



# Vivekananda College of Engineering & Technology

[A Unit of Vivekananda Vidyavardhaka Sangha, Puttur @]

Affiliated to Visvesvaraya Technological University

Approved by AICTE New Delhi & Govt of Karnataka

PRJ-

Projects

ME List

12/06/2018

## List of Projects: 2017-18

SNo	Dept	Guide	USNs	Title	Status	Abstract (100 words)
1	ME	Prof.Ashwith Kumar	4VP14ME080 4VP14ME085 4VP15ME416 4VP15ME419	Manual arecanut bagging machine	Working	Arecanut, is commonly referred to as betel nut. Areca palms are grown in India, specially in South Western and North Eastern regions of our country. Arecanut is one of the major plantation crops in India. It is largely grown in the states of Karnataka and Kerala. Depending upon the consumption requirement, arecanut is harvested either at a tender stage or when the nuts are fully ripened. The demand is increasing gradually in the developed world including USA, UK, Canada, Australia, Thailand, Singapore and France, that too for the products such as gutka and Pan masala. Areca nut cultivation is a long process involving harvesting, separating the nut, moving the areca nut to ground for drying, separating the nut, bagging, de-husking etc. Several machines are being developed to help farmer, but machines for collecting the areca nut from ground after drying have not been developed. Collecting the areca nut from ground is a tedious, painful and time consuming process. Areca nut collecting and bagging machine is a solution for this problem. To address needs of farming community we designed and fabricated manual arecanut bagging machine in work. The machine is intended to collect areca nuts from ground directly to gunny bags fixed to the machine. After the bag is filled, the bag is removed and a new gunny bag is fixed. The machine is operated by single person so that farmer himself can use it. Arecanut will be placed on ground for drying purpose. To collect arecanut from the ground, curved GI sheets are provided at collecting end of machine close to the front wheel to collect and feed it to the bucket conveyor. Gear mechanism is used to run the bucket-

Nehru Nagar, Puttur - 574 203, DK, Karnataka State – INDIA.

Phone : +91-8251-235955, 234555 Fax : 236444, Web: [www.vcetputtur.ac.in](http://www.vcetputtur.ac.in), E-Mail: [principal@vcetputtur.ac.in](mailto:principal@vcetputtur.ac.in)

Page: 1



# Vivekananda College of Engineering & Technology

[A Unit of Vivekananda Vidyavardhaka Sangha, Puttur ©]

Affiliated to Visvesvaraya Technological University

Approved by AICTE New Delhi & Govt of Karnataka

PRJ-
Projects
ME List
12/06/2018

## List of Projects: 2017-18

						conveyer to which areca nuts are fed, which then transfers them to gunny-bag.
2	ME	Prof.Rakshith Shetty	4VP14ME087 4VP14ME082 4VP14ME119 4VP14ME068	Analysis of impact of jet on vanes with gravity and with cover for high discharge turbine	Analysis	Experiment on Impact of jet on vanes is done to determine the co-efficient of impact on the vanes and to determine the effect of shape of the vanes on the energy absorbed. Generally force of water is transferred to different shape of vanes and force absorbed by the vanes is determined. In case of low heads, the force of water is not sufficient to produce the required power due to low co-efficient of impact and also exit kinetic energy of jet is more, hence less momentum is transferred. To overcome the above disadvantage and to produce more power, apart from transferring force, weight of water is also made to act on the vanes. In order to determine the effect of weight of water on power produced, experiments were conducted on the different types of vanes with cover and without cover at a head of 3 meter and discharge of 1 litre/sec. The test result shows that, vanes with cover produces more power than vanes without cover. This concept can be used in low head and high discharge water turbines to increase the power output and efficiency.
3	ME	Dr.Deepak K. B	4VP14ME091 4VP14ME120 4VP14ME102 4VP14ME106	Enhancement and fabrication of arecanut dehusking machine	Working	Machine makes life easier, so humans are always keen to develop new machine which makes life easier. In wake of globalization, a lot of innovations have been made towards the agricultural crops grown in rural areas. More than 50,000 innovations are scouted across 300 districts of India, out of which a large part of innovations are towards arecanut, honey and coconut crops. In district like, Dakshina Kannada (D.K) arecanut is one of the cash crops grown and many farmers are dependent on it for their livelihood. The arecanut crop consists of inner fruit and

Nehru Nagar, Puttur - 574 203, DK, Karnataka State - INDIA.

Phone :+91-8251-235955, 234555 Fax : 236444, Web: [www.vcetputtur.ac.in](http://www.vcetputtur.ac.in), E-Mail: [principal@vcetputtur.ac.in](mailto:principal@vcetputtur.ac.in)

Page: 2



# Vivekananda College of Engineering & Technology

[A Unit of Vivekananda Vidyavardhaka Sangha, Puttur ©]

Affiliated to Visvesvaraya Technological University

Approved by AICTE New Delhi & Govt of Karnataka

PRJ-
Projects
ME List
12/06/2018

## List of Projects: 2017-18

						outer husk. Separation of inner fruit from outer husk is called dehusking and is usually done by manually by labourers. But due to unavailability as well as high wage expectations of the workers, it has become a tedious job for the agriculturist to get dehusking done. So in order to address the above problem it is necessary to innovate the most economical as well as efficient machine, which is affordable. Thus, in this project work a machine for peeling of husk from the dried arecanut has been fabricated. The machine consists of two tyres covered with a casing. A small gap between the tyres and the casing is provide through which arecanut passes and due to friction between the tyres and casing gets the dry arecanut gets dehusked. The machine is run by a 1 HP motor. The arecanut and the husk after separation falls on the roller provided at the bottom. The husk gets drawn downwards by the rollers and the arecanut rolls down the rollers and gets collected in a bag. The capacity of the machine is about 40-50Kg and cost of machine is Rs.30000/-. Any unskilled person is able to operate the machine. By using this arecanut dehusking machine time and labour cost can be saved to a great extent.
4	ME	Prof.Sunil.B. Lakkundi	4VP15ME400 4VP15ME401 4VP15ME407 4VP14ME098	Design and fabrication of low head high discharge hemispherical vane turbine	Working	Hemispherical vanes turbine is a new type of low head impulse turbine that is specifically built to harness energy from water stored at very low heads of about 3m. The conventional turbines are used for power generation from water stored at high heads and cannot be used for power generation at low heads. The conventional reaction turbines such as Kaplan turbines are used for power generation at low head but will not produce sufficient reaction force when worked under a head below 5m,



# Vivekananda College of Engineering & Technology

[A Unit of Vivekananda Vidyavardhaka Sangha, Puttur @]

Affiliated to Visvesvaraya Technological University

Approved by AICTE New Delhi & Govt of Karnataka

PRJ-
Projects
ME List
12/06/2018

## List of Projects: 2017-18

					hence has less power generation and less efficiency and also they are complex in design. To overcome the above disadvantages, Hemispherical Vanes turbine is designed in such a way that it is simple in design and can be used at low heads. This work is purely intended to enhance the efficiency of the turbine with the modification in the blade design and some of the auxiliary attachments which ultimately lead to the enhancement of the efficiency of Impulse turbine. The results from the test conducted at a dam site of 2m show an efficiency of 58% and a power output 600 Watts. Similar test at same head and discharge was conducted on a Kaplan turbine at lab conditions and the results when compared to the Hemispherical vanes turbine show that the Hemispherical vanes turbine is more suitable for low head conditions than the conventional Kaplan turbines.	
5	ME	Dr .Deepak K.B	4VP14ME112 4VP14ME084 4VP14ME076 4VP14ME075	Fabrication of pepper separation and cleaning machine	Working	Processing of pepper involves different unit operation such as threshing, blanching, drying, cleaning, grading and packaging. These operation are important to ensure clean and quality product. The threshed and dried black pepper has extraneous matter like spent spikes, pin heads, stones, soil particles ...etc, mixed with it. Cleaning and grading are basic operations that enhance the value of product and help to get higher returns. Cleaning on small scale is done by winnowing and hand picking which removes some of the impurities. In this method the final product obtained still consist of some impurities and there is no proper cleaning methods available for the removal of impurities. The manual method used for cleaning is time consuming and also work involves human labour. Hence to overcome the above mentioned problems in this project, "Fabrication of Pepper Separation and Cleaning

Nehru Nagar, Puttur - 574 203, DK, Karnataka State – INDIA.

Phone : +91-8251-235955, 234555 Fax : 236444, Web: [www.vcetputtur.ac.in](http://www.vcetputtur.ac.in), E-Mail: [principal@vcetputtur.ac.in](mailto:principal@vcetputtur.ac.in)

Page: 4



# Vivekananda College of Engineering & Technology

[A Unit of Vivekananda Vidyavardhaka Sangha, Puttur @]

Affiliated to Visvesvaraya Technological University

Approved by AICTE New Delhi & Govt of Karnataka

PRJ-
Projects
ME List
12/06/2018

## List of Projects: 2017-18

					<p>Machine”, a vibratory mechanism and tray system is used which results in rich grade of pepper is collected in separate chamber and small size pepper (weightless pepper) and dust is collected in bottom tray.</p> <p>This project aims at reducing human labour and time involved in the traditional way of cleaning. The machine can also be used to separate varieties of agricultural products. Just one person is capable of carrying out the entire separation and cleaning operation. The estimated capacity of this machine is about 80-120 kg/hr for dry and wet pepper respectively with a cost of Rs 28600/-.In a short duration of time the machine can convert large quantity of impure raw material into acceptable final products.</p>	
6	ME	Prof .Naveen S P	4VP14ME033 4VP14ME016 4VP14ME002 4VP14ME023	Design and fabrication of chocolate wafer cutting machine	Working	<p>Wafer is a very important raw material in any chocolate industries to produce crispy chocolate. A wafer is a crisp, often sweet, very thin, flat, and dry biscuit, often used to decorate ice cream, and also used as a garnish on some sweet dishes. Wafers can also be made into biscuits with cream flavoring sandwiched between them. They frequently have a waffle surface pattern but may also be patterned with insignia of the food's manufacturer or may be pattern less. Wafers present a specialized type of light-textured biscuit, generally made from cereals. The thin, crisp, precisely shaped wafers are available in variety of shapes including flat, hollow, molded cones, rolled cones and sticks. Several processes were involved in making a finished wafer chocolate. Of these processes cutting and feeding of raw wafer sheets into chocolate coating process is a costly and time consuming job. In this project the problem in cutting of wafer sheets and feeding into</p>



# Vivekananda College of Engineering & Technology

[A Unit of Vivekananda Vidyavardhaka Sangha, Puttur ©]

Affiliated to Visvesvaraya Technological University

Approved by AICTE New Delhi & Govt of Karnataka

PRJ-
Projects
ME List
12/06/2018

## List of Projects: 2017-18

						coating chamber by semi-automatic flow line with the help of labor is observed and difficulties in the present process were identified. Currently, readily cut wafers are obtained from suppliers and fed onto the conveyor manually and it consumes more time. Also, it cost more and causes low productivity. The wafer cutting machine works with the help of pneumatic double acting cylinder the plunger is connected to the moving actuator and pushes the wafer. Wafer cutting machine can be used to cut the wafer to different thickness. The proposed solution is newly designed and fabricated machine which helps to overcome existing problems by minimizing labor. It is also noticed that, the process is taking much less time than the previous process. This method is accepted by the industry and ready to be implemented in the industry in near uture.
7	ME	Dr. Shankargoud Nyamannavar	4VP14ME066 4VP14ME064 4VP14ME042 4VP14ME012	Design, analysis and fabrication of unmanned aerial vehicle	Fabrication/analysis	Unmanned Aerial Vehicle (UAV) was designed, analyzed and fabricated to meet design requirements. The goal was to have a balanced design possessing, good demonstrated flight handling qualities, practical and affordable manufacturing requirements while providing a high vehicle performance. UAV was designed so that all the parts can be accommodated in container of 3 feet X 1 feet X 0.5 feet dimension. Present model is a high wing monoplane with conventional tail and single tractor propulsion system. Fuselage was designed to provide sufficient space for payload and generate less drag. The aircraft structure is constructed using balsa wood and PVC sheet. It weighs 2.5 kg and has payload of 0.8 kg
8	ME	Prof.Prashanth Ganiger	4VP14ME009 4VP14ME006	Design and fabrication of low head high discharge elliptical	Working	Hydropower or hydroelectricity refers to the conversion of energy from flowing water into electricity. It is a flexible

Nehru Nagar, Puttur - 574 203, DK, Karnataka State – INDIA.

Phone :+91-8251-235955, 234555 Fax : 236444, Web: [www.vcetputtur.ac.in](http://www.vcetputtur.ac.in), E-Mail: [principal@vcetputtur.ac.in](mailto:principal@vcetputtur.ac.in)

Page: 6



# Vivekananda College of Engineering & Technology

[A Unit of Vivekananda Vidyavardhaka Sangha, Puttur ©]

Affiliated to Visvesvaraya Technological University

Approved by AICTE New Delhi & Govt of Karnataka

PRJ-
Projects
ME List
12/06/2018

## List of Projects: 2017-18

			4VP14ME013 4VP14ME105	impulse turbine with line load nozzle		<p>and reliable source of electricity compared to other renewable options, as it may be stored for use at a later time. A hydro turbine uses the potential and kinetic energy of water and converts it into usable mechanical energy. Many researches have been made on low head water turbines. In some cases, traditional designs for low head proved to be slow running thereby requiring substantial speed increase to drive an AC generator, some had aerofoil blade designs that were too complicated for micro power extraction whereas some had large rotor diameters proving complex installation.</p> <p>In our project we have developed an Impulse Turbine, which effectively utilizes low head and high discharge of water for electricity generation. Here we have used an elliptical core and curved vanes for efficient energy conversion from hydraulic to mechanical energy and mechanical to electrical energy. The objective of the project is to extract 1kW power under 1m head. Because of lesser moment of inertia ellipse turbine gives more power output. The turbine produces more power output when the vanes are curved in shape and front and side casings are provided. This turbine can be installed in areas having low head water resources to provide electricity to the household applications and pumping water for agricultural purposes.</p>
9	ME	Prof.Kiran Kumar N A	4VP13ME099 4VP14ME047 4VP14ME051 4VP14ME069	Design and analysis of rollcage of ATV	Fabrication/ analysis	<p>The Roll cage is the most essential part of an All Terrain vehicle. It is like a 3-dimensional protection provided to the driver which is very crucial in determining the shape of the overall vehicle. Roll cage which bears the weight of the systems like power train, suspension, steering and braking. The roll cage designed here is in accordance with SAE BAJA 2018 rulebook. Now SAE stands for society of</p>

Nehru Nagar, Puttur - 574 203, DK, Karnataka State – INDIA.

Phone :+91-8251-235955, 234555 Fax : 236444, Web: [www.vcetputtur.ac.in](http://www.vcetputtur.ac.in), E-Mail: [principal@vcetputtur.ac.in](mailto:principal@vcetputtur.ac.in)

Page: 7



# Vivekananda College of Engineering & Technology

[A Unit of Vivekananda Vidyavardhaka Sangha, Puttur @]

Affiliated to Visvesvaraya Technological University

Approved by AICTE New Delhi & Govt of Karnataka

PRJ-
Projects
ME List
12/06/2018

## List of Projects: 2017-18

					<p>automotive engineers and BAJA is their official competition where Engineering undergraduates try to design and build an All Terrain Vehicle. All Terrain Vehicle is the vehicle which is used for terrain applications. There will be a chance of threat to driver life, damage to the vehicle parts and the roll cage members can be deformed permanently. The members should be replaced when permanent deformation takes place. This rework on the roll cage leads to decrease in the strength of roll cage. In All Terrain Vehicle weight of the vehicle is important parameter, large weight leads to poor acceleration, ineffective breaking, poor suspension effect and overall performance of vehicle. Our aim in this project is to achieve driver safety by choosing appropriate material for roll cage by maintaining suitable factor of safety and comparing different roll cage materials available in the market. Using aluminium alloy we can reduce weight of the roll cage and overall performance of All Terrain Vehicle. In steel alloys by using appropriate tube dimensions and effective design, it will decrease the weight of the roll cage, increase strength and overall performance of vehicle. By considering various parameters and appropriate material in design and analysis we can achieve effective driver safety, cost effective design, decrease in the weight of the roll cage and overall performance of All Terrain Vehicle.</p>	
10	ME	Prof.Vrijesh Rai	<p>4VP15ME403 4VP15ME414 4VP15ME405 4VP14ME402</p>	Design and fabrication of solar dryer	Working	<p>The unpredictable rise and frequent scarcity of fossil fuel accelerated the continuous search for an alternative power source. Solar is one of the renewable and sustainable sources of power that attracted a large community of researchers from all over the world. This is largely due to its abundant in both direct and indirect form. As such the development of efficient and inexpensive equipment for the drying of agricultural and marine products using solar</p>





# Vivekananda College of Engineering & Technology

[A Unit of Vivekananda Vidyavardhaka Sangha, Puttur @]

Affiliated to Visvesvaraya Technological University

Approved by AICTE New Delhi & Govt of Karnataka

PRJ-
Projects
ME List
12/06/2018

## List of Projects: 2017-18

					<p>power evolved thereby improving the quality of the products as well as improving the quality of life.</p> <p>The use of solar dryers in the drying of agricultural products can significantly reduce or eliminate product wastage, food poisoning and at the sometime enhance productivity of the farmers towards better revenue derived. A solar crop drying system was designed and fabricated, which solely depend on solar energy to function, thus reducing fossil fuel consumption. The machine is intended to dry the agricultural crops and products by utilizing the Solar energy. A black colored corrugated heating plate with inclination absorbs the solar light radiation thereby heating of plate. Less denser air will start to move lower level to higher level with the help of solar powered air blower in the plane of heating plate directing the air into the dryer box. Dryer box has the arrangement for placing the agricultural crops in three layered trays providing number of holes for air passing. The exhaust air can be controlled by rotating the cap of the Chimney through which drying rate of the agricultural crops and products can be manipulated</p>	
11	ME	Dr. Manujesh B J	4VP14ME096 4VP14ME097 4VP14ME099 4VP14ME077	Design and fabrication of cocoa deseeding machine	Working	<p>his study outlines the design of a very efficient, highly productive, cost- effective, ergonomic and environmental friendly cocoa deseeding machine that will be used by cocoa farmers to split the cocoa pods and separating the cocoa beans. It will increase and boost productivity and enhance the quality of cocoa products to the highest possible level devoid of any hazards, dangers or perils. The machine is manufactured from locally available materials and assembled and maintained at a relatively low cost. This machine consists of splitting and separating</p>

Nehru Nagar, Puttur - 574 203, DK, Karnataka State – INDIA.

Phone :+91-8251-235955, 234555 Fax : 236444, Web: [www.vcetputtur.ac.in](http://www.vcetputtur.ac.in), E-Mail: [principal@vcetputtur.ac.in](mailto:principal@vcetputtur.ac.in)

Page: 9



# Vivekananda College of Engineering & Technology

[A Unit of Vivekananda Vidyavardhaka Sangha, Puttur @]

Affiliated to Visvesvaraya Technological University

Approved by AICTE New Delhi & Govt of Karnataka

PRJ-
Projects
ME List
12/06/2018

## List of Projects: 2017-18

					sections where in the splitting section splitting of cocoa pod done with the help of a cutting roller. Cutting roller will squeeze the cocoa pods, then pods will break into 2-4 sections. A hollow cylindrical shell is used to remove the whole set of cocoa beans from the pod. Mechanical rotation to the hollow cylinder and cutting roller is provided by 1HP motor. Motor will rotate the hollow cylinder using belt drive mechanism and beans of cocoa will spill out from the hollow cylinder. Beans spilled out from the hollow cylinder are collected at the bottom using tray. Broken cocoa pod will come out from other end of the hollow cylinder. The machine design is simple in its mechanism and anyone can operate for it's best performance. The cost of the fabrication is affordable to any kind of farmer. The machine design can help cocoa farmer and thus society.	
12	ME	Prof.Harish S.R	4VP14ME039 4VP14ME020 4VP14ME018 4VP14ME048	Development of an automated wafer feeding system	Working	As the India is economically developing country, it has led to a rise in standards of living that includes a significantly higher consumption of packaged foods. As a result, food safety guidelines have been more stringent than ever. The Central Arecanut & Cocoa Marketing and Processing Co-operative Limited popularly known as "CAMPCO" was registered on 11 <sup>th</sup> July 1973. Campco established a Chocolate Manufacturing factory in 1986 at Kemminje village in Puttur Taluk of Dakshina Kannada District adopting foreign technical collaboration in chocolate making. The objective of this work is to implement a low cost automation technique in a wafer chocolate manufacturing section of the above factory for enhancing the quality and productivity by reducing labour, time and cost. The present study focus on eliminating the existing drawbacks on loading of wafers into the conveyor system

Nehru Nagar, Puttur - 574 203, DK, Karnataka State – INDIA.

Phone : +91-8251-235955, 234555 Fax : 236444, Web: [www.vcetputtur.ac.in](http://www.vcetputtur.ac.in), E-Mail: [principal@vcetputtur.ac.in](mailto:principal@vcetputtur.ac.in)

Page: 10



# Vivekananda College of Engineering & Technology

[A Unit of Vivekananda Vidyavardhaka Sangha, Puttur @]

Affiliated to Visvesvaraya Technological University

Approved by AICTE New Delhi & Govt of Karnataka

PRJ-
Projects
ME List
12/06/2018

## List of Projects: 2017-18

					for the chocolate coating purpose. A working model for auto feeding of wafers was developed and tested. The implementation of this low cost automation system would facilitate the management to reduce manual involvement in material handling. This technique would also serve to be the most effective and efficient method for handling the wafers thereby improving the product quality and productivity of the organization. In this regard, the implementation of proposed process automation system in the above said industry will not only take care of quality but also saves a considerable amount of money and time with the overall improvement in the productivity.
13	ME	Prof. Santosh Kunnur	4VP14ME060 4VP14ME054 4VP14ME103 4VP14ME022	Design and development of pesticide sprayer	Working  India is a land of agriculture, which comprises of small, marginal, medium and rich farmers. Small scale farmers are very interested in manually lever operated knapsack sprayer because of its versatility, cost and design. But this sprayer has certain limitations like it cannot maintain required pressure; it leads to problem of back pain. However, this equipment can also lead to non-uniform spray of chemicals. This phenomenon not only adds to cost of production but also cause environmental pollution and imbalance in natural echo system.  Our project “Design and Development of Pesticide Sprayer” is manually operated multi nozzle pesticides sprayer pump which will perform spraying at maximum rate in minimum time, the frame is adjustable in height and width and consumes less space. In conventional, Spray pump works on electrical, battery operated or using manpower to operate lever for spraying pesticides which has disadvantages of stress on back of farmers. In Design and Development of Pesticide Sprayer a trolley is present



# Vivekananda College of Engineering & Technology

[A Unit of Vivekananda Vidyavardhaka Sangha, Puttur @]

Affiliated to Visvesvaraya Technological University

Approved by AICTE New Delhi & Govt of Karnataka

PRJ-
Projects
ME List
12/06/2018

## List of Projects: 2017-18

					in which rotary motion is converted into reciprocating motion, this reciprocating motion is used to operate the pump lever. This lever operates the pump and pesticides will be sprayed through the nozzles. It is a device which is used to sprinkle pesticides without more efforts. And also it can be used for spraying of water to lawn.
14	ME	Prof.Ajith K	4VP14ME065 4VP14ME067 4VP14ME057 4VP14ME040	Design and analysis of multi axis material handling vehicle	<p>Fabrication/analysis</p> <p>This project work titled “Design and Analysis of Multi axis Material Handling Device has been conceived having studied the difficulty in unloading the materials mainly in industries. Our survey in this regard in several industries and automobile garages revealed the fact that mostly some difficult methods were adopted in unloading the materials from the trailer. To overcome this limitation the modification in the design of existing dumper is necessary for easier dumping of materials. In this work, a new design is proposed for dumper which is movable in any direction to dump the material. The three dimensional motion is achieved by introducing a hydraulic cylinder along with a worm and worm wheel arrangement such that the vehicles can be unloaded from the trailer in three axes without application of any impact force.</p> <p>In this work trailer has been designed and analyzed using Finite Element based software ANSYS®14 to overcome the difficulty in unloading the materials in small compact streets and small roads. Static structural analysis is carried to evaluate maximum equivalent stress, shear stress, elastic strain, total deformation of three axis pneumatic dumper. It is observed that the results obtained by computer analysis of three axis dumper are well corroborated with the results obtained in physical aspect on foreground.</p>



# Vivekananda College of Engineering & Technology

[A Unit of Vivekananda Vidyavardhaka Sangha, Puttur @]

Affiliated to Visvesvaraya Technological University

Approved by AICTE New Delhi & Govt of Karnataka

PRJ-
Projects
ME List
12/06/2018

## List of Projects: 2017-18

15	ME	Prof.Sunil L J	4VP14ME108 4VP14ME100 4VP15ME423 4VP15ME409	Fabrication and analysis of paraboloid dish type solar water heater	Fabrication/analysis	<p>Solar energy is the most abundant non-conventional energy source available to the mankind presently, many conventional energy resources on the earth are originated by the sun's energy. At present solar energy is not being used as a primary source. The world energy requirement is increasing at a faster rate. Almost all the non-renewable energy sources will be depleted in the near future. These sources also cause environmental hazards. Thus the dependence on such sources has to be reduced. Thus the only option to meet the future energy requirement is to use the renewable energy sources. The selection of type of energy source depends on economic, environmental and safety considerations. Solar energy is considered to be more suitable on the basis of environmental and safety considerations. So many techniques are used to extract solar energy from sun. Solar parabolic dish is one among them, for this parabolic dish different kinds of receivers can be used. The receiver design should minimize the heat loss due to geometric imperfections For this reason we designed two types of absorbers (receivers) to find which design of the absorber absorb more heat and minimizes the heat loss. Areas of the two absorbers are made equal. Experiments are conducted on two absorbers on sunny days by measuring outlet temperature of the water which is flowing in the absorber and by measuring surface temperature absorber for every half an hour, mass flow rate for two absorbers kept constant water supplied to the absorber by gravity. Experimental results are compared with analytical results. Analytical results were obtained by fluid analysis with the help of ANSYS software. Experimental and analytical results obtained were almost similar. By experimental procedure we got maximum temperature of 89.4°C for circular coil type absorber and 83.2°C for U tube series type</p>
----	----	----------------	--	---	----------------------	--

Nehru Nagar, Puttur - 574 203, DK, Karnataka State - INDIA.

Phone : +91-8251-235955, 234555 Fax : 236444, Web: [www.vcetputtur.ac.in](http://www.vcetputtur.ac.in), E-Mail: [principal@vcetputtur.ac.in](mailto:principal@vcetputtur.ac.in)

Page: 13



# Vivekananda College of Engineering & Technology

[A Unit of Vivekananda Vidyavardhaka Sangha, Puttur @]

Affiliated to Visvesvaraya Technological University

Approved by AICTE New Delhi & Govt of Karnataka

PRJ-
Projects
ME List
12/06/2018

## List of Projects: 2017-18

					absorber. And by analytical procedure we got maximum temperature of 92°C for circular coil absorber and 86°C for U tube series type absorber. Hence circular coil type absorber has higher heat absorption capability than U tube series type absorber.
16	ME	Dr. Manujesh B J	4VP14ME008 4VP15ME404 4VP14ME094 4VP14ME116	Characterization of helicteres isora/epoxy natural composite	Analysis
					The use of composites has a long history in aiding the development of ancient civilizations mainly for building and construction purposes. "A composite is defined as the structural material created synthetically or artificially by combining two or more materials having dissimilar characteristics. The constituents are combined at microscopic level and are not soluble with each other. One constituent is called as Matrix phase and the other is called Reinforcing phase". Composites fabricated using natural fibres has the potential to be an attractive alternative to synthetic fibre composites. Natural fibres have better advantages compared to synthetic fibres in terms of biodegradability, light weight, cost and availability. India is abundant with natural fibres and at present is highly focused on producing natural fibre reinforced composites. Isora fibres, on which the present study for composites was undertaken is known for its high tensile strength and is used to make ropes traditionally. Composites synthesized using Isora fibre as reinforcement in Epoxy matrix was produced through hand layup technique, with a fibre ratio of 15% and 40% of chopped fibres and 30% and 40% of woven fibres used to prepare the standard specimens. Mechanical properties such as tensile strength, flexural strength and impact strength were measured to investigate the performance of the composites. The results were dependent of the fibre content and orientation. Therefore, it can be concluded that Isora fibre as



# Vivekananda College of Engineering & Technology

[A Unit of Vivekananda Vidyavardhaka Sangha, Puttur @]

Affiliated to Visvesvaraya Technological University

Approved by AICTE New Delhi & Govt of Karnataka

PRJ-
Projects
ME List
12/06/2018

## List of Projects: 2017-18

No.	Branch	Faculty	Project ID	Project Title	Status	Description
17	ME	Prof. Rakshith Kumar Shetty	4VP14ME073 4VP14ME070 4VP14ME071 4VP14ME052	Design and fabrication of multi stage water wheel turbine	Working	<p>reinforcement in Epoxy matrix composites can be applied into few domestic applications like cladding, floor tiles and some partition walls.</p> <p>In this world of depleting resources, renewable energy plays an important role. The role of renewable energy in tomorrow's world is of great significance for the global environmental stability. Sun, wind and flowing or stored hydro are considered the most common renewable energy sources for power generation. Out of these three renewable energy resources, the advantage of hydro energy is that it can continuously supply energy and can serve as a base power. Hydro energy is one of the major renewable energy sources. The water wheels was developed in the early ages for the power production, due to their large diameter and small contact area they failed in utilizing water sources effectively, therefore water wheels were less efficient.</p> <p>Multistage water wheel is designed to extract energy from flowing water. The kinetic energy and pressure energy available in the flowing water is made use to create the impulse action on turbine blades. To extract more energy, water wheel is connected in series followed with proper step up of speed, the mechanical energy is converted into electrical energy. Test conducted for a channel of water with velocity of 0.5m/s gives a output of 500 watt.</p>
18	ME	Prof. Punith	4VP14ME107 4VP14ME111 4VP14ME110 4VP14ME055	Alternative material for serrated lever	Analysis	<p>Although various machine tools are being manufactured at HMT Bangalore, among them Radial drilling machine is major machine tool manufactured. In radial drilling machine serrated lever is the primary component which is more essential. So to manufacture this serrated lever EN354 material is being used in HMT which consume more standard time for manufacturing and it costs more.</p>



# Vivekananda College of Engineering & Technology

[A Unit of Vivekananda Vidyavardhaka Sangha, Puttur @]

Affiliated to Visvesvaraya Technological University

Approved by AICTE New Delhi & Govt of Karnataka

PRJ-
Projects
ME List
12/06/2018

## List of Projects: 2017-18

					<p>So we choose serrated lever as our work specimen. EN 24 steel is used for various application in different industry. Modern industries mainly focus on achieving high quality, interms of accuracy, high production rate, surface finish, and increase the product life without affecting the environment. There is a need to change and improve the technology and manufacture a product at reasonable price.</p> <p>In this project an attempt is made to reduce the operation time and manufacturing cost of the component without compromising with the quality</p>
19	ME	Prof. Sunil L J	<p>4VP14ME093 4VP15ME415 4VP14ME063 4VP15ME413</p>	Design and analysis of vapour absorption air conditioning system	<p>Fabrication/analysis</p> <p>Due to energy saving consciousness and to reduce the risk of ecological balance, now-a-days there is considerable interest in the development of Absorption air conditioning system powered by renewable energy resources. Also, in India there are many, backward areas which unfortunately even today have no proper electric supply but Air conditioning requirements exist in these region for Hospitals, and for storing medicines, perishable such as milk and other products. This necessitates the development- of vapour absorption air conditioning system. Vapour Absorption system is heat operated system. The heat may be supplied by Biogas, LPG or Solar Energy. In the present work, a design and performance of a solar power air conditioning system is reported. This is a design study on the Vapour Absorption system. Parameters like generator, temperature, condenser, Absorption and Evaporator temperature are varied and effect of these variations on the performance of the system is studied. Effect of one parameter on other for the maximum value of COP is also studied. On the basis of above study, it is found that generator temperature for acceptable performance increases within the increase of condenser and Absorber temperature. For high temperature regions</p>

Nehru Nagar, Puttur - 574 203, DK, Karnataka State – INDIA.

Phone : +91-8251-235955, 234555 Fax : 236444, Web: [www.vcetputtur.ac.in](http://www.vcetputtur.ac.in), E-Mail: [principal@vcetputtur.ac.in](mailto:principal@vcetputtur.ac.in)

Page: 16





# Vivekananda College of Engineering & Technology

[A Unit of Vivekananda Vidyavardhaka Sangha, Puttur @]

Affiliated to Visvesvaraya Technological University

Approved by AICTE New Delhi & Govt of Karnataka

PRJ-
Projects
ME List
12/06/2018

## List of Projects: 2017-18

					generator temperature solar powered should be around 100°C Absorption system is most suitable. COP is taken as the optimization criterion, on the basis of above study, optimum design conditions are selected.	
20	ME	Prof.Ajith K	4VP14ME114 4VP14ME113 4VP14ME109 4VP15ME417	Design, analysis and fabrication of fixture for ball screw housing	Fabrication/ Analysis	A Ball Screw is a mechanical linear actuator that translates rotational motion with little friction. During machining operation to hold the component firmly fixture has to be used. This project deals with the design, analysis and fabrication of a milling fixture of a CNC Vertical Machining Centre to produce Ball Screw Housing for LM Guide ways. The operations to be performed are Face Milling, Drilling, Counter Boring, Tapping and Internal Boring. The purpose of this fixture is to reduce the number of setups to complete all the operations, by machining multiple components simultaneously and to reduce the total cycle time. Thus, the manufacturing cost of the component is reduced. In the present work, the fixture is designed, analyzed and fabricated. The assembly drawing and 3-D models are prepared. The validity of the design is verified using Finite Element Method (FEM) Analysis with the help of ANSYS Workbench 14.5 Software. Results of analysis proved that the obtained stress and deformation values were within the safe range. Machining of the component using this fixture reduces the total cycle time, thereby reducing the total cost of the component.
21	ME	Prof. Bhaskar Kulkarni	4VP14ME104 4VP14ME074 4VP14ME086 4VP14ME083	Design and fabrication of tmt bar bending machine	Working	Civil structure without reinforcement is beyond imagination. Concrete material is several times strong in compression but weak in tension. If a concrete block is subjected to shear stress, failure may occur by diagonal tension. To safeguard the concrete structure against such

Nehru Nagar, Puttur - 574 203, DK, Karnataka State – INDIA.

Phone : +91-8251-235955, 234555 Fax : 236444, Web: [www.vcetputtur.ac.in](http://www.vcetputtur.ac.in), E-Mail: [principal@vcetputtur.ac.in](mailto:principal@vcetputtur.ac.in)

Page: 17



# Vivekananda College of Engineering & Technology

[A Unit of Vivekananda Vidyavardhaka Sangha, Puttur @]

Affiliated to Visvesvaraya Technological University

Approved by AICTE New Delhi & Govt of Karnataka

PRJ-
Projects
ME List
12/06/2018

## List of Projects: 2017-18

					failure, reinforcement is required. This reinforcement is called shear reinforcement which is provided by the element called as stirrup. Stirrup is one of the important elements of reinforced cement concrete used for avoiding sagging of horizontal beam and buckling of vertical column. Now a days the world is focusing into automation. Each and every work of human is reduced by a machine, but few areas like construction the usage of machines for bending rods for stirrups are not done by machine because the cost of machine is high and need skilled labors to operate it. Presently, stirrups are made manually, which suffers from many drawbacks like lack of accuracy, low productivity and resulting into severe fatigue in the operator. In manual stirrup making process, operators not only subjecting their hands to hours of repetitive motion, but in many occasions it results into several musculoskeletal disorders. The main objective of our project is to design and fabricate a TMT bar bending machine which is semi-automated such that the major part of the bar bending operation is taken care by the machine and the minor part like feeding the bars and taking them out is done manually. Here, the rod which we are bending is either rectangular or square in cross-section. Hence this machine is designed in a suitable way that the steel bars can be bent easily without any difficulties so that the bar bending operation can be completed in a short time with high accuracy.	
22	ME	Prof. Sudharshan M L	4VP14ME027 4VP14ME004 4VP14ME015 4VP14ME043	Design and fabrication of vertical head waste plastic recycling machine	Working	Nowadays more number of plastic products are being used in every field and it causes serious environmental problems. Although they are not intrinsically dangerous, they take up a huge amount of space in landfills and they are made from non-renewable resources, namely fossil fuels. For this

Nehru Nagar, Puttur - 574 203, DK, Karnataka State – INDIA.

Phone : +91-8251-235955, 234555 Fax : 236444, Web: [www.vcetputtur.ac.in](http://www.vcetputtur.ac.in), E-Mail: [principal@vcetputtur.ac.in](mailto:principal@vcetputtur.ac.in)

Page: 18



# Vivekananda College of Engineering & Technology

[A Unit of Vivekananda Vidyavardhaka Sangha, Puttur @]

Affiliated to Visvesvaraya Technological University

Approved by AICTE New Delhi & Govt of Karnataka

PRJ-
Projects
ME List
12/06/2018

## List of Projects: 2017-18

					<p>reasons it is important that, where ever possible plastics are need to be recycled. The usage of plastic has increased now a day in many industries like automobile, packaging, medical, etc. The reason behind this is that the things made by plastic are quiet easier to manufacture, handle and reliable to use. So the plastic goods manufacturing industries are striving hard to produce good quality products at large scale and cheaper cost. The hydraulically operated machines solve the problem, but they are too costlier for small scale and medium scale industries. This project deals with design and fabrication of Vertical head pneumatic waste plastic recycling machine. The manually operated machine is converted into pneumatically operated machine by applying proper design procedure. A plastic recycle machine includes assembly of mechanical components like hopper, barrel, frame, heating-coil, pneumatic cylinder. Proper shaping is given to molten plastic using specific die.</p>	
23	ME	Prof. Sudharshan M L	4VP14ME007 4VP14ME029 4VP14ME028 4VP13ME117	A study on dynamic rigidity and thermal stability of areca husk fiber reinforced with epoxy using ash as filler composite material	Analysis	<p>The present work describes the development and characterization of a coconut coir and rice husk reinforced epoxy composites. The composites are characterized with respect to their mechanical and absorption characteristics. The study of behavior of composites with variation in the percentage of coconut coir and rice husk reinforcement keeping the percentage of epoxy resin constant (80%). The mechanical characteristics like tensile strength, bending, and impact strength of composite materials and absorption tests are done. From the tensile test it is observed that if the percentage of coconut coir is increased then tensile strength is increased and during bending test the increase in the percentage of rice husk increases bending strength and Impact strength From the absorption test it is found that composite made of coconut (20%) and epoxy (80%) has great absorption resistance.</p>

Nehru Nagar, Puttur - 574 203, DK, Karnataka State – INDIA.

Phone : +91-8251-235955, 234555 Fax : 236444, Web: [www.vcetputtur.ac.in](http://www.vcetputtur.ac.in), E-Mail: [principal@vcetputtur.ac.in](mailto:principal@vcetputtur.ac.in)

Page: 19



# Vivekananda College of Engineering & Technology

[A Unit of Vivekananda Vidyavardhaka Sangha, Puttur ©]

Affiliated to Visvesvaraya Technological University

Approved by AICTE New Delhi & Govt of Karnataka

PRJ-
Projects
ME List
12/06/2018

## List of Projects: 2017-18

24	ME	Dr. Shankargoud Nyamannavar	4VP14ME024 4VP13ME062 4VP14ME061	Alternative material (EN19) for radial drilling machine component	Analysis	Medium carbon steels are high strength steels which include EN19 as an important member in low alloy category. The present study is to explore the possibility of using EN19 as an alternative material for serrated lever component in Radial Drilling (RD) machine. The different material properties were investigated for EN19 sample. The as bought properties of EN19 steel have good ductility, shock resistance but low wear resistance and shorter service life. However such properties can be further improved through various heat treatment processes. Serrated lever component was prepared from heat treated EN19 material. This component was installed in the RD machine was tested for 3 months usage. Economic analysis shows that the component EN19 is more efficient comparative to earlier material EN354. For a production of 1000 components per year.
25	ME	Dr. Manujesh B J	4VP14ME062 4VP13ME067 4VP14ME010	Design of conveyor system	Working	This project discusses the design, estimation and analysis of a conveyor system for transfer of cocoa beans. The report will follow the project through the initial design, estimation and costing of the conveyor. The current transportation method used at Campco chocolate Factory is inefficient and in need of a replacement solution. The conveyor was designed to be capable of continuous operation which keeps the rubber belt, which holds the small quantities of coca beans, constantly moving through the system. There is not a conveyor system of this scale and size commercially available, so the report will elaborate on overall cost and feasibility of the conveyor. The purpose of building this type of conveyor is to reduce transfer time, labor costs and manual process at Campco chocolate Factory.
26	ME	Prof.Naveena Krishna	4VP14ME017 4VP14ME011	A study on mechanical characterization and absorption	Analysis	The present work describes the development and characterization of a coconut coir and rice husk reinforced



# Vivekananda College of Engineering & Technology

[A Unit of Vivekananda Vidyavardhaka Sangha, Puttur @]

Affiliated to Visvesvaraya Technological University

Approved by AICTE New Delhi & Govt of Karnataka

PRJ-
Projects
ME List
12/06/2018

## List of Projects: 2017-18

			4VP14ME021 4VP14ME030	testing of coconut coir and rice husk reinforced epoxy composites		epoxy composites. The composites are characterized with respect to their mechanical and absorption characteristics. The study of behavior of composites with variation in the percentage of coconut coir and rice husk reinforcement keeping the percentage of epoxy resin constant (80%). The mechanical characteristics like tensile strength, bending, and impact strength of composite materials and absorption tests are done. From the tensile test it is observed that if the percentage of coconut coir is increased then tensile strength is increased and during bending test the increase in the percentage of rice husk increases bending strength and Impact strength. From the absorption test it is found that composite made of coconut (20%) and epoxy (80%) has great absorption resistance.
27	ME	Prof..Akshay Kumar	4VP13ME019 4VP14ME041 4VP14ME025	Fabrication and analysis of electromagnetic braking system- a prototype	Working	Most of the braking systems utilize friction forces to transform the kinetic energy of a moving body into heat that is dissipated by the braking pads. The overuse of friction-type braking systems causes the temperature of the braking pads to rise, reducing the effectiveness of the system. An Electromagnetic Braking system uses Magnetic force to engage the brake, but the power required for braking is transmitted manually. The disc is connected to a shaft and the electromagnet is mounted on the frame. When electricity is applied to the coil a magnetic field is developed across the armature. The eddy-current is created by the relative motion between a magnet and a metal (or alloy) conductor. The current induces the reverse magnetic field and results in the deceleration of motion. The proposed mechanism implements this phenomenon in developing a braking system. The potential applications of the braking system



# Vivekananda College of Engineering & Technology

[A Unit of Vivekananda Vidyavardhaka Sangha, Puttur @]

Affiliated to Visvesvaraya Technological University

Approved by AICTE New Delhi & Govt of Karnataka

PRJ-
Projects
ME List
12/06/2018

## List of Projects: 2017-18

					can be a decelerating system to increase the safety of an elevator or any guided rail transportation system As a result it develops a torque and eventually the vehicle comes to rest. In this project the advantage of using the electromagnetic braking system in automobile is studied. These brakes can be incorporated in heavy vehicles as an auxiliary brake. The electromagnetic brakes can be used in commercial vehicles by controlling the current supplied to produce the magnetic flux. Making some improvements in the brakes it can be used in automobiles in future. . It also reduces the maintenance of braking system. An advantage of this system is that it can be used on any vehicle with minor modifications to the transmission and electrical systems. The result of analysis is done by graphically braking speed v/s time. The brakes are applied to constant speed of wheel. Valves are taken for different braking speed against time. Plotted valves in the graph determines braking speed of electromagnetic braking is maximum at faster rate of brake application. By using electromagnets the braking speed is fast compared to conventional braking.
28	ME	Prof.Udayashankar	4VP14ME034 4VP14ME046 4VP14ME031 4VP14ME038	Computer numerical control laser engraver	Working The machining technologies and modern intelligent systems are expensive and require easy handling and integrated-able machine with various devices to perform multiple machining tasks. Computer Numerical Controlled (CNC) machines are accessible by manufacturers to perform several machining tasks due to effectiveness in handling accuracy. The majority of CNC machines are costly due to its complex design but efficient machining and software design. Laser engraving is the practice of using laser to engrave or mark an object. In this project a CNC system is used to drive the movement of laser head.

Nehru Nagar, Puttur - 574 203, DK, Karnataka State – INDIA.

Phone : +91-8251-235955, 234555 Fax : 236444, Web: [www.vcetputtur.ac.in](http://www.vcetputtur.ac.in), E-Mail: [principal@vcetputtur.ac.in](mailto:principal@vcetputtur.ac.in)

Page: 22



# Vivekananda College of Engineering & Technology

[A Unit of Vivekananda Vidyavardhaka Sangha, Puttur ©]

Affiliated to Visvesvaraya Technological University

Approved by AICTE New Delhi & Govt of Karnataka

PRJ-
Projects
ME List
12/06/2018

## List of Projects: 2017-18

						<p>Laser engraver is a device that can cut paper, engrave soft metals, wood and plastic. Using laser, the engraving process will be very precise and clean engraving can be achieved. This project was aimed to build a machine that can do laser engraving with a minimal cost and also avoiding the use of lead screw mechanism. Arduino UNO R3, a microcontroller is the main control centre for the machine. The laser can be moved along with X and Y-axis. The size of the Laser Engraver machine is 400x400mm and the working area available is 200x250mm. Three stepper motor are used for moving the laser engraver in X and Y-axis. The laser used has output power of 1W, 445nm wavelength. Thus, laser engraving with high accuracy and at a lower cost was achieved.</p>
29	ME	Dr. Deepak K B	4VP13ME088 4VP15ME424 4VP15ME422 4VP14ME037	Semi-automatic solar powered farm equipment- a prototype	Working	<p>The current trend in agriculture is to increase the farmer's productivity by using larger machinery combined with controlled traffic farming, which is where the vehicles traverse exactly the same paths using precision guidance. However, the growth in complexity, size and weight of agricultural equipment, combined with repeatedly traversing the same path, has led to concentrated soil compaction damage as well as longer disruptions due to single machine failures. Soil compaction and single points of failure ultimately decrease yield and productivity. The goal of this project is to create a new class of machines for sustainable agriculture that will increase crop production and reduce environmental impact; small, light, inexpensive that coordinate as a team, to manage the fields remotely and Sowing seeds precisely in the soil and then covering them. The real power required for machine equipment depends on the resistance to the movement of</p>



# Vivekananda College of Engineering & Technology

[A Unit of Vivekananda Vidyavardhaka Sangha, Puttur @]

Affiliated to Visvesvaraya Technological University

Approved by AICTE New Delhi & Govt of Karnataka

PRJ-
Projects
ME List
12/06/2018

## List of Projects: 2017-18

					it. Some of these resistances are the wind resistance, the rolling resistance and the gradient resistance. Machine equipment is powered by replaceable batteries which are charged by Solar energy. This project is focused on an immediate problem facing farms in India – resistant weeds, Zero-tillage agriculture, where soil disturbance is kept to a minimum, is considered best practice farming in India to reduce topsoil erosion.
30	ME	Dr. M.S. Govinde Gowda	4VP15ME408 4VP15ME410 4VP14ME088	Design and fabrication of multipurpose agricultural drying machine – a prototype	Wotking We are innovating a dryer machine for agricultural purpose. By using electric coil, the dryer machine works. It will be the fastest drying machines where we can dry any crops within a day. In summer season it will be easy for farmers to dry the rubbers using sun drier system but, in winter season it's difficult. Project is proposed to dry the rubber sheets very efficiently & to get a high grade sheets (RSS1) throughout the year. Project mainly targets the small scale rubber farmers who face trouble in achieving High grade sheets. In conventional method rubber is dried by passing hot air into the chamber. But in traditional method smoke degrades the quality. Project is fabricated with chamber to hang the rubber sheets, electric coil will be used to electorate the temperature of the heating chamber. Blower to blow the hot air in to the chamber by forced convection method. Thermostat is used to control the confined emperature inside the chamber. The flow of heat to the chamber is automatically controlled by using sensors. Uniform temperature can be achieved inside the chamber. Entire setup can be used as multipurpose dryer by modifying frame arrangement inside the chamber (drying of cocoa, arecanut, pepper etc.,).

Nehru Nagar, Puttur - 574 203, DK, Karnataka State – INDIA.

Phone : +91-8251-235955, 234555 Fax : 236444, Web: [www.vcetputtur.ac.in](http://www.vcetputtur.ac.in), E-Mail: [principal@vcetputtur.ac.in](mailto:principal@vcetputtur.ac.in)

Page: 24





# Vivekananda College of Engineering & Technology

[A Unit of Vivekananda Vidyavardhaka Sangha, Puttur @]

Affiliated to Visvesvaraya Technological University

Approved by AICTE New Delhi & Govt of Karnataka

PRJ-
Projects
ME List
12/06/2018

## List of Projects: 2017-18

31	ME	Prof.Bhaskar Kulkarni	4VP15ME412 4VP15ME411 4VP15ME420	Design, analysis & comparison of mono suspension spring with wave spring	Analysis	<p>Spring is a very important component in an automobile, it is used to give the comfort to the rider or driver, and this is mainly used to give the suspension to the vehicle. Wave spring is new form of spring that can minimize the material also characteristics of the component.</p> <p>In this project we have considered mono suspension coil spring which is used in two wheelers, the spring is subjected to various loads to check the stress, deformation and strain. Same thing is validated by conducting experiment on it for the same loading condition. Two types of wave spring (having 4 and 5 waves) are compared with the coil spring. The results obtained are compared.</p>
32	ME	Prof.Sunil.B. Lakkundi	4VP14ME078 4VP14ME079 4VP14ME089 4VP14ME090	Design and fabrication of series connected flywheel turbine	Working	<p>Series connected flywheel turbine is a new type of low head impulse turbine that is specifically built to harness energy from water stored at very low heads i.e. 3-5m. The conventional Pelton turbines are used for power generation from water stored at high heads and cannot be used for power generation at low heads. The conventional reaction turbines such as Kaplan turbines are used for power generation at low heads but they are complex in design. Hence, the Series connected flywheel turbine is an impulse turbine designed in such a way that it is simple in design and can be used at low heads. This work is purely intended to enhance the efficiency of the turbine with the modification in the blade design and some of the auxiliary attachments which ultimately lead to the enhancement of the efficiency of Impulse turbine. The results from the test conducted at a dam site of 2m show an efficiency of 68% and a power output 1000 watts. Similar test at same head and discharge was conducted on a Kaplan turbine at lab conditions and the results when compared to the Series</p>



# Vivekananda College of Engineering & Technology

[A Unit of Vivekananda Vidyavardhaka Sangha, Puttur ©]

Affiliated to Visvesvaraya Technological University

Approved by AICTE New Delhi & Govt of Karnataka

PRJ-
Projects
ME List
12/06/2018

## List of Projects: 2017-18

						connected flywheel turbine show that the Series connected flywheel turbine is more suitable for low head conditions than the conventional Kaplan turbines.
33	ME	Prof.Sateesha Kumar	4VP14ME095 4VP15ME406 4VP15ME418 4VP15ME402	Design and fabrication of hydraulically operated briquette making machine	Working	<p>In order to meet future energy need, it is necessary to develop and use non-conventional source. Among number of options available, biomass is one of the potential source of energy. There has been a recent push to replace the burning of fossil fuels with biomass.</p> <p>The waste biomass like dry leaves, sawdust, rice husk, coffee husk etc. are gathered and compressed into briquettes. These briquettes can be easily transported and used as fuel to generate heat. At present biomass briquettes are manufactured using machines which are costly and bulky. The objective of the fabricated machines is to reduce the cost of machine and improve the quality of the briquettes. This machine is hydraulically operated with 4/3 way direction control valve, and machine is capable of producing 48 number of briquettes per hour. The machine can be adopted for various size and shapes with small modification.</p>
34	ME	Prof.Kiran Ganti	4VP13ME119 4VP14ME124 4VP13ME120 4VP14ME019	Extracting solar energy by using peltier element	Working	<p>This work presents the efficient generation of electricity using the principle of Seebeck effect which is a phenomenon in which a temperature difference between two dissimilar semiconductors produces a voltage difference between the two substances. The aim of this project is to generate electricity in remote areas where electricity is still irregular and insufficient. The designed module produces electricity by creating temperature difference between the surfaces of the peltier element. For heating we were concentrating sunlight to the hot surface of the peltier element by using convex lens and for cooling</p>



# Vivekananda College of Engineering & Technology

[A Unit of Vivekananda Vidyavardhaka Sangha, Puttur ©]

Affiliated to Visvesvaraya Technological University

Approved by AICTE New Delhi & Govt of Karnataka

PRJ-
Projects
ME List
12/06/2018

## List of Projects: 2017-18

					<p>the cold surface heat sink are connected and the cold water is flowing through this heat sink by using copper pipe. Present problem in generating electricity by using a peltier element creating a high temperature difference. The output voltage of peltier element is mainly dependent on the temperature difference between the hot and cold surface of the peltier element. When heating the hot surface of the peltier element to a high temperature a small amount heat is also transformed to the cold surface. So it is difficult to maintain a high temperature difference. To overcome this problem we implemented solar tracking and water cooling in this project. Solar tracking helps to increase temperature of the hot surface of the peltier element by detecting the angle where the maximum light intensity is available and this system automatically changes its direction to get maximum intensity of light. Water cooling is used to maintain the low temperature at the cold surface of the peltier element. This will increase the efficiency of the peltier element.</p>
35	ME	Prof.Vijay M Patil	4VP11ME026 4VP14ME122 4VP14ME123	Design and analysis of customized gear box for an all terrain vehicle	<p>Fabrication/ Analysis</p> <p>BAJA SAE is an intercollegiate design competition under the Society of Automotive Engineers (SAE). Teams of students from universities all over the world design and build small off-road cars. The goal in Baja SAE racing is to design, build and race an off-road vehicle that can withstand the harshest elements of rough terrain.</p> <p>In these days the transmission systems are facing the problem with carbon fiber belts which were breaking multiple times due to shock loading, and delay occurred in gear shifting in the harshest terrain during endurance race. In this type of transmission</p>



# Vivekananda College of Engineering & Technology

[A Unit of Vivekananda Vidyavardhaka Sangha, Puttur @]

Affiliated to Visvesvaraya Technological University

Approved by AICTE New Delhi & Govt of Karnataka

PRJ-
Projects
ME List
12/06/2018

## List of Projects: 2017-18

					<p>system the vehicle achieves speed, but less torque will be produced and most commonly reliability issue with reduction which affects the power train system of the vehicle.</p> <p>So there is a need for designing of a customized gear box in the vehicle as to increase the overall performance. Therefore the aim of the project is to design and analyses a lightweight, compact gear box that will increase the torque with optimum speed and increasing the durability, hence reducing the design complexity of the drive train.</p> <p>The project work involves theoretical calculations along with CAD modeling for the overall design of the gear box. Also the analysis of the gears and shaft will be done using suitable analysis software to ensure that all designed components could withstand the rigors of BAJA SAE competition without failure.</p>	
36	ME	Prof.Sateesha Kumar	4VP14ME035 4VP14ME036 4VP14ME003	Utilization of heat generated using solar parabolic concentrator for improving the effectiveness of a dryer	Working	<p>India is largely dependent on fossil fuels for power generation. 61% of power generation takes place from Coal. The extensive use of fossil fuels has threatened the sustainability of ecosystem. Fossil fuel resources are depleting fast and it is found that they will exhaust within next 30-50 years. India has a huge potential for renewable energy sources like Solar Energy, Wind Energy etc., but only 10% of total power generation takes place by Renewable Energy Sources. India which is second highest populated in world is also one of largest consumer of</p>

Nehru Nagar, Puttur - 574 203, DK, Karnataka State – INDIA.

Phone : +91-8251-235955, 234555 Fax : 236444, Web: [www.vcetputtur.ac.in](http://www.vcetputtur.ac.in), E-Mail: [principal@vcetputtur.ac.in](mailto:principal@vcetputtur.ac.in)

Page: 28



# Vivekananda College of Engineering & Technology

[A Unit of Vivekananda Vidyavardhaka Sangha, Puttur @]

Affiliated to Visvesvaraya Technological University

Approved by AICTE New Delhi & Govt of Karnataka

PRJ-
Projects
ME List
12/06/2018

## List of Projects: 2017-18

					<p>power. Demand of power is more than supply in India. There is a necessity to reduce the use of electricity. This project work deals with the design and fabrication of Dual Axis Manual Tracking Solar Parabolic Dish Concentrator to generate hot air for domestic applications like crop drying, laundry, space heating, cloth ironing and other applications. The hot air generated in Solar Parabolic Concentrator is transferred to the dryer for improving the dryer performance. With this set-up experiments conducted and results shows that drying process take place at a faster rate as compared to normal dryer. This way, the dryer performance is improved and hence reduced the dependency on traditional method for domestic applications.</p>
--	--	--	--	--	--