PROJECT IDEAS FOR MECHANICAL ENGINEERING FINAL YEAR pdf

1: Mechanical Engineering Final Year Project Ideas

Our mechanical engineering project kits help developers, students build efficient mechanical engineering projects using efficient design technology. Also some kits are used by students in adding functionality to their existing final year mechanical projects or making new systems using our mechanical kits.

The current method for spraying involves use of tractor for large farms while for smaller farms the spraying is done via hand by using manual labour. The original plan was to build a vehicle was able to manouvre in farmed land while having a sprayer arrangement attached to it. This will be set up on a platform that can be pulled through a farm by attaching any vehicle in form of it. The platform will be much such that it allows easy attachment. This is very optimistic project for mechanical engineering final year students. A mini robot to operate in unreachable rough terrains This is robotics related project for mechanical engineering students. Capability of accessing rough, rugged terrains and inaccessible zones can save lives in many rescue-and-relief situation. A few examples are entry in an earthquake-collapsed building, approaching those trapped in a building that is on fire, accessing damaged coalmines and diffusing explosives in rocky battlefield. Operation in hazardous environments e. The design project involves design, analysis, fabrication and control of a multi-terrain unmanned ground vehicle MT UGV. The terrains encountered can be shallow mud, dry sand, tighter, to carry out surveillance through a camera or to do similar tasks. Importantly, it is light weight, packable in size and can be controlled flexibly even with android platform smart phones. The design project targets superior tread-climbing functionality size-to-tread ratio while retaining stability. Due to high and fluctuation increase in oil prices trend for energy generation has been shifted towards renewable energy resources. Our main aim is to extract kinetic energy form wind by using the Spiral axis winnd turbine. As there are lots of horizontal and vertical axis wind turbines installed in coastal areas Pakistan, there is a need to design a wind turbine that could be installed in other urban and rural areas of Pakistan. Moreover the noise produced by wind turbines is so height that the need to installed far away from population to reduce its effect on people. We are designing a Spiral axis wind turbine which has the ability to produce a power Watts at on optimum wind speed. Difference in pressure is created by spatial spiral blade figure which results in better performance. The efficiency of spiral axis wind turbine is greater than all the horizontal and vertical axis wind turbines with similar dimensions. This project is very crucial for mechanical engineering students of Pakistan. Because of this energy crisis different research development are in progress focusing on utilizing non-renewable sources to solve day to day needs of energy. This project investigates the thermal performance of a unique type of solar geyser, solar batch collector. The selected type of solar geyser provides high outlet temperature since the absorber area is much larger. The solar batch collector has three insulated sides, with a glazing at the top which transfers solar radiations to the cylindrical vessel in the middle. A steady sate 1-D heat transfer numerical model is also developed based on thermal resistance network model which account for the losses through each side of collector. Experiments were performed where the outlet temperature attained is recorded on different days and times of the day corresponding to various intensities of available solar radiation. Design and Development of Solar Parabolic Trough Within the past few decades, an increase in energy demand has been observed. The world is running out of conventional fuels and it is the need of hour to shift from conventional fuel to renewable energy resources. Solar energy is environment friendly and has proved to be highly effective and cheap. Despite having favorable conditions in Pakistan for harnessing solar energy using different techniques, we are not using solar energy efficiently. Parabolic trough power plants use parabolic trough collectors to concentrate the direct solar radiation onto a tubular receiver. Large collector fields supply the thermal energy, which is used to drive a steam turbine, which, on its part, drives the electric generator. Our mechanical engineering project aims on getting thermal energy form solar radiation more effectively using one of the most inexpensive ways that is through concentric parabolic trough collector and using it to heat water. The parabolic collector would concentrate the sum rays on the tube having heat transfer fluid water inside, which will be heated efficiently. Design and Fabrication of a self leveling platform This is one of the famous project idea for mechanical engineering students. A self leveling is relatively new idea for

stability platforms. It maintains its level with respect to the defined global coordinates system. The control system is designed in such a way that as soon as the disturbance is induced, the platform comes back to its original level. Various approaches were analyzed and different solutions were generated to solve the problem which is unique of its kind. The best solution is that emerged after designing process was then analyzed mathematically and experimentally. To completely analyze the motion and position of platform, a scaled down model was made and tested thoroughly. The model was not only a help in analyzing the motion followed by the platform but a great help in create a mathematical model. Inverse kinematic analysis and forward kinematic analysis were performed and all the solutions were verified by designing a prototype. Then detailed designing and fabrication was carried out which was later integrated with electronic circuitry to check the functionality of the platform. These physically handicapped people include those unable to move around due to disability or injury n the lower part of body legs, feet etc. Many of those injured in war torn areas are disabled for life afterwards and require assistance to move around. Although wheelchair helps these people in mobility and their daily chores but the situation becomes difficult, rather embarrassing, when they have to be lifted by someone all the way up the staircase. The remedy to this problem is scarcely available in the Market in the form of Electric operated machines but they are too costly to be afforded by the major portion of our population. Design and fabrication of a test bench for shell and tube heat exchanger Shell and Tube type Heat Exchangers are the most commonly used ones in industry for different purposes in refrigerating and air conditioning system, power system, power systems, food processing systems, chemical reactors. Test bench is a virtual environment used to verify the correctness or soundness of a design or model. The project to design and fabricate a test bench for a shell and tube type heat exchanger is designed last year using fluid flow through pies. Stairs provide an effective mean of ascent and descent than ramps, which take more space, are dangerous, aesthetically unsound for architecture and are costlier. The objective of the project is to design and fabricate an electrically powered trolley which would lift load on stairs with assistance of a single person for direction orientation and balancing. Two DC motors would be connected to the two wheel clusters powered by a single battery. Design and fabrication of wind tunnel with optimized contraction nozzle An open loop wind tunnel is a device used to emulate the action of moving air on surfaces these devices reveal details with regards to the aerodynamics of objects. Spherical objects an other test objects are placed inside the test section in which the air blown in a way that the relative speed of the object is equivalent to the speed the object will have when it moves during the actual operation. This mechanical engineering project is related to the design of tan open loop wind tunnel, a wind tunnel which discharges used air in the environment every time it is run. Therefore, there is a growing need to control the harmful emission of these plants. This motivated us to work on the Flue Gas Desulphurization Unit. Thus, making this model for upcoming degrees to improve further. Design and Fabrication of Fully submersible vertical axis runner The objective of this mechanical engineering project is to enhance the calibration and testing facility of open loop wind tunnel. One of the proposed objectives is to digitize the manometer by digital display which can be achieved by using pressure sensors to judge the forces on the aero foil and to calculate the lift and drag force on a required object or aero foil. The received signal from the pressure sensor will be amplified using an amplifying circuit after receiving the amplified signal, it is sent to display circuit for the display of forces. Digitized method is better because it not only calculates the velocity of the fluid by using Pitot tube but also it allows to calculate the lift and drag force up to high velocity range. Design and fabrication of high velocity impact testing setup Gas Gun To property evaluate material for specific applications it is important to use experimental test that match the application situation as best as possible. In order to evaluate the impact damages on material and system, specific equipment tools are needed. Gas gun is the most efficient and commonly used tool for the simulation of ballistic threats and their damage to protection materials i. This is very innovative for mechanical engineers. Design and Fabrication of Human Powered Water Purification Unit In a nation rife with backward areas with little or no clean water access, Human Powered Water Filtration System has been designed not just as a relief but a holistic solution. Places that are isolated and remote, such as off-grid residences, summer cottages, desert areas and camp ground with limited or no electricity supply are best suited for this projects application. The Human Powered Water Filtration System is a mechanical system that can purify massively contaminated

water for human consumption through human pedal power. The design employs pedal power to drive the membrane filtration process which is reverse osmosis filtration membrane. This can attain level of purification as fine as 0. The source water, to be treated, may contain dissolved solids, organic compounds and pathogenic contaminants as well. The system, after 20 min operation producing approx. The system is not solely dependent on Reverse Osmosis membranes and utilizes pre-filtration system to eliminate all large particles to protect the sensitive membranes. The use of these materials is increasing day by day. The main reasons behind their extensive usage are their good properties. One of the most important properties is its immense impact strength. The impact strength of composites varies with different parameters like geometry of impactor, velocity of impactor etc. In this testing drop weight impactor will fall on the specimen and after striking the falling dart will rebound. The rebound capturing mechanism will stop the dart to fall again on the specimen as it is the requirement of the ASTM standard. The indented specimen will then study further to analyze the extent of distortion, change in strength and variation in other properties. This is laboratory scale machine. In this way we can experimentally study the properties of the composite material which is important for the composite Lab of EME College. Design and Fabrication of Radio Controlled RC Hovercraft A Hovercraft, also known as an air-cushion vehicle ACV , is craft capable of travelling over land, water mud or ice and other surface both at speed and when stationary. They are now used throughout the world as specialized transports in disaster relief, coastguard, military and survey application as well as for sport or passenger services Hovercrafts work on the two main principles of Lift and Propulsion being supported by a Cushion containing Pressurized Air. The goals of this project are to Deign a small scale radio controlled hovercraft in a limited timeframe and understand its basics which eventually lead to the development of full scale passenger hovercraft. The Stability and Weight distribution will be considered. Also the design will be selected on the basis of various design parameters. Stress calculation and fluent simulations will also be performed in order to better describe the calculations. Design and Fabrication of Relief Robot Delivering aid, including clean water, food, fuel and medical supplies to places, such as the Philippines after Typhoon Haiyan, is difficult task, transporting bulk material over uneven and rough terrain, in tight spaces and over long distances is often required. Our task is to deign and fabricate a mobile device that can transport granular material in such areas. The moon and other planets presents similar terrain challenges. Natural obstacles like large rock, loose soil, deep ravines, and steep slopes conspire to render rolling locomotion ineffective. For such areas legged robots can be used because they have a unique ability to isolate their body form terrain irregularities. Our basic aim is to develop n eight legged stair climbing robot working on the Klann Linkage mechanism A linkage having a gait similar to animals. The robot will be able to climb stairs, move through water of limited height and have the ability to drop payload at the desired location.

PROJECT IDEAS FOR MECHANICAL ENGINEERING FINAL YEAR pdf

2: Project Ideas for Engineering Students

Mechanical Engineering projects and ideas for final year engineering students with PDF, PPT and Full Reports. Download main mini Mechanical Projects and ideas.

Share this with your friends. Fabrication of turbo super charger for two wheeler 2. Over speed indication and Automatic accident Avoiding System for four wheeler 3. Fabrication of Automatic hand break Release 5. Automatic pneumatic bumper for four wheeler 6. Shock Absorber Test rig using Cam and sensors 8. The development of intelligent home security robot IEEE 9. Automatic temperature controller with cooling system for car Fabrication of four wheel steering system SMS Based automatic vehicle accident information system Over speed indication and Automatic accident Avoiding System for four wheeler Hydraulic hybrid system for four wheeler Efficiency Increasing System in Automobile by using preheating method A robot system for fire fighting in tunnels IEEE Remote controlled material handling equipment Automatic reserve indication system Button operated electro-magnetic gear shifting system for two wheeler SMS based automatic two wheeler locking system Fabrication of queries controlling system for two wheeler Fabrication of man less defense GPS based vehicle root tracking system Automatic sensor based wall painting robot Remote controlled scrap collecting vehicle GPS based automatic vehicle accident information system Automatic Differential Unit locking system for Automobile Remote controlled tilting handicapped wheel chair Electronic assisted hydraulic braking system Smart shock absorber for automobile SMS based vehicle Ignition controlling system Fabrication of Adaptive breaking system Electrical Power Generation system using Railway track GSM based two wheeler security system Fabrication of three axis pneumatic modern trailer Two Wheeler Automation with security System Combined hydraulic and disk break Vehicle Accident identifier with SMS informer Compressed air production using vehicle suspensor Remote controlled air craft Flying Model Automatic Pneumatic welding Robot Intelligent Active Suspension system for two wheeler Remote operated weapon system Fabrication of Sub-Marine Model Automatic Scrap collecting Vehicle Fabrication of Gear Level Indicator for Automobile Automatic Vehicle Over speed Controlling System Fabrication turbo charger for two wheeler Video analyzing remote controlled vacuum cleaner Fabrication of Go Ped Drive Fabrication of Foldable two wheeler Artificial Intelligent based Solar Vehicle Fabrication of Automatic pneumatic jack Fabrication of Automatic steering control system for automobile Fabrication of Multi-Engine compressor Computer controlled wireless robot with wireless Camera Fabrication of Solar Race Car Fabrication of Multi Nut Wheel Tightner Automatic material handling Fire Fighting Robot Aero plane Controlling System Flying Model Fabrication of Hydraulic Break show riveting Machine Automatic Vehicle Accident prevention system Digital locking Fuel, ignition, side lock system Password for Two wheeler Efficiency increasing system in automobile Robot Controlled Vacuum Cleaner Digital locking system for material handling vehicle Fabrication of hydraulic screw jack Automatic paint spraying pick and place Equipment Fabrication of Path finding Vehicle Automatic Electro-magnetic Clutch Cell phone controlled pick and place robot Remote controlled Pick and Place video analyzing robot Fabrication of Fuel Injector testing equipment Fabrication of Catelite converter for Automobile Fabrication of Solar Hybrid Car Fabrication of Hybrid Vehicle Sand Collecting Vehicle Fabrication of Kids Car Fabrication of Lube oil cooler Automatic pneumatic vulcanizing Machine Fabrication of Wind Energy Vehicle Fabrication of Intelligent Motorized Hydraulic Jack SMS controlled moving vehicle for industrial application Voice Controlled Material handling vehicle If you like this post ,do share this to your friends..

PROJECT IDEAS FOR MECHANICAL ENGINEERING FINAL YEAR pdf

3: Mechanical Projects - Mechanical Engineering Projects

NevonProjects has a large variety of major projects for mechanical engineering final year. Our list consists of innovative topics and ideas for mechanical major project. So if you are confused on find your suitable major project for mechanical final year visit our list and find your solution.

Mechatronics engineering Mechatronics engineering is one of the fast growing fields of engineering. Robotics is of the most popular fields of mechatronics engineering. Actually, mechatronics just included the combination of mechanics and electronics. You should use these projects as an excellent platform to learn and understand new technologies and their implementation. Robotic Arm The aim of the project is to Design and fabricate pneumatic arm for pick and place of cylindrical objects. The handling of materials and mechanisms to pick and place of objects from lower plane to higher plane and are widely found in factories and industry manufacturing. The arm is controlled by an Arduino board. For the arm movements on vertical and horizontal, the designer uses eight servo motors. The power supply for servo motors and Arduino board is 6V and can support a load of up to 2A. This robot is open-source and can be used both for hobby projects and for common tasks in a small business. The robotic arm can lift about 2kg, more than enough for simple manipulation tasks of small items. Hexapod using Arduino Hexapod using arduino A Hexapod robot is a mechanical robot that walks on six legs. Also, Hexapod robots are very stable when compared with two or more legs robots even in slightly rocky and uneven terrain with flexible movements. Due to this capability of walking on various terrains, Hexapods find multiple of applications. On cloudy weathers, it remains still and catches the SUN again as it slips out of clouds. Let us see how it does all this. Solar Trackers are devices which will automatically orient in the direction of high intensity sunlight to effectively harness maximum solar power. When the sun moves, the LDR sensor senses a reduction in light intensity forcing the DC Motors to adjust solar panel accordingly in the direction of high intensity. By building this project, you will practically learn about working of solar energy systems, harnessing of solar energy in a smart way and Arduino programming. You will also work with photoresistors in electronic systems and control DC Motors using programming. State space Modeling and Simulation of vehicle in visual studio and Webots. IBVS technique used for controlling the motion of vehicle. Target Tracking of any desired object in OpenCV. I recommend mechatronics engineering students to have a look on this project. Automated Coconut Scraping Machine Coconut is widely used in food Industry within industrial food plants as well as at homes. Scraping coconuts is a very time consuming task. Manually doing so requires a lot of efforts and is not so economical. So here we propose an automated coconut scraping machine project. As part of our project we developed control of a Quad-independent versatile terrain platform, with flipper arms for enhanced mobility. It is a very popular project among mechatronics engineering final year students. Following is the list of mechatronics projects:

PROJECT IDEAS FOR MECHANICAL ENGINEERING FINAL YEAR pdf

4: Mechanical Engineering Projects | Ideas | Seminars |Final Year|

These mechanical engineering projects are researched and developed by our engineer team to help students to learn and build final year projects using latest technologies and experience multidisciplinary projects.

Well, given the number of methods present in the market for preparing food, induction cooking ranks among the best methods of cooking one would adopt. Apart from the fact that it is way easier to adapt than installing its counterparts, this has been ranked among the most convenient methods of cooking and also the fastest method as compared to its counterparts. Unlike its counterparts, induction cooktops apply magnetism to convert cooking pans to cookers thus creating energy from within the pan, unlike alternative methods where heat originates from fire from outside the pan. However, given the little knowledge of the working of this little saviors, many shy away from the sets in the fear that it will call for a change in all household appliances. However, that is not exactly the case. If you possess magnetic items in your kitchen, you will require the most minimal changes. To ensure that you are well poised to understand the formula in which induction cooktops work, we created this article that describes the working of the sets adequately. How do induction cooktops work? Being one of the most basic pre-historic technologies, cooking ranks among the things that human beings would not have survived without while perfecting the art of feeding. Basically, the idea behind cooking was heating food with the aim of giving it a better taste and eventually eliminating bacteria from the food. Prior to delving into the working of an induction cooktop, it is crucial to understand the meaning of induction thus making it easier to understand the whole concept. This basically means generating electricity using the concept of magnetism and thus the concept that electricity and magnetism are not two totally disconnected entities rather aspects that compound to one phenomenon. To come about with the heat, the cooktop induces electrons in a magnetic material to move about this coming up with an electric charge that generates heat in the pot thus enabling cooking within the pot. To enable this, the sets are fitted with a ceramic coil beneath and thus once the unit is turned on, electric current flows within the coil and thus creates a rapidly alternating magnetic field. As a result, heat is shifted inside the cooking vessel and thus heating food within the cooking pots. Material that can be used with induction cooktops As much as the cooktops are convenient, you have to ensure that the material of your cookware is magnetic. A good example of these is cast iron, stainless steel, and other magnetic material. However, this does not mean that your material should be fully magnetic. Provided that the lower parts of your pot are magnetic, you are ready to go. To determine this, you may use a magnet and if it sticks on the surface, you are good to go. If your material is not magnetic, however, that does not have to be a limiting factor. However, the interface reduces the rate of electro trans missal and thus may slow down your cooking process.

5: Mechanical engineering projects ideas | Microcontrollers Lab

Your final year project (BE or ME) can help you in the following ways: You can increase your overall percentage by scoring 90 to 95% marks through a good project. An industry-oriented project can add extra weightage to your resume and help you get a good job in the core mechanical industry.

The object lifting Jack works with the help of geared motors and worm gear arrangement to lift the objects. The modified version can even lift car using the same principle. The object rejection setup removes the item from the moving belt if it does not fulfill the condition. Six keys operation controls the whole setup of the model. The air pressure is the base behind this to move the arm to grip, to lift and to rotate the material to handle. A mini compressor will create the air pressure. The air pressure is the base behind this to move the arm to pick and to lift the material handling crane. The air pressure will lift the material using a single piston. A dual motor crane to lift material from ground level and and place the material at the other side of it by a moving arm using other motor. One can put the whole crane on a robotic vehicle with another two motors as moving crane for maetial handling. This trolley can be implanted on rough surface to carry material and drop at a specific area. This machine with a conveyor belt will check the four major cities and sort the post cards in their corresponding boxes with auto stamped on it. The Actual wind mill model that produce electrical energy from wind and charge the battery to run inverter directly. Steam energy is alternatively used to generate electrical energy. A traditional arrangement commonly used by any thermal plant but still very useful to display as teaching aid. The model comprises a pump, a water reservoir, an alternator to gen. The different amusement rides can be designed to generate electrical enegy while children are using actually the park. This can be designed to generate electrical energy when vehicles cross the breaker and roll the roller based speed breakers connected with an alternator. Besides charging Mobile battery, it burns the extra calories too. Further it can modified to churn any thing. The dual natural energy sources say Wind and Sun energy is used to generate electrical energy. A good alternate source of energy for areas like deserts or barren land, where sun light is available but low speed of wind flow is there. An alternate source or energy can be generated by the modified dance floor using pressure sensor based electricity generators. Another alternate energy generation to charge battery by low power wind, say simple fan etc. A moving belt vibrate when wind strike it from any side. The magnets on both ends make the generation of electrical energy. An emergency brake can be applied if required. A moving trolley carries a circular disc type-rotating platform with crane arm. It moves all degree. A material handling vehicle to carry goods in industry and that follow black line to follow. Any obstacle in front will stop the vehicle to avoid any accident by using IR or ultrasonic sensors. It may also controlled automatically with human sensor to save energy. The modified arrangement ot heat water with burner and gas cylinder. The fibre made box is being modified as simple compressor less refrigerator to provide degree temperature while cooling and is also used to heat if required with the same Thermo-EMF peltier junction based system. A simple compressor based food stuff storage system with the top opening glass lid. The project shows the use of compressor in practical shape with voltmeter, ampere meter at display. The multi layer cooling tower will cool the liquid or water with the help of water pump. The mini electric compressor is used to spray the water colours. The project will cut the papers in small pieces to make the use for packing etc. The smart cooling system to cool the heat effected area required continuous cooling as on CPU of systems or machines that radiates heat. An arrangement will help to study the heat exchange efficiency using different types of fins in a rectangular heat pipe. The motorized arrangement with air pump to store air to be required later. A rpm 2. A smart cooler with moving blower that circulated the air in all degree of motion all around. Useful for stage show etc. This is a timer based motorized Mechanical arrangement. A electro-mechanical arrangement with IR sensor in front to drill any hard surface area using solenoid coil arrangement. The device comprises a moving wheel with motor and an arrangement to check the torque of that motor to carry the weight etc. This can be displayed using conveyor belt system to make the model more presentable. The air pump controlled spray gun for minor paint jobs normally required by automobile workshops or artists. The good project for automation in mechanical using a drilling or punching system that operates automatically

when object or work piece is placed under this. A unique system that uses water itself to get maximum energy to heat water from sun energy. The concept is to tap sun energy by means of sun tracking system. Also known as Solar Oven. The mechanical arrangement open the ventilators automatically when it sensor more heat or humidity in a closed area. A digital arrangement to move two motors automatically to complete a process job with a specified speed and time frame. Project will ease the process of cleaning for coils or similar system normally used in AC plants or even wire mesh in chimneys. The useful device for handicapped person to mive the chair with the help of battery and motor arrangement. The keys will help to turn left or right side. A very good project for security persons to open or close the barrier or iron grill gates using paddle system. The automatic braking system that makes an emergency brakes if two trains are coming on the same track. The model showing with one static and one moving train on a track. This will draw the pulses from heart using a finger sensor and will put on paper with the help of solenoid coil assembly. Lapping is an abrading process that is used to produce geometrically true surfaces, correct minor surface imperfections, improve dimensional accuracy , or provide a very close fit close between two contact surfaces. A A permanent magnet parallel rails pulls up the small platform upward and a electromagnetic system pushes the same from one end to other. Same rail and platform system as above with a dc motor propeller system to run the car. The moving arrangement of stairs to move persons from one floor to another by using IR sensor to detect human presence to save energy. The sensor based mopping machine will change the path automatically and runs in a room to clean the floor area. A crossing barrier gates will automatically close doun mechanically when it sense the train is coming and open it after the train crosses the barrier gate at unmanned crossing area to prevent accident. An alternate Electomagnetic braking arrangement to stop the vehicle without wear n tear of shoe brakes. The concept behind this project is to demonstrate the wheel braking by electronic system with change in brake timing using simple shoe brake. An RF remote control unit can be used to provide direction on either side. A clutch arrangement operates on RF link will control the whole assembly for speed and direction on either side. The whole structure can be placed on rail tracks. This simple propeller based vehicle will run on the principle of air propel ion. The speed of vehicle is directly propotional to the speed of propeller blades. An Age old technique can be used again to transport the low weight material from one place to another in industries. System that uses fluid as pressure to move the brake shoes in moving wheels for braking systems. The solar cells on the top provide additional power to charge battery and it will also run the car to save fuel. One can read at the attached LCD on the project. The three wheeler car that sense the path at its own or follow black line at the surface. It will aply brakes in someone comes in front of it or change the path left or right as per requirement. The paddle operated or IR sensor operated hydraulic braking system with piston and oil chamber connected to a motorized rotating wheel. The four wheeler usually find difficulty to drive in hills specially at sharp turns. The model help them to change the focus of headlight as the steering moves on either direction. The microcontroller based setup reads the vibration of engine or motor. This helps to tune the engine to get maximum efficiency with fuel savings. A simple auto braking in material handling robot that stops automatically when the obstracle comes in between. It create a switch, induction or paddle brake to apply to stop the vehicle. The arrangement itself attached inside the car to provide the facility. It actually lift the car using its own car battery as power source. A modified shock absorber that activates automatically when it sense the pothholes on the road. It comprises road sensors that provide instant response to act while driving. A DC geared motorized arrangement to replace existing steering system by switch arrangement. An air engine provide pressure to uplift the jack comprises piston filled with oil. A DC motor operated boat operates on propeller blade and the air pressure provides the power to run the boat. The Air propelled or water propelled boat [censored] car that runs on water and surface both. The RF modules can be placed to control the same remotely. The circuit shows the demo of auto shifting of gears using stepper motor with the change in speed of vehicle.

PROJECT IDEAS FOR MECHANICAL ENGINEERING FINAL YEAR pdf

6: Latest Major Projects For Mechanical Final Year | Nevonprojects

This post I will give you some best and mini project for mechanical engineering students many of mechanical students find best and mini project for final year project and many students find project idea for their final year project.

Project Ideas for Engineering Students Search Projects Finding a good project title is not always easy and we created this site to give you guidance regarding the same. We have divided this site into several categories like mechanical engineering, computer science CSE , IT, Electronics engineering etc. In each category you will get different project ideas and you can select one. Though you can select any one of your choice, but I have few recommendations for you based on my experience. It will give you better understanding of the difficulties faced by the engineers while working for green energy and how much rewarding nature is if we use it wisely? Similarly for Computer science students, I would suggest to opt for title from here but implement it to make mobile apps. In current Scenario, apps are in great demand. So, for example, you get an idea of creating photo sharing website, try to implement the same idea on app. For Electronics students, my recommendation is always for Robotics. I am amazed to see how much automation is involved in our life and how it affects us. In comparison to old time, you have know every tool available at your doorsteps including hardware and software requires to build great working machine. While developing this site, I kept in mind two very important things: I tried my best to make this site mobile friendly so people who are accessing it on their mobiles find it easy to access and use. My main motive is to deliver page in fastest possible speed. To achieve this goal, I tried every possible way and would keep looking for other ways to make it faster. How to best use this site? As a engineering graduate you all know that each and every project requires lot of expertise and knowledge. Covering all the information in one page is next to impossible. So, use this site just as a starting point where I will try my best to provide you as many topics as I can and help you in finding your favorite. Once you know exactly the topic you want to work on, please look for other sources like google, youtube or wikipedia to find more about it. In my opion education sites from various universities provide the most useful content and information. So, I highly recommend using them. Moreover, if possible, try to find video classes of universities to get more insight of the selected topic.

7: Mechatronics engineering projects ideas for final year students

Explore Mechanical Engineering Final Year Project Ideas, 's of Mechanical Engineering Projects, Mini Final Year Automobile Projects, Major Mechanical Thesis Ideas, Dissertation, Automobile Engineering, Production, Mechantronics, CAD CAM, Pro-E, Robotics, ANYSYS Project Topics or Ideas, Base Paper, Reports, Synopsis, Abstracts, Figures, Construction and Working PDF, DOC and PPT for the year.

The objective of our project is to bring forth necessary improvements in design and electrical circuitry, statically analyze the mechanical design, introduce fully functional feed-back loop for precise finger positioning measurements, insert more gripping patterns and improve the aesthetic by reducing the size of circuits being used. Mechanics, electronics , control strategy and programming in real-time are the basic division of work constituted for the stepwise implementation of the project. It is very good project for mechatronics engineering students. Flapping Wing Unmanned Aerial Vehicle UAV Final year mechatronics engineering students can go for this project to get hand on experience which will be helful for them in industry. Flapping wing UAVs have been one the most engrossing research topics in the field of bio Mechatronics. The main idea behind the development of these machines is to create a completely autonomous or remote controlled robot capable of flying like a real bird. The kinematic model presented here has been based on flapping mechanism, a virtual model of which was designed in the mechanism designing software SAM 6. A CAD model of the whole bird was also developed in solid modeling software, using which the entire bird design was visualized. Analysis of the entire model was performed using Ansys. Finally, the actual model was put through the abdication phase, using carbon fiber, balsa and phy woods as the materials designated for this purpose. Unmanned Lead Vehicle Purpose of this project was to develop hardware and software for a semi-autonomous vehicle that can be used for rescue as ell as military applications. State space Modeling and Simulation of vehicle in visual studio and Webots. IBVS technique used for controlling the motion of vehicle. Target Tracking of any desired object in OpenCV. I recommend mechatronics engineering students to have a look on this project. UGVs can be used for many applications where it may be inconvenient, dangerous, or impossible to have a human operator present. It is a very popular project among mechatronics engineering final year students. As part of our project we developed control of a Quad-independent versatile terrain platform, with flipper arms for enhanced mobility. The platform was equipped with a 6 degree of Freedom manipulator that is capable of bomb-disposal and urban search and rescue applications. Another part of our project was to develop a throw able small UGV, for surveillance in urban environments. Design and fabrication of Aerial Robot quad copter for condition monitoring of paved surfaces. Quad copter is a multi-rotor Arial vehicle which is majority used for aerial imaging and surveillance purpose. In this project quad-copter is used for detecting cracks in roads. As our project we have designed and fabricated quad copter which is capable of aerial imaging for crack detection in roads and pavements. It comprises of following major tasks. The purpose of robot is to assist user in domestic environment while performing number of domestic task involving Facial Recognition, User Identification, Speech Recognition , specialized Local Area Mapping and Path Planning. All of this was achieved using iCreate as base for the robot and ROS and base platform for software and control. There are 3 revolute joints in manipulator which means it is RRR manipulator. The end effectors is a gripper, formed to grasp and un-grasp object of various sizes, which can lift objects weighing up to 4 â€” 5KG. A closed loop control system is developed that regulates the SUGVs drive with feedback through encoders. In which we have three Stories and door system which are controlled through plc programming. It works on FIFO first in first out principle for the requests. Brain Computer Interface A brain computer interface BCI acquires electronic signal from the brain and decodes them to facilitate individuals in communicating with the external world. As our project, we have developed a 6 degree of freedom upper limb prosthesis and implemented an asynchronous online BCI system on the prosthesis. The system is capable of acquiring live signals from the brain and differentiating between two different movements brain signals. The two signals being that of; Opening of hand The developed prosthesis is capable of providing adaptive gripping on individual fingers. Hybrid Prosthetic Limb Wrist Joint

The Myo-Electric prosthesis is a device specially designed for the amputees to provide them a replacement for the conventional artificial limb. The hybrid prosthesis wrist joint is based on the incorporation of wrist joint in the hybrid prosthetic limb. The design of wrist joint encompasses the mechanical design and analysis, electrical design and simulations and implantation of control followed by manufacturing of actual model. This is very famous project among mechatronics engineering students. Segway Electric Vehicle Segway electric is a to wheeled, self-balancing human transporter. It is an effective mode of transportation for shorter distances. It has low cost, uses no fuel, reduces human exertion, and is an environment friendly vehicle. Our project includes the design, fabrication and control of Segway vehicle. The project also focuses on using motion planning algorithm to pick up simple objects using 4-DOF manipulator and skeletal tracking of humans in an unknown environment. The aim of this project is the integration of robots in human lives with development of service and assistive robot that can be used in the home environment. We have catered the problem of below knee amputation. EMG based control is implemented to achieve desirable results. An agronomic design with actuators and motors takes care of movement in which feedback and control of the input is based on output from sensors. The purpose of this project is the development of assistive robotic prosthesis that can be used by amputated people in everyday environment to obtain natural gait. It can also be used as a research object, based on which better products can be developed for the betterment of human lives. Developed general prototype after modification and further research would be ready to get commercialized on the prosthetic market. Wireless Communicated Simulation Mine We are developing a system mechatronics engineering based which will help to train army personals to detect land mines effectively and furthermore, will give birth to better mine detection system. The equipment used involves a casing which is of the size of a landmine which in capsules an Arduino mini pro microcontroller , a Force resistive sensor which is mounted on top of the casing for sensing if load is placed on top and a RF transceiver. As soon as a mine is stepped on, it will transmit a signal, containing the address of that mine to the Control Room. The control room microcontroller will then receive the code and raise a flag on the GUI, which is built in Matlab. Fabrication of an automated elbow joint The need of an automated elbow joint was established when we realized that the user needs to be able to control both hands independently. Our project involves the design of a gearbox that enables the user to easily life up to 5 kg load using the artificial arm. We have also ensured that the arm is compatible with other projects of prosthesis allowing easy interface between them and this product. Brain Computer Interface Several types of hands have been designed to mimic the dexterity of human. Mechanical grippers have been widely used because of light weight and consuming less energy, as prosthetic tools to replace missing carpals. To ensure the reliability of the grip force, the gripper should have sufficient strength and stiffness. This gripper has ne actuator. This gripper comply with the medical development and is worthy of consideration. We use a laptop to interact with our scanner using RS Serial communication. This scanner shows the live vehicle parameter, including rpm of engine, battery voltage, speed, throttle pedal position, intake air temperature etc. This scanner helps the mechanism and user s to get information about the vehicle parameters and check the faults if any known as Diagnostic trouble Codes DTCs. This report contains the necessary procedures to create a scanner that reads OBD-II data diagnostic port in a vehicle. In this research an efficient procedure defined and used to extract data from ECU of the vehicle. Android phone is connected to the scanner through the standard blue tooth module and data is serially communicated between Bluetooth module and the scanner. Firstly, the user sends some bytes of data to ECU through scanner and in response ECU gives data about the status of vehicle. Application is specially designed to read and communicate diagnostic port data wirelessly and displays the diagnosis on Smartphone screen. This is all about latest and innovative projects ideas for mechatronics engineering students. Final year students may also select project from electrical projects ideas and mechanical projects ideas.

8: Mechanical Engineering Project Ideas - Final Year Mechanical Project

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