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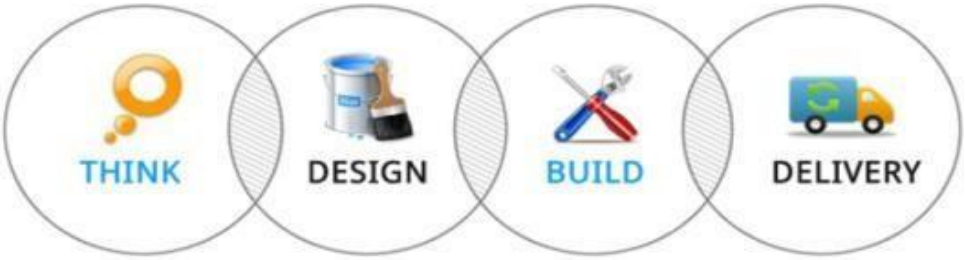

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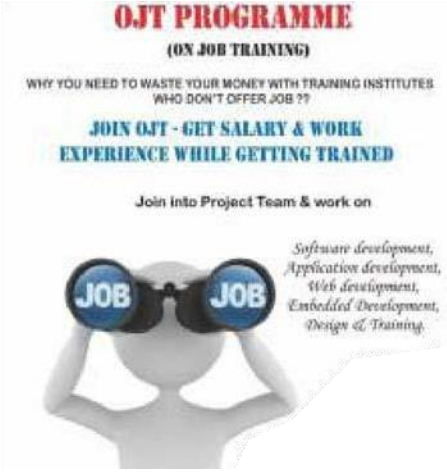
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AGRICULTURAL PROJECTS

FABRICATION OF SOLAR OPERATED REAL-TIME MULTI PURPOSE AGRIVEHICLE

ABSTRACT: This Agricultural vehicle is an agricultural machine of a considerable power and great soil clearing capacity. This multipurpose system gives an advance method to sow, plow, water and cut the crops with minimum man power and labor making it an efficient vehicle. The machine will cultivate the farm by considering particular rows and specific column at fixed distance depending on crop. Moreover the vehicle can be controlled manually by driving the vehicle using seating arrangement. This agricultural vehicle will be running with batteries. Batteries will be charged using Solar Energy. So ultimate aim is to develop a agricultural vehicle which uses renewable sources for operation.

FABRICATION OF MULTIPURPOSE AGRICULTURE MINITILLERWITH SEED SOWING AND PESTICISE SPRAYER

ABSTRACT: As the world is trending into new technologies and implementations it is a necessary goal to trend up in agriculture also. Many researches are done in the field of agriculture. The multipurpose agricultural tiller has been fabricated on a rigid chassis frame which holds a universal shaft on which rotary and wheels can be mounted. This universal shaft derives 8 BHP of power from a 4-Stroke IC engine placed firmly on the chassis frame. The mechanism used is such that the same engine drives the wheels, pesticide sprayer, seeder, and Digging(plough). A power sprayer is used which will facilitate spraying of pesticide at different heights of crop cultivation. A multi-way adjustable plough is also used whose position can be adjusted on a slide through frame according to the requirement of the farmer. A multi variety seeding operation is also setup. Multipurpose agricultural tiller can be easily afforded by average.

FABRICATION OF BLUETOOTH OPERATED SMART MUILTPROPOSE AGRI VEHICLE

ABSTRACT: This Agricultural vehicle is an agricultural machine of a considerable power and great soil clearing capacity. This multipurpose system gives an advance method to sow, plow, water and cut the crops with minimum man power and labor making it an efficient vehicle. The machine will cultivate the farm by considering particular rows and specific column at fixed distance depending on crop. Moreover the vehicle can be controlled manually by driving the vehicle using seating arrangement. This agricultural vehicle will be running with batteries. Batteries will be charged using Solar Energy. So ultimate aim is to develop an agricultural vehicle which uses renewable sources for operation.

FABRICATION OF SEED SOWING MACHINE

ABSTACT: Agro-Technology is the process of applying the technology innovation occurring in daily life and applying that to the agriculture sector which improves the efficiency of the crop produced and also to develop a better mechanical machine to help the agriculture field which reduces the amount and time of work spent on one crop. Hence in this work of project we decided to design a better mechanical machine which is available to the farmers at a cheaper rate and also which can sow and seed the crop at the same time. This project consists of the better design of the machine which can be used specifically for rice, wheat crops etc. Developed agriculture needs to find new ways to improve efficiency. One approach is to utilize available information technologies in the form of more intelligent machines to reduce and target energy inputs in more effective ways than in the past. Precision farming has shown benefits of this approach but we can now move towards a new generation of equipment. The advent of autonomous system architectures gives us the opportunity to develop a complete new range of agricultural equipment based on small smart machines that can do the right thing, in the right place, at the right time in the right way.

FABRICATION OF WHEAT HARVESTING MACHINE

ABSTRACT: This project is intended to help small-scale grain growers meet an increased demand for diverse, locally grown grains by designing a reaper-binder machine. To refine our prototype and final design, we worked closely with a three person review panel, made up ofgrain farmers and industrial designers. With this prototype, we hope to provide farmers nationwide with a way to harvest and bind grains on small plots of land in cities and along the periphery of urban areas.

FABRICATION OF SOLAR OPERATED SMART HYDROPONICS SYSTEM FOR FODDER FEED GROWING

ABSTRACT: This article presents a design and development of solar energy based hydroponics cultivation system. The main objective of the system is to grow a plant without a soil by using solar supply. It uses the 90% of water efficiently. The production rate of the proposed system increases by 3 to 10 times as compared to soil cultivation system. Hydroponics is the method of cultivating plants with absence of soil by utilizing in water solvents as a mineral nutrients solution normally aninorganic substrate with rock wool to be the most common worldwide. Agriculture in the developing countries faces lot of serious challenges in nowadays that include: competition for water sources, lagging of energy resources, increases the costs of labours, tremendous growth of world population, competition for international markets, climate changes, environmental pollution and uncertainties in the effectiveness of the current international policies and regulations as regards adaptation strategies. Controlling of environments becomes an important tool in agriculture cultivation and study chains. Hydroponics is an assuring technology and becomes very attractive in the area of agriculture, especially in urban and city side farming. Hydroponic cultivation systems have found a suitable solution for fast development and widespread use in current years. In hydroponics cultivation method, the monitoring and recording of various parameters helps cultivators to develop optimal solutions for the growth of plants. In this proposed system, we are designed a less-cost, high-reliability hardware model for solar powered hydroponics cultivation in real-time measurements.

DESIGN AND DEVELOPMENT OF AN AUTONOMOUS AGRICULTURAL DRONE FOR SOWING SEEDS

ABSTRACT: This paper demonstrates the design and fabrication of an autonomous agricultural drone for sowing seeds in the crop fields. In order to reduce the seeds sowing time, a seed sowing device has been specially developed and integrated with the quad-copter agricultural drone. The drone consists of a global positioning system (GPS) and an auto-pilot device, the flight path of which is controllable from the ground control station. The flying path can be programmed in the MissionPlanner software before the drone flight starts and can be altered if required. In addition, the agricultural drone ismanually controllable using a long-range remote controller. It can fly under variable altitude where the maximum altitude is ~ 500 meter. The drone can fly at a maximum speed of 14.76 km/hour. The maximum seeds sowing rate of 498 m2 /min is achieved for an altitude of 5 meter. At this seeds sowing rate, the mode value of seeds' distance is ~ 2.5 cm. We can control the seeds sowing rate by controlling various operational modes of the seeds sowing device. The proposed agricultural drone will reduce the seeds sowing time significantly and contribute towards the automation of the agricultural sector.

FABRICATION OF SOLAR OPERATED PLANT IRRIGATION WATER SPRINKLER AGRICULTURE ROBOT

ABSTRACT: The purpose of the project is to build a multipurpose agricultural robot which can perform various operations like irrigation. One of the important professions in India is farming so it's essential to seem out for automation in field work to scale back man power. This project focuses on farming work like automatic irrigation system. The system comprises of a mobile robot and a dryness sensing module. The system is fully adaptive to any environment and takes under consideration the watering needs within the irrigation. This hardware describes the fully automated watering system. It uses wireless communication to communicate between the mobile robot and the sensing module. It is equipped with microcontroller, an on board water reservoir and an attached water pump. This robot uses solar energy as a source of power and this energy is stored in battery. By using solar energy we can minimize the extra expenses of farmers in terms of electricity bill. It is best option as an alternative of electrical energy and also not affects the environment as it is a clean energy.

FABRICATION OF COCONUT DEHUSKING MACHINE

ABSTRACT: Manual husking is time consuming since it is hand operated using a sharp blade. Besides, it is dangerous and may cause severe back pain to the workers. In addition, the labor shortage in the agriculture sector is critical. Therefore, the development of a mechanical dehusking machine is essential to resolve these problems. This paper highlights the design and development of a mechanical coconut dehusking machine. It consisted of a petrol powered engine, hydraulic system, gears, chains, rollers with sharp spikes, mesh guard, speed controller and frame. The dehusking rate was estimated at 250 – 300 nuts an hour or 7 – 10 seconds per nut. Estimated cost of the dehusker machine is 10,000 per unit.

FABRICATION OF SOIL TRILLING MACHINE

ABSTRACT: Today's era is marching towards the rapid growth of all sectors including the agricultural sector. To meet the future food demands, the farmers have to implement the new techniques which will not affect the soil texture but will increase the overall crop production. Conventionally digging a deep holes or larger diameter holes requires more work and rime.so in order to reduce this losses we are planning to design a post hole digger machine Post hole digger machine is used to reduce the man work and time for digging holes. These holes can be used for fixing engine and different plantation such as rubber plant, coconut, sugar cane etc.

FABRICATION OF COCONUT TREE CLIMBING ROBOT

ABSTRACT: Agriculture, the prime sector is the backbone of India. As the coconut palm growers are struggling with the acute shortage of human coconut tree climbers to climb and harvest the coconuts, many are working towards possible alternatives to help them handle this situation. In this study paper we analyse the problems associated with the shortage of human coconut tree climbers in–depth Along with this we discuss how robotics and automation could be a possible solution for this entire problem. In this context we discuss about the features of such robotic system and also give suggestions on various unmanned robotic models that can be designed and implemented. Coconut is inseparable part of life of people of southern India particularly in the states of Kerala and Tamilnadu. Coconut as tender coconut water, coconut gratings, coconut milk, coconut oil etc.

AUTOMOBILES BASED PROJECTS

FABRICATION OF HYBRID TWO WHEEL DRIVE MOTORCYCLE FOR RANGE EXTENSION

ABSTRACT: The major source pollution in the environment the exhaust gases from the vehicles and it is increasing day by day. This is leading to many environmental problems such as global warming. This effects plants and animal life's. One of the innovation to avoid this problem is the Hybrid Electric Vehicle (HEV). The hybrid electric vehicle consists of two or more energy sources for total propulsion of the vehicle. In this project, two independent power units consisting of electric drive unit and IC engine unit have been used. The power of electric dive unit can be usedup to 20kms and it makes the vehicle more eco- friendly. For high speed and long distance operations, it can be switched to IC engine drive which makes the vehicle more flexible.

AIR BRAKE SYSTEM USING ENGINE EXHAUST GAS

ABSTRACT: The aim is to design and develop a brake system based on exhaust gas is called –AIR BRAKE SYSTEM USING ENGINE EXHAUST GAS|. The main aim of this project is to reduce the workloads of the engine drive to operate the air compressor. In this project, we used exhaust gas from the engine to rotate the generator turbine. Then the power is loaded to the D.C compressor and it is used to the pneumatic cylinder to apply brake.

AUTOMATIC PNEUMATIC BUMPER

ABSTRACT: The technology of pneumatics has gained tremendous importance in the field of workplace rationalization and automation from old-fashioned timber works and coal mines to modern machine shops and space robots. It is therefore important that technicians and engineers should have a good knowledge of pneumatic system, air operated valves and accessories. This system is consists of IR transmitter and Receiver circuit, Control Unit, Pneumatic bumpersystem. The IR sensor is used to detect the obstacle. There is any obstacle closer to the vehicle (with in 4 feet), the control signal is given to the bumper activation system.The pneumatic bumper system is used to product the man and vehicle. This bumper activation system is only activated the vehicle speed above 40-50 km per hour.

FABRICATION OF GEARLESS POWER TRANSMISSION MECHANISM

ABSTRACT: Also called elbow mechanism.It is an ingenious link mechanism of slider and kinematic chain principle. Transmits power at any angle without utilising gears. Transmits the power between two shafts whose axes are at 90 degree through bent links. Three links slide relatively according to the motion given to input shaft. Due to this, the rotational motion of input shaft is converted into sliding motion of links which is then converted to rotational motion of the output shaft.

DESIGN AND FABRICATION OF SEMI AUTOMATIC BIKE CENTRE STAND

ABSTRACT : A two wheeler refers to vehicles that run on two wheels. They include, bicycle, a pedal-powered two wheeler. Motorcycle is the motor-powered two wheeler, similar in construction with bicycles. But also considering that the parking of vehicles in parking places is necessity. So that stand must be used at the parking. Considering this area the automation of stand is taken into account for our project. This automation is very useful at the parking the vehicle. This automation is related to the limit switch. The system uses the two limit switch which is placed two places of stand. When the limit switch is actuated the stand will automatically place. Again if the same switch is actuated stand closes. This automation is very useful at the time of parking. This is the simplest method and can be suitable for all automobile two wheeler vehicle.

FABRICATION OF COMPRESSED AIR VEHICLE

ABSTRACT: To meet the increasing demand for the fossil fuel consumption with increasing population and automobiles, various advancements such as hybrid electric vehicles, solar vehicles, hydrogen fuel cell powered vehicles are being attained in automobile sector. Also the increasing level of automobile pollutants ad global warming due to increase in the percentage of CO_2 demands a cleaner technology like CAV.

PNEUMATIC POWERED DRONE CATCHER GUN | NET THROWER

ABSTRACT: Drones are a common sight today. The future will have drones being used for a variety of purposes like delivery, surveillance etc. But are also a security threat, they can be used for wrongful surveillance in the wrong hands or to trouble someone with drone noise. So in order to get rid of drones flying over your private property or over places where it is not allowed we needa system to protect from drones.So here we propose a system that can bring down drones from a

certain range. For this purpose we make a drone catcher gun that can not only shoot but capture drones to check for evidence. This allows to capture the drone without destroying it to analyse what it was actually doing.Our drone catcher gun is powered by a compressed cylinder/pressure vessel. We compress it with high air pressure. The cylinder is connected through pipes to a release valve that is released when user needs to pull the trigger. We further make a net with 3 cylindrical ends to carry the net over the target. The cylindrical bullets are fired through three different hollow cylinders for accurate shooting.

FABRICATION OF EFFI CYCLE

ABTRACT: Increase in the concern of congestion and pollution of the motor vehicles for personal transport is getting a very big issue. The major aim of the project is to design and investigate on a vehicle that replaces and fits into the viable alternative to cars for short distance usage. The vehicle to be designed and fabricated in our project will be an Ultra Light Vehicle. It is powered by a hybrid human-electric drive system. A concept frame will be considered to be devised for investigation. The frame design consists of just two members where seating position is arranged adjust which make manufacturing easy. A mechanical drive system – which on its own could power the vehicle – has also been designed, as has an electrical drive system that can be retrofitted at the rear side.

HYBRID ELECTRIC BIKE FOR TWO WHEEL

ABSTARCT: The objective of the project is to build a hybrid motorbike which will strike a right balance between fuel consumption and pollution control and can be optimized effectively for future generation motorbikes. The hybrid drive unit can be easily mounted on a bike. While the gasoline engine will drive the rear transmission, the hub motor will drive the front transmission. And to power the hybrid unit, a dynamo has been placed at the rear wheel of the bike that will charge the battery in case it runs critically low and thus can serve as a backup till the rider reaches a proper refueling station.

INDUSTRIAL BASED PROJECTS

FABRICATION OF MULTIPURPOSE ECO FRIENDLY MANUAL ROADCLEANING MACHINE

ABSTRACT: Cleaning is the main basic need for all human beings and it is necessary for daily routine process. The conventional road and floor cleaning machine is most widely used inmany applications such as example roads, railway stations, airports, hospitals, Bus stands, in multi buildings, colleges etc. also this machine uses human energy for its working operation. Itis a user friendly as well as eco-friendly. In our project we are aimed to use easily available materials with low cost and it can be easily fabricated and easy to use and control. It is the better alternative for conventional machine. The manually operated eco-friendly road and floor cleaner can work very efficiently with respect to covering area, time and cost of road cleaning process compared with the existing machineries. Also it is economical to use.

FABRICATION OF CEMENT PLASTERING MACHINE

ABSTRACT: This innovative machine is unique and perhaps of wall plastering machine which is ideally suitable for the construction or building industry .The human effort can be eliminated to considerable extent as the machine can automatically plaster the wall by moving up and down in the vertical direction. The machine as two rails for raising and moving automatically and it can be used for varying heights of the wall .The machine also as a special arrangements for adjusting the plastering thickness. The machine as a large capacity hopper and it and it has a micro controller for controlling the movement. It is to operate and one or two person can operate the machine. The building construction is one of the most unfamiliar R&D activities in the robotics and automation community.

FABRICATION OF AUTOMATIC SEWAGE CLEANING MACHINE

ABSTRACT: In this project the proposal concept is to replace the manual work in drainage cleaning by automated system. Now a day's even through automation plays a vital role in all industrial applications in the proper disposal of sewages from industries and commercials arestill a challenging task. Drainage pipes are using for the disposal and unfortunately sometimes there may be loss of human life while cleaning the blockages in the drainage pipes.

We designed our project to use this in efficient way to control the disposal of wastages and with regular filtration of wastages, clearance of gaseous substance are treated separately and monitor the disposal of frequent manner.

FABRICATION OF ROUGH TERRIAN ROCKER BOGIE MECHANISM

ABSTRACT: Rocker bogie mechanism is a mechanism mainly employed within the mars rovers to conquer the basic terrains while keeping balance. It's NASA's preferred mechanism for room automobiles DQG rovers. It contains 2 arms with steering wheel mounted to each and every. Each arm is attached by way of a movable joint. This allows employing a suspension- based mechanism which distributes the automobile ton as consistently as you possibly can actually on protrusions as well as unusual surfaces. The look involves a springtime totally free suspension dependent differential drive process which enables the bogie to go more than rubble, pebbles easily. The cameras and sensors installed on a rover should be healthy to function also and properly to increase the life span of theirs. Additional vibrations as well as jerks result in quicker damage within receptors, circuit boards as well as digital cameras. The rocker bogie mechanism was created trying to keep this particular of brain by offering optimum stableness in all of the terrains. As a result, we examine the layout and also fabrication on the rocker bogie mechanism by fabrication of this particular basic surfaces automobile making use of ideas of the bogie mechanism.

FABRICATION OF PENDULUM BASED WATER PUMPING SYSTEM

ABSTRACT: This paper examines the importance of a pendulum pump which can be used as a supplementary device for pumping water and can perhaps replace hand pumps. The traditional hand water pump could possibly take more efforts to operate, the man who operates traditional hand water pump must apply his force in coinstantaneous on the lever of the pump, due to which people using this pump get tired immediately. The primary feature of a pump with a pendulum is that the work is simplified when compared with a traditional hand water pump.

This feature enables the pendulum pump to be used in an efficient manner for irrigation of smaller lots, water- wells and can also be used in extinguishing fire even by old people and children. A pendulum- based water pumping system could possibly increase the efficiency of the system by reducing the required effort, cost of production, production time and manpower as in the case of a conventional hand pump. The research done to this day is concentrated on the working and effectiveness of the mechanism only. Considering all the advantages of the mechanism it was chosen to use it forlifting water with the assistance of reciprocating pump such an extent that the contribution to the system is given by people which is nearly not exactly the exertion connected by people to lift water utilizing hand pumps straightforwardly.

FABRICATION OF HYDRAULIC TROLLEY FOR MATERIALHANDLING

ABSTRACT: The foremost aim of our project is to design and fabricate a hydraulic operated Hydraulic trolley for the purpose of material handling at a faster rate. At present forklifts, pallet trucks are used for the purpose of material handling. For forklift it requires a well-experienced technical person for handling operation. For pallet trucks, it does not have large cross-section, as the material to be handles is in small unit. For both the equipment the initial cost is high. This project work has been conceived having studied the difficulty in lifting and loading the any type of materials. Our survey in the regard in several small scale industries, revealed the facts that mostly some difficult methods were adopted in lifting the material. Now the project has mainly concentrated on this difficulty, and hence a suitable device has been designed. Such that the material can be lifted from the floor land without application of any impact force. The fabricationpart of it has been considered with almost case for its simplicity and economy, such that this can be accommodated as one of the essential tools on all industries.

AUTOMATIC METAL CUTTING MACHINE USING GENEVA MECHANISM

ABSTRACT: The design and fabrication of GI metal cutting machine using Geneva mechanism is useful to cut GI metals in equal and accurate dimensions. Geneva drive is an indexing Mechanism that converts continuous motion into intermittent motion, Due to which GI metal is moved between the equal intervals of cutting period.

The objective of this concept is to designthe Geneva mechanism operated GI metal cutting machine which eliminates the most time takingprocess of GI metal marking and helps in feed equal dimension GI metal in each rotation. This machine is used to reduce the manual work of GI metal cutting, and also time saving. This machine is very useful for GI metal manufacturing industry also we can avoid the human errors and also we can use this equipment also in GI metal stores.

FABRICATION OF PEDDAL OPERATED FOOD SHREDDING MACHINE

ABSTRACT: Organic composting forms the backbone & basic necessity of a poor farmer. The traditional methods are not sufficient & satisfactory for chopping the crop residues. Whereas buying the chemical fertilizer is not possible for every farmer due to its high cost and also food waste contains high calorific and nutritive values. In all the cities and places, organic waste is dumped or disposed in landfill or discarded, which causes the public health hazards and diseases like malaria, cholera, typhoid. Inadequate management of wastes like uncontrolled dumping bears several adverse consequences. Shredding machine is used for shredding and converting macro organic waste products into small or micro easily decomposable form, which can be used as organic manure. Organic waste shredder designed should perfect to shred all kinds of wasteproducts. The organic waste shredded will be in small pieces to enable the farmer to make use of it as feed for manure or organic manure and biogas feed. This shredder can be operated with a pedaling.

FABRICATION OF SOLAR POWERED WASTE ALLOCATION LOAD LIFTER

ABSTRACT: The purpose of this project is to develop an improved method for collecting trash in parking lots following tailgates. Current best practices rely on manual labour, making them costly and inefficient. We aim to disrupt this paradigm by developing a semi-autonomous electro- mechanical trash collector. In this project we highlight the detailed design and engineering work completed on the system to date.

The device can be broken down into three distinct subsystems: (1) a collection system to pick up pieces of rubbish, (2) a compaction system to reduce the bulk volume of waste, and (3) an overarching control subsystem. The design of the collection subsystemfocused on the development of a scooped conveyor belt system to allow for the semi-continuous collection of trash. Difficulty with the tendency of cylindrical objects to roll away from scoop mechanisms required the implementation of a backstop. This backstop rides along the ground and is attached to a suspension to allow for movement over uneven terrain. Cost considerations, and a desire for equal force distribution across the plate area, resulted in the development of a compaction system with two separate track actuators. The compaction system also serves as a disposal mechanism, pushing compacted blocks of trash out of the hinged front panel. The forces exerted on this hinge and lock assembly drove the development of an in-house designed mechanism based on those used in dump trucks. Finally, the design of the control subsystem focused on the realization of long-range remote control, the effective control of drive and secondary motors, and the implementation of several sensor feedback loops.

RIVER CLEANING MACHINE – MODEL 2

ABSTRACT: The issue of water logging due to plastic, thermocole and metal is prompting bother development and it favors ailments like intestinal sickness, typhoid and so on. Cleaning the wastes by utilizing manual procedures would be insufficient as it regularly covers immense territory of works and endeavors with plausibility to getting influenced by different sicknesses from the irresistible microorganisms present in the sewage while cleaning manually. This study features a proposed plan of garbage gathering system viable and effective for tidying up waste from rivers, channels and lakes. The trash gathering system is explicitly coordinated to application for getting up a wide assortment of debris, including gliding litter, trash, logs, disposed tires and others. The integrated system incorporates the usage of IoT technology that has the ability to monitor and control the entire process. From the interest and need of cleaning contaminations in the conduits territory, the vessel has been created to suit the prerequisite of working at places other than seaward zone, giving more decisions for the utilization of cleaning garbage and waste from the water environment.

DESIGN AND DEVELOPMENT OF WATER TANK CLEANING

ABSTRACT: Water is one of those natural resources, which is essential to each and everyhuman being for many purposes, especially for drinking. We already know that earth is composed of water (three-fourth of the earth), but the entire three fourth isn't fresh water.Therefore, it is our duty to save water, keep the fresh water as fresher as possible, and also tokeep it free from water pollutants. The water that's pumped to our home is undoubtedly clean,but is the place where it gets stored clean as well? Yes, we are talking about the overhead watertanks. The health of your water largely depends on how clean your water tank is. Hence,cleaning overhead water tank is very necessary. Our aim of this project is to develop amechanical system for cleaning domestic cylindrical water tank. The mechanical systemincludes motor, shaft, battery and Arms with brushes. The arms are adjusted according to thedimensions of the tank, once adjusted the machine is switched ON, the motor draws power fromthe battery and rotates the shaft with low RPM and high torque, the brushes mounted on the arms starts scrubbing the inner walls of the tank.

FABRICATION OF SOLAR POWERED BEACH CLEANING MACHINE

ABSTRACT: -Beaches are one of the main tourist attractions in the coastal parts of India. They are also the most polluted. Most government neglected cleaning of beaches.The main reason being the difficult nature of cleaning it. It takes up lot of resources and time. The workers need to manually pick the waste. The waste when thrown in the sand gets covered with the sand bythe heavy coastal winds. This makes the spotting of waste difficult. It is difficult for the workers to clean as they have to dig each cubic feet to collect the waste. Our aim of work is to design and fabricate the beach cleaning machine. We have created a simple economical design so that it will be easy for maintenance and use. The parts have been sourced locally so replacement parts will be easier to get. The machine is environment friendly and can run in any conditions offered by the beach. We have designed and manufactured a beach cleaning machine which is both cheap and easy to use. It does not have a huge learning curve. The machine runs on human power or electric motor. The electric motor is powered by solar panels. This gives an advantage over the current models available in the market which runs in fuel motors. The entire machine is able tofit in the rear of a car.

MECHATRONICS BASED PROJECTS

FABRICATION OF WASTE SAPERATION USING SMART DUSTBIN

ABSTRACT: In recent times, garbage disposal has become a huge cause for concern in the world. A voluminous amount of waste that is generated is disposed by means which have an adverse effect on the environment. Several advancements in technology has also allowed the refuse to be processed into useful entities such as Waste to Energy, where the waste can be used to generate synthetic gas (syngas) made up of carbon monoxide and hydrogen. When the waste is segregated into basic streams such as wet, dry and metallic, the waste has a higher potential of recovery, and consequently, recycled and reused. The wet waste fraction is often converted either into compost or methane-gas or both. Compost can replace demand for chemical fertilizers, and biogas can be used as a source of energy. The metallic waste could be reused or recycled.Even though there are large scale industrial waste segregators present, it is always much better to segregate the waste at the source itself. The benefits of doing so are that a higher quality of the material is retained for recycling which means that more value could be recovered from the waste. The occupational hazard for waste workers is reduced.

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FABRICATION OF VOICE OPERATED MOTORISED EXO SKELETONARM

ABSTRACT: The exoskeleton is getting important to humans in many aspects such as power assist, muscle training, pneumatic functioning and rehabilitation. The research and development towards these functions are expected to be combined and integrated with the human intelligent and machine power, eventually becoming another generation of robot which will enhance the machine intelligence and human power. This paper reviews the upper extremity exoskeleton with different functions, actuators and degree of freedom (DOF). Among the functions, rehabilitation and power assist have been highlighted In addition, the structure of exoskeleton is separated by its DOF in terms of shoulder, elbow, wrist and hand.

DESIGN AND FABRICATION OF SOLAR BE-BOAT ROBOT CLEANERUSING REMOTE CONTROL

ABSTRACT:Indian road and coastal area transport has come up as a fast growing and profit making organization. However it has been striving since many years to achieve complete cleanliness in roads as well as coastal area . The solar powered be boat robot can sift through sand and detect small objects like cigarette butts , food wrappers and bottle caps Lot of waste being deposited in the road sand coastal area by the passengers every day. These wastes include plastics materials, eatables etc. It is very much mandatory to remove the wastes present in the coastal areain an effective way. The conventional cleaning techniques include manual methods which are not very much efficient. This triggers the need for an automated machine which can remove the wastes in an easier and efficient way. Our project aims at developing a be boat robot cleaner that can cleanthe waste particles lying in the sand and coastal area effectively which provides clean roads. The robot is operated with the help of dual power i.e. solar power and battery. Thus Eco friendly environment can be obtained by the be boat robot cleaner because of the harmless energy sources using remote control.

DESIGN AND FABRICATION OF SOLAR POWERED ANTIPOACHINGMOTOR BIKE

ABSTRACT: The main gist of this paper is to give the exact view by bridling the various sources of energy available to mankind. In today's modernized world travelling is very essential for human beings in order to protract in this world. And to do so his travelling should be done in minimum possible way and in jiffy.

This paper details about the solar Electric Bike which runs on the battery thereby providing voltage to the motor. This paper compromises with design and fabrication of Electric Bike which makes use of Electric energy as the primary source and solar energy if possible by attaching solar panels. It also highlights on the design aspects of the bike. There is a provision for a charging the battery by ejecting it from the main system. The electrical power generated which is used to run the bike can give better fuel economy compared to conventional vehicle,better performance and also causes less pollution we can use this in field area to catch poachers.

FABRICATION OF MOTORIZED VOICE OPERATED STANDING WHEEL CHAIR

ABSTRACT: It is inevitable for any country to have people with disabilities or have trouble with standing up, especially arthritis patients. The most common used devices for disabled people are wheelchairs. What's more, the life quality of disabled people and patients has caught attention by society. Modernized wheelchair has become a popular engineering challenge for decades. We aimed to design a new mechanical system in wheelchair to help people stand up, this mechanism should be safer, simpler in structure, less power consuming and more economic. A parallelogram structure was designed for wheelchair to fit the natural human standing posture. Springs installed attwo nonadjacent vertexes can accumulate energy. A motor with less power and cheaper prices is reasonable, energysaving and easily provide the power to lift up. After research and calculation,this parallelogram structure reduced almost 45% power compared with pure motor drive one. And the effort of every part can well support human's body to form a natural and comfortable process. The standing wheelchair we designed may help people with disability to surge self-esteem; reach objects placed high, deliver speech on podium. By the way, it's boring for a person to sit for long time.

FABRICATION OF RAILWAY TRACK CRACK AND OBSTACLEDETECTION WITH GSM AND GPS

ABSTRACT: The paper proposes designing of robust railway crack detection scheme (RRCDS) using IR sensor assembly for railway track geometry surveying system by detecting the cracks on railway tracks Most of the accidents in the train are caused due to cracks in the railway tracks, which cannot be easily identified. The manual inspection of railway track took more

time and human fatigue. The proposed system introduces Bluetooth based technology, to prevent the train accident. Two IR sensors are installed at front end of the inspection robot which monitors the track and gives the status to Arduino controller. If there is crack found it immediately sends the location of crack via Bluetooth to mobile phone. The proposed broken rail detection system automatically detects the faulty railway track without any human

FABRICATION OF BIOMETRIC BASED RATION VENDING MACHINE

ABSTRACT : In this project, the proposed concept is to replace the manual work in public distribution system. The ration distribution system is automated by using arduino . This automated ration system replaces the conventional ration card system by smart card. In addition, the finger print detector is placed in the machine in order to check the correct user access. If the user is correct user, the next process takes place and the input can be given in the touch screen. Assoon as the input is given, the products are obtained from the automated ration shop and the amount is taken from the bank account of the particular person. The embedded controller is preprogrammed in such a way to perform the similar operations. In this automated ration shop government have control over all transaction that occurs in ration shop. In order to involve government in the process, the proposed ration shop system is connected to the government database via GSM modules, which further sends the up-to-date information to the government and the consumer.

FABRICATION OF BLUETOOTH OPERATED MULTI PURPOSE FLOOR CLEANING VEHICLE

ABSTRACT: Automatic floor cleaner is a compact robotics system which provides floor cleaning service in room and big offices reducing human labor. Basically as a robot it eliminates human error and provide cleaning activity with much more efficiency. If we clean the floor manually then there is a possibility that the operator will leave some portion of the floor. Also due to manual labor involved this is time consuming and irritating to clean the floor. Also in big offices floor area is very huge and the people involved there for cleaning purpose cannot clean it much more efficiently. This is where the robot comes as an advantage. Also the robot is small and compact in size. So we can carry it and place it wherever we can on the house. Also in industries the robot is very cost effective as compared to manual labor involved. The flexibility,time saving and efficiency make the robot a clean choice for cleaning the floor

FABRICATION OF COVID 19 DISINFECTANT TUNNEL

ABSTRACT: As mentioned earlier, there is dire need for effective process to prevent the outbreak of covid-19 in our country before it is too late. As a part of the effective preventive measure, a short tunnel which sprays sanitizers when people pass through it, can be installed in public places. Without further delay, we would like to discuss about the components and raw materials require to realize the project. Sanitizing Tunnel is designed to disinfecting personnel bypassing through disinfectant passageways, which sprays disinfectant and sanitizer to kill 99.999% of viruses, bacteria, fungi, molds & spores.

COMPOSITE MATERIAL BASED PROJECTS

FABRICATION OF EGLASS WITH JUTE FIBER COMPOSITE WITH RESIN AND HARDNER

ABSTRACT: Composites of various compositions with three different fibre orientation (0°, 30° and 40°) are fabricated using simple hand lay-up technique. It has been observed that there is a significant effect of fibre loading and orientation on the performance of jute/glass fibre reinforced epoxy based hybrid composites. The developed hybrid composites undergo different kinds of tests. The result shows hybrid composites having good strength and stiffness compared to natural hybrid composites. The Finite Elemental Analysis was carried to determine the stress and compare the result with experimental data.

MECHANICAL BEHAVIOR OF EGLASS, RUBBER POWDER, EPOXY REINFORCED NATURAL COMPOSITE

ABSTARCT: The present study concentrates on the development of natural composite and to utilize the advantages offered by renewable sources. Composites are developed by hand layup technique using sisal and eglass fiber, epoxy and hardner. Specimens are cut according to the ASTM standard. The hybrid composites are developed with different reinforcements of percentages such as 5 10 and 15 % of rubber powder The various tests are conducted to determine the mechanical properties.

MECHANICAL BEHAVIOR OF SUGARCANE BAGGASE WITH SISAL , JUTE EPOXY REINFORCED NATURAL COMPOSITE

ABSTARCT: The present study concentrates on the development of natural composite and to utilize the advantages offered by renewable sources. Composites are developed by hand layup technique using sugarcane baggase, jute, sisal fiber, epoxy and hardner. Specimens are cut according to the ASTM standard. The hybrid composites are developed with different reinforcements of layers 3,5,7. The various tests are conducted to determine the mechanical properties.

MECHANICAL BEHAVIIOUR COCONUT MAT REENFORCED WITH EPOXY POLYMER COMPOSITE

ABSTARCT: It is desired to produce low cost, high quality, sustainable and environmental friendly materials. It has been found from the researched study that the lower mechanical properties and poor compatibility between polymer matrix and fibers. Composite materials are one of the most favoured solutions to this problem in the field. By combining the stronger properties of traditional materials and eliminating the disadvantages they bear, fiber mats of different orientations are developed, composite materials technology is providing compromising solutions and alternatives to many engineering fields. Problems born from material limitations like heavy weight, structural strength, and thermal resistance are being solved by the composite material alternatives, and many more alternatives are being introduced to readily use engineering applications.

AERONAUTICAL BASED PROJECTS

FABRICATION OF AIRCRAFT WINGS DEICING

ABSTRACT: In-flight icing is a major concern in aircraft safety and a non-negligible source of incidents and accidents, and is still a serious hazard today. It remains consequently a design and certification challenge for aircraft manufacturers. The aerodynamic performance of an aircraft can indeed degrade rapidly when flying in icing conditions, leading to incidents or accidents. In-flight icing occurs when an aircraft passes through clouds containing supercooled water droplets at or below freezing temperature. Droplets impinge on its exposed surfaces and freeze, causing roughness and shape changes that increase drag, decrease lift and reduce the stall angle of attack, eventually inducing flow separation and stall. This hazardous ice accretion is prevented by the use of dedicated anti-icing systems, among which hotair-types are the most common for turbofan aircraft.

FABRICATION OF PNEUMATIC OPERATED EMERGENCY OVERWING EXIT SYSTEM IN AIRCRAFTS

ABSTARCT: Overwing exits are found on passenger aircraft to provide a means of evacuation onto the wing, where passengers either continue off the trailing edge by sliding down the extended flaps or by using an evacuation slide that deploys when the exit is opened.Overwing exits are smaller in width and height than standard emergency exits on an aircraft, and therefore have a reduced evacuation capacity, and are typically added to aircraft where there is insufficient evacuation capacity at the main doors to obtain a 90 second evacuation, but where the addition of another set of full sized exits is not necessary to accomplish this.

BIRD REPELLER AND DETERRENT SYSTEM

ABSTRACT: Ultrasonic bird repellents are simple to install, extremely low-profile, & highly effective. Repel pest birds discreetly. Ultrasonic bird repelled technology is extremely irritating & disorienting to birds, but remains a safe, humane & eco-friendly option. Facility managers must maintain safe, healthy properties. Pest birds create unsafe conditions, & cause untold billions in damage & maintenance costs, liability & risk exposure from accidents, pollution & disease.

RF BASED AIRCRAFT BLACK BOX WITH AUTO INFORMATION TO CONTROL ROOM

ABSTRACT: It has the following feature:

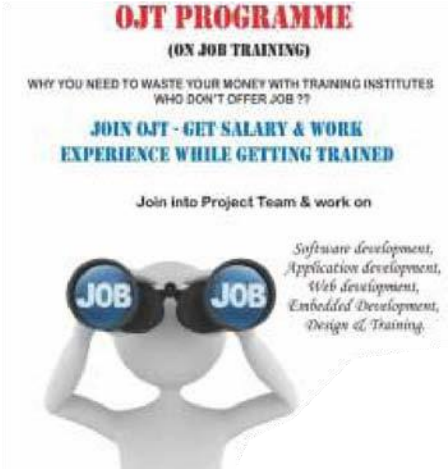
1 Automatically senses the engine vibration; an announcement is displayed in the base station in case of any sort of vibration in engine.

2 To avoid the collision.

3 Automatically senses the engine temperature, an announcement is displayed in the base station in case of abandon rise in engine temperature.

SERVICES


INTERNSHIP ON
LIVE PROJECTS FOR
ALL BRANCHES OF
ENGINEERING STUDENTS
EMBEDDED
SOFTWARE
MECHANICAL


OJT PROGRAMME
(ON JOB TRAINING)
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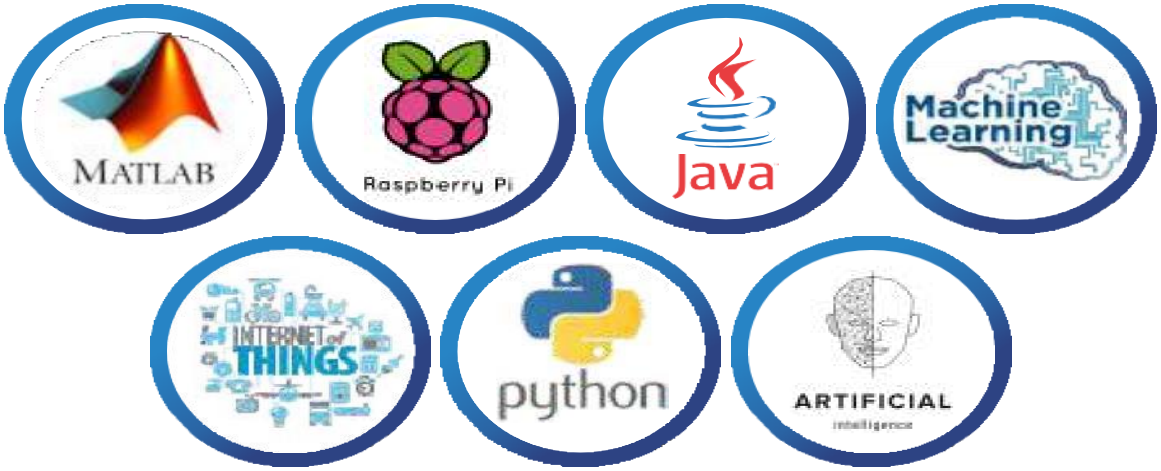
JOIN OJT - GET SALARY & WORK EXPERIENCE WHILE GETTING TRAINED
Join into Project Team & work on
Software development, Application development, Web development, Embedded Development, Design & Training.
JOB
JOB


GOALS
COACH
TEAM
WORKSHOP
PROGRESS
SUCCESS
IDEA
RESULTS
MOTIVATION


PERSONALIZED APPROACH
PRODUCT EXPERTISE
PROFESSIONALS
PREVENTATIVE OPTIONS
CONSULTING SERVICE
PROACTIVE ADVICE



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