides from the alloy present in lava and also used to make pots by heating it which contains salty water; these hydrides which are in black colour in powder form when heated produces hydrogen which in turn can be utilized as clean fuel to run vehicles or to produce electicity.

65) Possibility of recycling thread from the old clothes by grinding it and threading it.

66) Possibility of making high capacity MLC capacitors from rare-earth doped barium titanate at A site in solid solution with BLSF materials sintered using microwave heating method by producing oxygen vacancies through both.

67) Possibility of better light transmission with no loss in fibre optic cables by incorporation convex lenses at optimized distances in the cable.

68) Possibility of producing electricity by incorporation of wind turbines with matching dynamo on trains and buses to electrify the buses and trains for all needs even to run AC's.

69) Possibility of producing electricity in much more efficient manner by using the thermoelectric films stack of very large area equal to that of one saree in thermal power plants as additional accessories along with steam turbine.

70) Possibility of producing H2 and O2 by water to water molecule collision near the water falls by establishing such an arrangement and also by making water to fall from higher level at other situation.

71) Needed research and development work to prepare the new chlorine based salt which when placed in water tanks and bodies produces chlorine gas so as to inhibit the growth of mosquito's

72) Needed research and development work to utilize the motion of vehicles i.e. mechanical energy which is run by fuel to produce electricity using dynamos and subsequently utilizing this electricity to run again the vehicles by developing the suitable devices additionally incorporated in the already existing vehicles? These types are vehicles are hybrid vehicles which run on fuel and electricity.

73) Research and development work on the barium titanate and bismuth titanate and calcium titanate based solid solution with rare earth ions doped at A and B sites for application as breeze sensors.

74) Research and development work on the barium titanate and bismuth titanate and calcium titanate based solid solution with rare earth ions doped at A and B sites for application as high electromechanical coupling transducers operating at RT and also at elevated temperature producing ultra sounds which in turn can be utilized for high resolution ultra sound imaging.

75) Research and development work on the barium titanate and bismuth titanate and calcium titanate based solid solution with rare earth ions doped at A and B sites for application as coolants with application voltage to these ceramics especially is refrigerators and AC's.

76) Needed research and development work to convert the unstable liquefied cooking gas in to stable liquid to be used as fuel for vehicles.

77) Needed research and development work to convert plastics like PVC to propane which is one of the constituent of petrol to check whether below reactions are possible or not.

PRODUCTION OF PROPANE ONE OF THE CONSTITUENT OF PETROL FROM POLYVINYL CHLORIDE (PVC)

$(C_2H_3Cl)_n + n\ CO_2 + n\ H_3PO_4 + nH_2 \rightarrow\ n\ (CH_3\text{-}CH_2\text{-}CH_3) + 2n\ O_3 + n\ HCl + n$ P ion
under ultra violet radiation irradiation and suitable conditions.
Or
$(C_2H_3Cl)_n + n\ CO_2 + n\ H_3PO_4 + nH_2 + 2.5n\ O_2 \rightarrow\ n\ (CH_3\text{-}CH_2\text{-}CH_3) + 2n\ O_3 + n\ HCl + n\ PO_5\uparrow$
under ultra violet radiation irradiation and suitable conditions.
or
$(C_2H_3Cl) + CO_2 + H_3PO_4 + H_2 + 2.5\ O_2 \rightarrow (CH_3\text{-}CH_2\text{-}CH_3) + 3O_2 + HCl + PO_5\uparrow$
Under optimized conditions.

78) Research and development work to check the SOFC's using solid electrolyte for example YSZ thick films in stack form in non contact mode preferably in many M type shape to produce electricity effectively using H2 and O2. This is to increase the surface area to absorb the oxygen and conduct the oxygen ions.

79) four wind turbines two each facing opposite to each other in all directions should be incorporated on one pole to generate four time the electricity when compared to one. More electricity can be produced by using coupled springs attached to these turbines as explained previously.

80) Ceiling fans can be made with two extended axial with another two fans on each side of the middle fan powered by single power supply.

81) Table fans can be made four sided fans with an axial to get more air in all directions in a single power supply.

82) To decode infra sound sent to earth by higher intelligence being

I have an ear defect in my left ear and i am completely deaf from my right ear. In addition to audible sound from my surrounding interaction, i also hear some sound which i think is infra sound which is constantly heard by me in one tone. This may be due to very fast speed the infra sound travels. I think this infra sound is sent to earth by higher intelligence by some means. I want to decode the information which i hear in the form of infra sound. I need your help in this matter. To do this firstly we have to consult doctors who can help me to know the exact frequency of this infra sound. To know this from 20Hz we need to decrease the frequency in step of 1Hz and find out at which frequency i can sense the infra sound. If we know this, then we can make a device which can catch this infra sound. By some electronics we can convert this infra sound in to audible sound. Then we can hear the sound signals which i hear which in turn i think is from higher intelligence being may be sending on earth by some means. I need your help in this matter. I am unemployed.

I hear this infra sound, my brain stores this information in the form of infra sound, whenever i thinks i get ideas and also enhances my thinking and i also see video or picture clip whenever i close my eyes to think. I am chain cigarette smoker also.

83) To fabricate rhodium and silicon hybrid based quantum dots for memory application.

84) Fabrication of bottom gate thin film transistor for biosensing application using ferroelectric materials:

A Biosensing is a device used to detect variety of bio-molecules such as proteins, glucose, DNA, RNA, Bacteria, Viruses, Pathogens, pharmaceutical chemicals etc.

When I was working in Japan, I was working on large area bottom gate thin film transistor (BGTFT) for bio-sensing application. The leakage current in BGTFT was very high (1-10mA) at the highest voltage applied below the breakdown voltage of SiO_2 film (Fig. 2 & 3). I was unable to rectify the leakage of current problem due to plasma damage to both thermally and remote plasma chemical vapor deposited (RPCVD) SiO_2 thin film during the deposition of Si film using IC-PECVD. I tried by increasing the thickness of both thermally and RPCVD grown SiO_2 film, but was unsuccessful to reduce the leakage current. But I now came to conclusion that plasma damage can be reduced by depositing Si film over SiO_2 thin film by using IC-RPCVD. This would reduce the leakage current due to plasma damage because the ions in the plasma will slow down before they reach the substrate. This would enable us to successfully fabrication of large area/micro/nano scale bottom gate thin film transistor for bio-sensing application. The BGTFT would be useful as bio-sensing device if the leakage current of BGTFT is in the range of nano ampere and the I-V characteristic of BGTFT shows saturation of current in nano ampere range, because the proteins (SBP-Protein A, SBP-Luciferase, SBP-GFP and other bio-molecules) which we have used has nano ampere current. This information was elucidated from the I-V measurements of SBP-proteins attached to HF-last Si surface with coplanar electrodes (Fig. 4).

The sensitivity of the biosensing device (BGTFT) can be improved by using silicon or metal nano dots (Quantum dots) in the matrix of very thin SiO_2 layer or without SiO_2 matrix (Fig. 1) and this is fabricated over the active layer of BGTFT (i.e. poly-silicon thin film).

The sensitivity of BGTFT can also be improved by using nano planar type silicon region (this can be treated as a nano silicon wire) as the active region of BGTFT. The horizontally aligned nano planar type silicon regions on SiO_2 with equal spacing can be fabricated by using EB lithography or mask less lithography and wet chemical etching of silicon film.

Note:

1) If we can reduce the leakage current in the SiO_2 (due to plasma damage in SiO_2) by depositing Si film by RPCVD and obtain the I_g and I_d in nano ampere range in the measured V_d, V_g range. Then the BGTFT can detect variety of bio-molecules, antibodies, bacteria, virus, pathogens etc (Fig. (2-4)).

2) In Japan I could not use the available RPCVD to deposit Si films because it is used mainly to deposit SiO_2 film for TGTFT, to avoid contamination and there is no other RPCVD system available in the laboratoryNote:

3) The current variation of SBP-proteins is in the range of nano amperes.

4) The leakage current in the BGTFT can also be reduced by using high k dielectric and ferroelectric thin film as a substitute for SiO_2 film and lightly doped ferroelectric film/high k film as the active channel layer.

5) Use of high k dielectric and ferroelectric materials results in formation of interfacial region between Si substrate and the dielectric film due to lattice mismatch between them, which degrades the transistor

characteristics. This can be avoided or minimized by using $SrTiO_3$ dielectric film in between Si substrate and active channel layer.

6) Use of plastic, semi-conducting polymer and semiconducting glass substrates would be useful with respect to cost and diminished lattice mismatch.

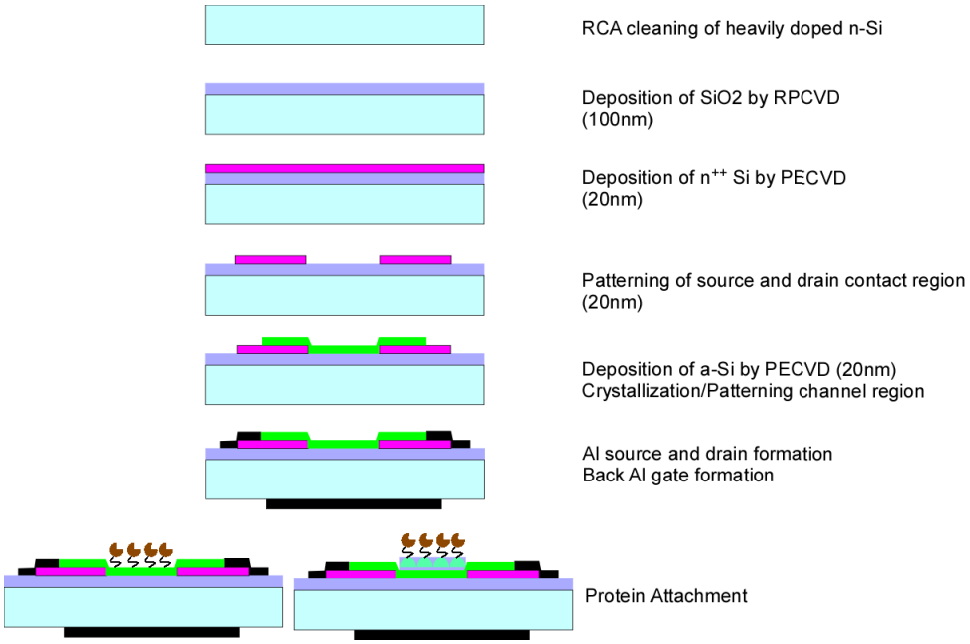


Fig. 1. Process of fabricating BGTFT

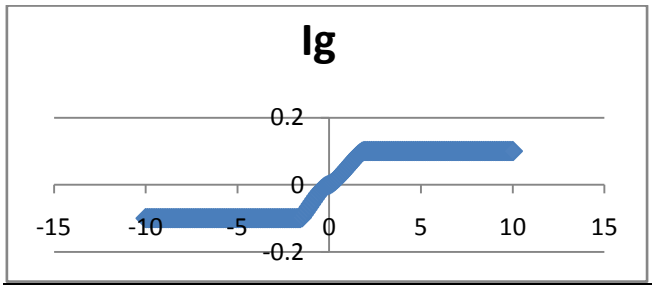


Fig. 2. I_g vs V_g (Leakage current) characteristics of BGTFT with thermally grown SiO_2 film (20nm).

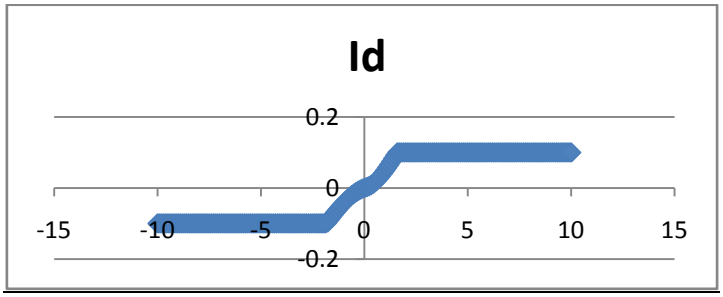


Fig. 3. I_{ds} vs V_d characteristics of BGTFT with thermally grown SiO_2 film (20nm)/Si film (5nm).

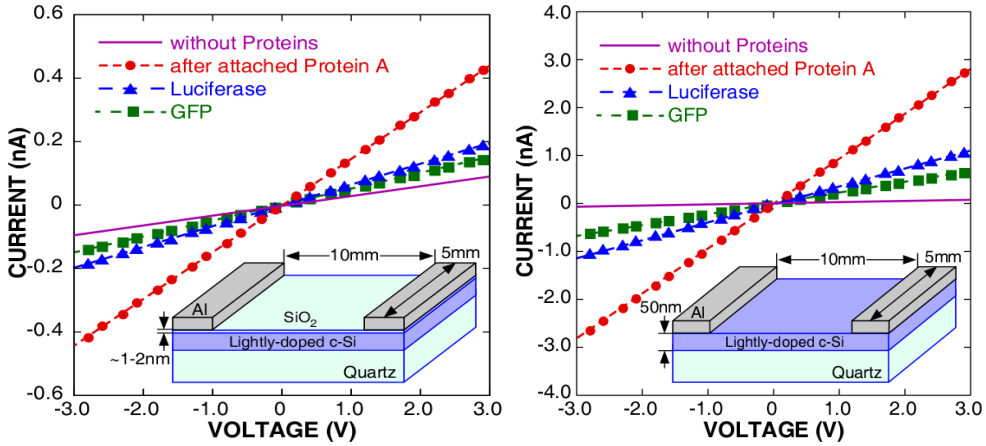


Fig. 4. I-V Characteristics of Lightly-doped Poly-Si Film with & without ~1-2nm-thick Passivation SiO_2 Layer Before and After Attachment of The SBP-Proteins on OH-SiO_2 & H-Si Surfaces.

85) To fabricate pearls and gems out of sintered zirconium oxide.

86) To fabricate tube lights based on LED's by incorporating four to five devices for efficient lighting there by reducing its cost.

87) Possibility of controlling the microstructure of compacted ceramic disks also by selection of heating zones like rectangular, triangular, pentagonal, hexagonal etc by arranging the heating rods in that way this will have positive impact on the properties we study.

88) IS THERE ANY POSSIBILITY OF PRODUCTION of HIGHER ALKANES (PETROLIUM LIQUIDS) FROM LOWER ALKANES WHICH IS NEEDED TO BE INVESTIGATED

$C_3H_8 + CO_2 + 2NaOH \rightarrow C_4H_{10} + Na_2O + O_3 (O_2 + O^-)$

(Under appropriate optimized conditions like pressure, temperature, catalyst, UV rays etc., O3 is dangerous to health if inhaled or on exposure to it. ozone (O3) would form upon ultraviolet rays exposure to ($O_2 + O^-$), direct exposure with NaOH is also dangerous)

Or

$C_3H_8 + CO_2 + 2NaOH + H_2 \rightarrow C_4H_{10} + Na_2O + O_2 + H_2O$

(Under appropriate optimized conditions like pressure, temperature, catalyst, without UV rays etc.)

$C_3H_8 + 2CO_2 + 4NaOH \rightarrow C_5H_{12} + 2Na_2O + 2O_3$

(Under appropriate optimized conditions like pressure, temperature, catalyst, UV rays etc., O3 is dangerous to health if inhaled or on exposure to it, ozone (O3) would form upon ultraviolet rays exposure to ($2O_2 + 2O^-$))

Or

$C_3H_8 + 2CO_2 + 4NaOH \rightarrow C_5H_{12} + 2Na_2O + 3O_2$

(Under appropriate optimized conditions like pressure, temperature, catalyst etc)

$C_4H_{10} + CO_2 + 2NaOH \rightarrow C_5H_{12} + Na_2O + O_3 (O_2 + O^-)$

(Under appropriate optimized conditions like pressure, temperature, catalyst, UV rays etc., O3 is dangerous to health if inhaled or on exposure to it, ozone (O3) would form upon ultraviolet rays exposure to ($O_2 + O^-$))

Or

$C_4H_{10} + CO_2 + 2NaOH + H_2 \rightarrow C_5H_{12} + Na_2O + O_2 + H_2O$

(Under appropriate optimized conditions like pressure, temperature, catalyst etc)

$C_3H_8 + C_4H_{10} + 2NaOH \rightarrow C_7H_{16} + Na_2O + 2H_2 + O^-$

(Under appropriate optimized conditions like pressure, temperature, catalyst etc)

Or

$C_3H_8 + C_4H_{10} + 2NaOH + H2 \rightarrow C_7H_{16} + Na_2O + 2H_2 + H_2O$

(Under appropriate optimized conditions like pressure, temperature, catalyst etc)

Note:- Similarly is the case with other lower alkanes or mixed alkanes to produce higher alkanes. These higher alkanes are also called as petrol, Kerosine diesel or jet fuel.

89) IS THERE ANY POSSIBILITY OF PRODUCTION OF PROPANE ONE OF THE CONSTITUENTS OF PETROL USING $(CH3\text{-}CH2\text{-}Cl)_n$ WITH N=1; THIS IS NEEDED TO BE INVESTIGATED

$2\ (CH_3\text{-}CH_2\text{-}Cl) + 2\ CH_3$ ions $+ H_2SO_4 \rightarrow 2\ CH_3\text{-}CH_2\text{-}CH_3\ (C_3H_8) + 2\ HCl + SO_4^-(\uparrow)$

$2\ (CH_3\text{-}CH_2\text{-}Cl)_n + 2\ n\ CH_3$ ions $+ n\ H_2SO_4 \rightarrow 2n\ CH_3\text{-}CH_2\text{-}CH_3\ (C_3H_8) + 2n\ HCl + n\ SO_4^{-}(\uparrow)$ (Under optimized conditions like temperature, pressure, catalyst etc.)
or
$(CH_3\text{-}CH_2\text{-}Cl) + CH_4 \rightarrow CH3\text{-}CH2\text{-}CH3 + HCl$
(Under optimized conditions like temperature, pressure, catalyst etc.)
HCL may be precipated as NaCl using sodium hydroxide solution or any other Reagent.
$HCl + NaOH \rightarrow NaCl\downarrow + H_2O$
H_2O and petrol can be separated by distillation, evaporation and/or condensation process.
or
$(CH_3\text{-}CH_2\text{-}Cl) + CO_2 + H_2 + HCl \rightarrow CH_3\text{-}CH_2\text{-}CH_3 + Cl_2 + O_2$
or
$2(CH_3\text{-}CH_2\text{-}Cl)_n + 2n\ CH_3$ ions $+ n\ H_2O_2 \rightarrow 2n\ (CH_3\text{-}CH_2\text{-}CH_3) + 2n\ HCl + n\ O_2\uparrow$
Similarly is the case with for monomer as shown in above equation.
Or
$(CH_3\text{-}CH_2\text{-}Cl) + CH_4 + 3NaCl + 0.75\ O_2 + H_2 \rightarrow (CH_3\text{-}CH_2\text{-}CH_3) + 1.5\ Na_2O\downarrow + 3HCl$
In the present case HCl is removed as mentioned above process.
Similarly is the case with for polymer or plastic as shown in above equation

90) Is there Possibility of preparation of propane from alcohols which is needed to be investigated,
$3\ CH_3OH \rightarrow CH_3\text{-}CH_2\text{-}CH_3 + 2H_2 + O_3$ (under UV irradiation)
$3\ CH_3OH \rightarrow CH_3\text{-}CH_2\text{-}CH_3 + 2H_2 + 1.5O_2$ (Under optimized conditions)
$3\ CH_3OH \rightarrow CH_3\text{-}CH_2\text{-}CH_3 + H_2 + O_2 + H_2O$ (Under optimized conditions)
$2CH_3OH + CO_2 + 2HCl \rightarrow CH_3\text{-}CH_2\text{-}CH_3 + 2O_2 + Cl_2 + H_2$
$2CH_3OH + CO_2 + 2NaOH \rightarrow CH_3\text{-}CH_2\text{-}CH_3 + 2O_2 + Na_2O + H_2O$

$3\ C_2H_5OH \rightarrow 2\ CH_3\text{-}CH_2\text{-}CH_3 + H_2 + O_3$ (under UV irradiation)
$3\ C_2H_5OH \rightarrow 2\ CH_3\text{-}CH_2\text{-}CH_3 + H_2 + 1.5\ O_2$ (Under optimized conditions)
$3\ C_2H_5OH \rightarrow 2\ CH_3\text{-}CH_2\text{-}CH_3 + O_2 + H_2O$ (Under optimized conditions)
$C_2H_5OH + CO_2 + 2HCl \rightarrow CH_3\text{-}CH_2\text{-}CH_3 + 1.5O_2 + Cl_2$
$C_2H_5OH + CO_2 + 2HCl + H_2 \rightarrow CH_3\text{-}CH_2\text{-}CH_3 + O_2 + H_2O + Cl_2$
$C_2H_5OH + CO_2 + 2NaOH \rightarrow CH_3\text{-}CH_2\text{-}CH_3 + 2O_2 + Na_2O$
$C_2H_5OH + CO_2 + 2NaOH + 2H_2 \rightarrow CH_3\text{-}CH_2\text{-}CH_3 + O_2 + Na_2O + 2H_2O$

$3\ C_3H_7OH + H_2 \rightarrow 3\ CH_3\text{-}CH_2\text{-}CH_3 + O_3$ (under UV irradiation)
$3\ C_3H_7OH + H_2 \rightarrow 3\ CH_3\text{-}CH_2\text{-}CH_3 + 1.5O_2$ (Under optimized conditions)
$3C_3H_7OH + H_2 \rightarrow 3CH_3\text{-}CH_2\text{-}CH_3 + O_2 + H_2O$ (Under optimized conditions)
$C_3H_7OH + H_2 \rightarrow CH_3\text{-}CH_2\text{-}CH_3 + H_2O$ (Under optimized conditions)
$C_3H_7OH + 2HCl \rightarrow CH_3\text{-}CH_2\text{-}CH_3 + H_2O + Cl_2$
$C_3H_7OH + 3CO_2 + 2HCl + 3H_2 \rightarrow 2\ CH_3\text{-}CH_2\text{-}CH_3 + 3.5O_2 + Cl_2$
$C_3H_7OH + 3CO_2 + 2HCl + 4H_2 \rightarrow 2\ CH_3\text{-}CH_2\text{-}CH_3 + 3O_2 + H_2O + Cl_2$
$C_3H_7OH + 3CO_2 + 2NaOH + 3H_2 \rightarrow 2\ CH_3\text{-}CH_2\text{-}CH_3 + 4\ O_2 + Na_2O$
$C_3H_7OH + 3CO_2 + 2NaOH + 4H_2 \rightarrow 2\ CH_3\text{-}CH_2\text{-}CH_3 + 3.5\ O_2 + H_2O + Na_2O$

$3\ C_4H_9OH + H_2 \rightarrow 4\ CH_3\text{-}CH_2\text{-}CH_3 + O_3$ (under UV irradiation)
$3\ C_4H_9OH + H_2 \rightarrow 4\ CH_3\text{-}CH_2\text{-}CH_3 + 1.5\ O_2$ (Under optimized conditions)
$3\ C_4H_9OH + 2H_2 \rightarrow 4\ CH_3\text{-}CH_2\text{-}CH_3 + O_2 + H_2O$ (Under optimized conditions)
$C_4H_9OH + H_2 + O_2 \rightarrow CH_3\text{-}CH_2\text{-}CH_3 + CO + 2H_2O$ (Under optimized conditions)
$3C_4H_9OH + 2HCl \rightarrow 4\ CH_3\text{-}CH_2\text{-}CH_3 + Cl_2 + 1.5\ O_2$
$3C_4H_9OH + 2HCl + H_2 \rightarrow 4\ CH_3\text{-}CH_2\text{-}CH_3 + Cl_2 + O_2 + H_2O$
$C_4H_9OH + 2\ CO_2 + 2HCl + 2H_2 \rightarrow 2\ CH_3\text{-}CH_2\text{-}CH_3 + 2.5O_2 + Cl_2$
$C_4H_9OH + 2\ CO_2 + 2HCl + 3H_2 \rightarrow 2\ CH_3\text{-}CH_2\text{-}CH_3 + 2\ O_2 + H_2O + Cl_2$
$C_4H_9OH + 2CO_2 + 2NaOH + 2H_2 \rightarrow 2\ CH_3\text{-}CH_2\text{-}CH_3 + 3O_2 + Na_2O$
$C_4H_9OH + 2CO_2 + 2NaOH + 3H_2 \rightarrow 2\ CH_3\text{-}CH_2\text{-}CH_3 + 2.5\ O_2 + H_2O + Na_2O$

91) Double four stroke engine operating in opposite directions when compared to single four stroke engine

A four-stroke (also four-cycle) engine is an internal combustion (IC) engine in which the piston completes four separate strokes while turning the crankshaft [9]. A stroke refers to the full travel of the piston along the cylinder, in either direction. This can also be done from bottom of the chamber reversibly by additional four

strokes completely acting opposite to fist one. The benefit of doing it is it makes to run faster but the fuel consumption is double. This saves time to reach the destination who travels long distances.

92) Probable equation of producing electricity from starch and carbohydrate present in potato when exposed to sunlight which needed to be verified; potatoes do usually produces electricity under sunlight

$10(C6H10O5)\text{-}H2O+C_5H_{10}O_4 \rightarrow 9C6H12O6+H2O+2H^{+}+9C+2e$

93) In water purifiers the salty and dirty water is purified by reverse osmosis using the membrane; but due to non development of the pressure for water to flow through membrane due to small tank, it is reported that huge volume of water is drained out. This can be avoided by creating vacuum in the second chamber i.e. the other side of chamber to the membrane in which water is permeable. This creates necessary pressure and allows water to flow through membrane easily and this saves time, energy and water.

94) Possible way of purifying salty water in to pure water by sodium bicarbonate and hydrogen peroxide which needs a trial.

$NaCl+NaHCO3+H2O2+H2O \rightarrow Na2O+CO2+2H2O+HCl(g)$

95) Now a day's cooking gas is used to cook food by everyone; but the oil producing companies are producing huge gallons of kerosene, this should not get wasted and can be utilized to run the heavy duty generators to produce electricity. Hence focus should be given to develop heavy duty generators and should establish power generating plants utilizing kerosene to produce enormous amount of electricity to fulfil the global demand of power.

96) Production of more electricity by using generators with slight modification to the magnetic coils which produces magnetic field; Coils of various diameter should be taken and these coils are incorporated in side each other. That's how we can generate more magnetic fields and this in turn make one to generate more electricity by moving electricity producing coils in magnetic field. This applies to various types of generators especially those using kerosene as fuel.

97) Possibility of making a more efficient transformer by considering two cylinders of different diameter placed inside each other by wounding coils on it instead of rectangular (two sides of rectangle are wound by coil) or toridal shaped (two half's are wound by coil) for the electricity to transform from once coil to other; in this type of transformers length of the cylindrical wound of coil will determine the voltage that can be regulated instead of electromotive force generated on the second coil by first coil in traditional transformers. This needs a trial.

98) In bycycles and rikshaws a dynamo and a battery should be installed to convert the rotating motion of wheel to electricity and storing it respectively. When appropriate dynamo and battery is developed for this purpose, enough of electricity can be generated to power one's own house for 24 hours when paddled cycle or rikshaw for one hour.

99) CD's should be fabricated by coating of magnetic material on two sides and old CD's should be used for recycling of that magnetic material after purifying it.

100) Electricity production by burning dried garbage blocks in thermal power plants there is no need of coal again.

Every day millions of tons of garbage is produced in India, it should be dried and make in to hard blocks and send it to thermal power plants to run the steam turbines after burning these blocks to produce electricity. IT takes little electrical energy to dry the garbage using infrared and UV lamps and 43 times more energy (electricity) is produced by burning this blocked garbage when compared to input energy (electricity) consumed to dry this garbage. This would reduce the nuisance caused by garbage and there is no need of coal again to run the thermal power plants. By doing so power equivalent to extracted energy of $4.3x10^{13}$ W-Hr can be produced daily this is very large to fulfil the total electricity demand of India. So, many thermal power plants can be established and this is government responsibility and they can provide opportunity to educated people in thermal power plants. Waste from the forest can also be utilized same as garbage.

101) To check and utilize the dust and hydrophobic property of Lotus flower and its leaf by extracting oil or chemical solution from it for application on solar panels surface to keep it clean from dust and water phobic to increase the efficiency of the solar cells in various seasons.

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