

AGRICULTURAL BASED PROJECTS 2018 – 19



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Here is the list of project titles 2018 and 2019.



### **DOORS OF TECHNOLOGY:**

- AGRICULTURAL BASED PROJECTS
- AUTOMOBILE BASED PROJECTS
- COMPOSITE MATERIAL BASED PROJECTS
- INDUSTRIAL BASED PROJECTS
- MECHATRONICS BASED PROJECTS
- SOLAR AND POWER GENERATION CONCEPTS
- AERONAUTICAL BASED PROJECTS
- PEDAL OPERATED BASED PROJECTS
- PNEUMATICS AND HYDRAULICS BASED PROJECTS



| <b>2018 - 19 AGRICULTURAL BASED PROJECTS</b> |  |
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| TAG001                                       | <p><b>TITLE - MULTIPURPOSE SEED SOW MACHINE</b></p> <p><b>ABSTRACT</b> - Agro-Technology is the process of applying the technology innovation occurring in daily life and applying that to the agriculture sector which improves the efficiency of the crop produced and also to develop a better mechanical machine to help the agriculture field which reduces the amount and time of work spent on one crop. We are developing a seed sow machine that will be able to plow the seed as well as do multitasking like water pump and cultivator including seeding .</p>  |
| TAG002                                       | <p><b>TITLE - DEVELOPMENT OF MINI POWERED WEEDER AND TILLER</b></p> <p><b>ABSTRACT</b> - Power tillers occasionally termed as walking tractors have been conceived as an equipment to prepare seedbeds with rotary tillers. They have limitations in their use for traction work due to the low drawbar power per brake horsepower of the engine.</p> <p>This power tiller can also be used for inter row tillage, water pumping and other agricultural operations. Therefore, it is felt necessary to develop a lightweight power tiller fitted with 2-4hpengine with a gearbox having at least two forward speeds</p>  |
| TAG003                                       | <p><b>TITLE - 5 IN 1 AGRIBOT</b></p> <p><b>ABSTRACT</b> - This robotic vehicle is an agricultural machine of a considerable power and great soil clearing capacity. This multipurpose system gives an advance method to sow, plow, water and cut the crops with minimum man power and labor making it an efficient vehicle. The machine will cultivate the farm by considering particular rows and specific column at fixed distance depending on crop. Moreover the vehicle can be controlled through Internet medium using a Android smart phone. The whole process calculation, processing, monitoring are designed with motors &amp; sensor interfaced with microcontroller. Using Internet of things the robot is controlled.</p> |

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| TAG004 | <p><b>TITLE - FABRICATION OF ARECA NUT PELLER MACHINE</b></p> <p>ABSTRACT - Arecanut is one of the most important commercial crop and it is the seeds of the arecanut palm. The crop is mainly grown in the states of Karnataka, Kerala, Tamilnadu, Assam. The study is towards dehusking process of areca nut which are classified as, manual and automatic .peeling by manual method proved to be labor intensive , consumes more time and dangerous to the labor. The various studies towards automatic peeing process is not up to the satisfactory level and are still in the improvisation stage.</p>  |
| TAG005 | <p><b>TITLE – DEVELOPMENT OF ARECANUT CLIMBER MACHINE</b></p> <p>The main aim of this project is to design and develop a tree climbing manual control robot in which control by using radio frequency (RF) signal. With the RF control, the movement of the robot can be much easier and not too limited because it is not attach to a wire. The objectives of this project are as follow:</p> <ol style="list-style-type: none"><li>1. To design and develop a robot that has capability to climb tree and control by a remote control that using RF as the command transmission between the robot and the remote.</li><li>2. To modify a RF circuit from a normal control car toy and integrate to the robot mechanical system.</li><li>3. Able to receive and send command signal between the robot and the controller by using the RF signal.</li></ol> <p>For future development of this project, this kind of robot can be develop or modify so that it can help human .</p> |

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| TAG006 | <p><b>TITLE – DEVELOPMENT OF REMOTE OPEATED AGRI VEHICLE</b></p> <p>This Agricultural vehicle is an agricultural machine of a considerable power and great soil clearing capacity. This multipurpose system gives an advance method to sow, plow, water and cut the crops with minimum man power and labor making it an efficient vehicle. The machine will cultivate the farm by considering particular rows and specific column at fixed distance depending on crop. Moreover the vehicle can be controlled manually by driving the vehicle using seating arrangement. This agricultural vehicle will be running with batteries. Batteries will be charged using Solar Energy. So ultimate aim is to develop a agricultural vehicle which uses renewable sources for operation.</p> |
| TAE007 | <p><b>TITLE – MAIZE HARVESTING MACHINE</b></p> <p>Crop cutting machine is mechanical device. It can be use for cutting the dry cut stalks of grain break or covering of trunk of tree. In the crop cutting machine required less human effort and it is very reasonable for middle class farmer it is not complicated structure and it is easily operated by unskilled person.</p> <p>In this cutting machine have the two blades one is right hand side and another is left hand side. This can be applicable for the cutting of crop such as <b>Javari, Tuar, maize etc.</b> It can reduce labor cost due to the only one person can handle. Crop cutter machine does not required high maintenance.</p>  |
| TAG008 | <p><b>TITLE – ROBOTIC PESTICIDE SPRAYER</b></p> <p>Present scenario in agricultural field in India related to sprayer is that farmers are using hand operated sprayer or motorized sprayer. According to idea in our project we are</p>   |

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|        | <p>making a small 4 wheel kart or vehicle which is electronically operated by a wireless remote which runs on power source as a DC battery. One vertical arm is attached at centre of vehicle and one horizontal arm at top of the vertical arm. Nozzle is fitted to these arms so that it can spray pesticides both the sides. As more no of nozzle are there hence spraying is done rapidly and time and money is saved. The main nozzle assembly are mounted on horizontal pipe to maintain the nozzle gap further horizontal pipe in mounted on vatical bar so that height can be adjusted, the nozzle are connected with set of pipes and connectors. main water pump is mounted in platform on chasse which is front connected to wheel and rear side is handle supported.</p>   |
| TAG009 | <p><b>TITLE – MANUAL SEED SOW MACHINE</b></p> <p>Agro-Technology is the process of applying the technology innovation occurring in daily life and applying that to the agriculture sector which improves the efficiency of the crop produced and also to develop a better mechanical machine to help the agriculture field which reduces the amount and time of work spent on one crop. Hence in this work of project we decided to design a better mechanical machine which is available to the farmers at a cheaper rate and also which can sow and seed the crop at the same time. This project consists of the better design of the machine which can be used specifically for rice, wheat crops etc.</p> <ul style="list-style-type: none"><li>• To achieve proper distance in two seed in seeding mechanism for proper nutrition and growth of plants.</li><li>• To make this machine which operate manually for small farmer</li><li>• To provide this machine in lowest cost and light in weight.</li><li>• To adjust proper depth in variable soil in any whether condition</li></ul> |

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| TAG010 | <p><b>TITLE – SUGARCANE HARVESTER</b></p> <p>Mechanical harvesting uses a combine, or sugarcane harvester. The Austoft 7000 series, the original modern harvester design, has now been copied by other companies, including Cameco / John Deere. The machine cuts the cane at the base of the stalk, strips the leaves, chops the cane into consistent lengths and deposits it into a transporter following alongside. The harvester then blows the trash back onto the field. Such machines can harvest 100 long tons (100 t) each hour; however, harvested cane must be rapidly processed. Once cut, sugarcane begins to lose its sugar content, and damage to the cane during mechanical harvesting accelerates this decline.</p> <ul style="list-style-type: none"><li>• Cost of harvesting is comparably less as manual harvesting. Different parts of a machine will be mounted on strong chassis.</li><li>• The wheels will be attached to this chassis so that it can be moved in the farm.</li><li>• The battery is mounted on the chassis which provides the power to the motor running at high RPM.</li><li>• The motor, in-turn, is connected to the saw chain.</li><li>• The battery is chargeable using solar panels mounted on the chassis .</li></ul> |
| TAG011 | <p><b>TITLE – SWARM ROBOT</b></p> <p>Swarm intelligence (SI) is an artificial intelligence technique based around the study of collective behavior in decentralized, self-organized systems. The concept of SWARM ROBOTICS is based on this basis of grouping of multiple robots or devices and perform the desired task. Swarm robotics is a new approach to the</p>   |



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|               | <p>coordination of multi-robot systems which consist of large numbers of mostly simple physical robots. This approach emerged on the field of artificial swarm intelligence, as well as the biological studies of insects, ants and other fields in nature, where swarm behaviour occurs.</p>   |
| <b>TAG012</b> | <p><b>TITLE – WHEAT HARVESTING MACHINE</b></p> <p>This project is intended to help small-scale grain growers meet an increased demand for diverse, locally grown grains by designing a reaper-binder machine. To refine our prototype and final design, we worked closely with a three person review panel, made up of grain farmers and industrial designers. With this prototype, we hope to provide farmers nationwide with a way to harvest and bind grains on small plots of land in cities and along the periphery of urban areas.</p>  |
| <b>TAG013</b> | <p><b>TITLE – 5 IN 1 AGRIBOT</b></p> <p>This robotic vehicle is an agricultural machine of a considerable power and great soil clearing capacity. This multipurpose system gives an advance method to sow, plow, water and cut the crops with minimum man power and labor making it an efficient vehicle. The machine will cultivate the farm by considering particular rows and specific column at fixed distance depending on crop. Moreover the vehicle can be controlled through RF medium using a Controller. The whole process calculation, processing, monitoring are designed with motors &amp; sensor interfaced with microcontroller.</p> |



**HEAD OFFICE**

TECHNOFIST- R T NAGAR

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YES Complex, #19/3&4 , 2nd Floor, Dinnur Main Road , **R. T. Nagar** Post , Bangalore  
560032

Ph : 080 40969981, Mob : +91 9008001602

[www.technofist.com](http://www.technofist.com), [www.technofist.in](http://www.technofist.in) , [www.itcdp.in](http://www.itcdp.in)

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At work as usual: 080-40969981 | Write to me: [technofist.projects@gmail.com](mailto:technofist.projects@gmail.com), |when u need us the  
most: **+91-9008001602, 080-40969981**| On the Web:[www.technofist.com](http://www.technofist.com)  
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