

# ABSTRACT BOOK

INDIAN SCIENCE & ENGINEERING FAIR (INSEF)

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(The abstract text provided is exactly as submitted by the participants)

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**Project Code: BIO-01 (Jr) Online ID:522**

**Title: Herbal treatment for skin disease in cattle.**

**Subject Category: BIO**

**Name: PRAJNA.M.R. & Std: 7**

**Guide: POORNA MANGALA.M.R.**

**School: SUDANA RESIDENTIAL SCHOOL; NEHRU NAGAR;  
PUTTUR**

**ABSTRACT:**

This project is about treating calf for falling of hairs from their body due to vitamin- a deficiency. In later stages calf will eat soil & if not treated properly in chronic cases it will die.it is a novel method to treat the above disease by using local herb.

Pineapple is grown abundantly in tropical countries like india. After plucking of fruit the stem & leaves are cut & used as green manure. But of late the fiber is extracted from the leaves, which is used as alternative to jute.but along with this use it has medicinal properties also. Which is not been utilized to optimum. During the course of this project a case study has been carried out to treat the affected calves(hair fall problem) by using an extract of pineapple leaf. The methodology is simple.

First pineapple leaves are heated on hot charcoal and by crushing the leaves juice is extracted. Then jagger y is mixed to the juice and liquid is fed to the calf. It has to be done 3 times a day and for a period of 7 days.and during course of study it is been found out that calf is recovered and hairs are grown on the body. Veterinarians does not have any specific treatment for this problem.they will feed with vitamin a tablets till they recover.but the above treatment method is cost effective and specific.ph value test result;sample with jaggery;6.5 without jaggery;5.5. Sample without jaggery;crude protein-.7%,fat-1%, carbohydrate-1.8%, moisture-94%,ash-2.5% sample with jaggfry;crude protein-.8%,fat-1%,carbohydrate-3.8%, moisture-92%,ash-2.6%

**Project Code: BIO-02 (Team) (Jr) Online ID:531**

**Title: All Purpose wonder cream**

**Subject Category: BIO**

**Name: K MAYUR SHETTY & BHRUHATH SHODHAN Std: 7**

**Guide: PRATHIMA N G**

**School: Sudana residential school; nehru nagar puttur**

**ABSTRACT:**

Now a days skin related problems are very common.That too school going children are the victims of itches ,burns,cuts and wounds .Though several medicinal products are available in the market ,they are full of chemicals.Some of them may cause side effects and are not good for health .Prolonged use may lead two other problems .

To solve the above problems we thought of finding a permanent remedy by making use of the plants which are easily available to us.After so many trials with different proportions of the ingredients finally we succeeded in preparing a cream.

We have used 40gm each of the leaves of Eupatorium odoratum,clerodendrum viscosum,Ayapana triplinervis.The juice was extracted and boiled with 100ml coconut oil. 10gm of beeswax was melted and added to the above mixture. We became successful in getting

a cream.

We have tested our preparation in the laboratory of S.D.M Research centre Udupi. The test result revealed that this cream has anti fungal and antibacterial property. The result revealed the presence of alkaloid, sterol, saponin and terpenol. Because of these properties this cream is working wonderfully in healing the skin related problems.

The cuts, wounds healed quickly. Since this preparation does not contain any harmful chemicals and preservatives, it can be used by everybody without any fear. It can be prepared easily.

**Project Code: BIO-03 (Jr) Online ID:536**

**Title: Hemigraphis Alternata - A Herbal Wonder for Prolonged Skin Problems in Livestock**

**Subject Category: BIO**

**Name: Nihal Noojibail & Std: 7**

**Guide: Nishitha.K. K.**

**School: Indraprastha Vidyalaya; Uppinangady**

**ABSTRACT:**

My curiosity started when I saw our villagers applying the Hemigraphis alternata (Tincture plant or Raktha Sanjeevini) extract to their wounds.

To give a scientific touch to this aspect I prepared a pure herbal skin ailment cream, devoid of side effects and chemicals.

I took 4 Kg of Tincture leaves, crushed and squeezed to get 600 gms of extract. Then boiled the extract and condensed to 1/4 (150 gms) of its original volume. After cooling, added 25 gms Sodium benzoate as preservative. Then boiled the extract with 25 gms of Gum acacia and 15 gms of Andrographis paniculata. I made the ointment with two different bases.

Bee wax based: I mixed 75 gms of Tincture extract with 60 gms of melted Bees wax and 170 gms of Coconut oil and stirred well.

Petroleum jelly based: Mixed 75 gms of Tincture extract with 225 gms of Petroleum jelly, 25 gms of Coconut oil and stirred well.

As a further step of investigation, I applied these ointments to the cows, dogs and pigs which have Mange, Myiasis and Flea allergy dermatitis.

It cured these prolonged problems very fast.

pH, Conductivity, HPTLC, Phytochemical, Anti-Microbial tests were done. It showed the presence of Alcholoids, Tannins, Flavanoids, Phenolic compounds, which acts as anti-septic, anti-bacterial, anti-oxidant and anti-inflammatory which helps in curing all the skin problems in animals. We are emphasising to prepare After shave and Tooth paste also.

**Project Code: BIO-04 (Team) (Jr) Online ID:537**

**Title: A Novel Ointment From Adiantum Lunulatum for Itching Boils and Pus Cells**

**Subject Category: BIO**

**Name: Suhas M. K. & A. U. Nachiketh Kumar Std: 7**

**Guide: Jyothi Kiran Rai D.**

**School: Indraprastha Vidyalaya; Uppinangady**

## **ABSTRACT:**

A common fern, seen on rocks, wet walls, which is known as maidenhair fern (*Adiantum lunulatum*) is not just a weed. It has got many medicinal importance. To check its potential, we have tried an ointment from this plant. This Ointment helps to cure irritating and painful itchy boils and pus cells.

To prepare this ointment, take 50g of *Adiantum lunulatum* leaves. Prepare an extract of it. Add 150g of Petroleum Jelly and mix it. Add 3g of salt, 0.026g of Sodium Benzoate and 3g of green camphor for better odor.

The itchiness of the boils will be cured within 1 day and the boils will be cured within 3 days. In pus cells, the pus will rupture within 1 day and completely recovered within 3 days.

We have conducted tests like Microbial, pH and Conductivity. Microbial test was conducted in the Yenepoya Research Centre. The pH and the conductivity tests were conducted in Vivekananda Degree College. The pH of the Ointment was 5.84 and conductivity 0.12S-1. The Microbial test proved that this ointment has anti-bacterial and anti-fungal property and is safe to apply on humans.

We got positive result when it is applied on patients suffering from itchy boils and pus cells and we were inspired to carry on our project.

Once we recognize this fern, we can easily prepare the extract if ointment is unavailable. Any poor person can afford to buy this ointment.

Our Ointment is cheaper, Eco-friendly, natural, contains easy methodology, non-toxic and also plant based.

**Project Code: BIO-05 (Team) (Jr)**      Online ID:542

**Title: HERBAL HAIR DYE AS AN ALTERNATIVE CHEMICAL HAIR DYE**

**Subject Category: BIO**

**Name: Dhanush .P.R & : Nishanth D.B      Std: 8**

**Guide: T.Ramakrishna Naik**

**School: Vivekananda English medium School ;viveka nagar;by**

## **ABSTRACT:**

The hair Dye available in the market is prepared by various chemical processes and which are used on a continuous run causes hair fall and loosing colour. Most of the hair Dye contain ingredient which may cause skin irritation in certain cases and it contain ammonia.. The aim of the project is to prevent such problems. Herbal hair dye nourishes hair holding hair in a place. Comparison was made between chemical colour and herbal colour. Difference was found when dying the hair. Chemical hair colour spreads; But Herbal Hair dye does not drips. It makes our hair shine & smother. It is cheaper than the chemical hair colours. It can be preserved for several months and has no side effect. ALOE VERA controls dandruff and it also smoothens the hair. HIBISCUS LEAVES helps to prevent loss of hair colour.

GOOSEBERRY gives colour to hair. The reason stressing youngsters is that mainly they do not like to apply Herbal colour made by different plants and herbs because of modernization. So such people can use this herbal hair dye which unknowingly nourishes the hair. Sticky substance which helps to control dandruff is removed from Aloe Vera by squeezing & Leaves of hibiscus plant is soaked in water for 30 min and then squeezed, them then we have to take the water of gooseberry, all these are mixed together. It becomes like a liquid solution

**Project Code: BIO-06** Online ID:543

**Title: Efficacy of Vigna mungo on ticks and mange**

**Subject Category: BIO**

**Name: Anusha K & Std: 10**

**Guide: Uma R Kaje**

**School: Indraprastha Vidyalaya; Uppinangady; Puttur Taluk**

**ABSTRACT:**

Man has been keeping pets ever since the dawn of civilization. But these pets are often attacked by Ticks and Mange, a skin disease. Since pets form a part and parcel of our life it is very essential to take care of their health. But the commercially available medicaments are harmful as they contain chemicals.

This project aims to replace the harmful medicaments by an effective, natural medicine. So I have developed an oil, ointment and dusting powder from black gram [Vigna mungo] for Mange and ticks in pets.

To prepare oil from black gram, black gram powder is triturated with coconut oil, heated and filtered. An ointment can be prepared by using petroleum jelly, black gram powder, gum acacia, coconut oil, sodium benzoate. Bee wax can be added as a base instead of petroleum jelly. Talc powder, black gram powder and camphor are constituted to prepare dusting powder. Different forms of the product can be used based on severity.

Experiment was conducted with ticks in two bottles out of which the first bottle was smeared with black gram oil. It was found that ticks in the first bottle died within 2 hours but ticks in second bottle were alive. Positive changes were observed in case of mange also. In addition to this, pH, conductivity, viscosity, phyto chemical test, HPTLC tests were conducted along with continuous experimentation.

Thus these products are natural, eco-friendly, free from hazardous chemicals, easily preparable. The raw material is available in plenty and has universality.

**Project Code: BIO-07 (Jr)** Online ID:548

**Title: A NOVEL ECO-FRIENDLY MEDICINE FOR DOG DERMATITIS FROM MANGIFERA INDICA BARK**

**Subject Category: BIO**

**Name: Shivarama B & Std: 8TH**

**Guide: SRI SHANKARA BHAT P. BADANAJE**

**School: SRI RAMAKRISHNA HIGH SCHOOL PUTTUR; D.K.**

**ABSTRACT:**

The ethno medical information regarding skin ailments and the tree Mangifera Indica was first collected through general conversation with traditional medicine practitioners. Based on this, I have scientifically prepared the ointment from the extract of mango bark of Indian variety. The analysis of the Eco-friendly product has been done in laboratories. I've been working on this project since May 2014.

I took 2kg of bark of Mangifera Indica and cleared all the black coloured layer. It is cut into small pieces of 1 to 2 inches. It is boiled with 8liters of water for 5 hours and filtered it. Again I boiled it for 1hour and I got dark brown coloured 250gm of

paste. As a base I used 250gm of bee wax and 250ml of coconut oil and poured it into the bark paste. To homogenize it Gum Acacia has been used and as a preservative, cinnamon oil has been used. At last I got dark brown coloured 900gm(18 gm is lost due to heating)

of ecofriendly product and then it is stored in airtight container. This product is then compared with commercial product.

The anti-microbial property test is done in Research Laboratory of Mangalore University.

The test results showed the inhibition of S. aureus, B. subtilis, K. pneumoniae bacteria. The product also inhibits A. niger and C. albicans Fungi Alternative niger.

Thus, the natural product is proved to be having antibacterial and antifungal property responsible for dermatitis. The product is cheap, safe and can be prepared by all.

**Project Code: BIO-08 (Jr) Online ID:550**

**Title: THE EFFECT OF ULTRA VIOLET LIGHT ON PLANT DEVELOPMENT**

**Subject Category: BIO**

**Name: M SATHWIK RAO & Std: 6**

**Guide: RENUKA SUDHIR**

**School: JNANODAYA BETHANY PRE UNIVERSITY COLLEGE ;NELLYADI**

**ABSTRACT:**

**ABSTRACT:** Does reducing the amount of ultraviolet light on aloevera plants affect the plant development and chlorophyll levels?

**METHODS:** To start my project I built new habitats for the aloevera plants. I created four different environments for the plants. They are, receiving high amount of ultra violet light from direct sunlight, receiving medium uv light in a shaded place [outside the house but under the roof], receiving small quantity of uv light inside the room near an open window and receiving very less uv light inside the room near a closed window.

Pots containing Aloevera plants are placed in the four environments mentioned above. i observed the plants regularly. After some days I observed some differences among these plants.

**RESULT:** The aloevera plant placed in direct sunlight has got less growth and their leaves turned reddish because of excess sunlight.

The plant placed in medium sunlight grow very well and their leaves are very broad and rich with chlorophyll.

The plant placed inside the room near the open window has very less growth , narrow and light coloured leaves and the growth is slow. That means the chlorophyll level is low.

The fourth plant has no growth, but the leaves slowly turned white due to the deficiency of

chlorophyll and slowly the plant becomes weak and slowly it dies.

**CONCLUSION:** From the above experiment we can conclude that the environment receiving medium sunlight is a good habitat for the healthy growth of ALOEVERA plants.

**Project Code: BIO-09** **Online ID:555**

**Title: EFFECT OF PRE-SOAKING GRAM SEEDS**

**Subject Category: BIO**

**Name: SUPREETHA M.S. & Std: 9**

**Guide: RENUKA SUDHIR**

**School: JNANODAYA BETHANY PRE UNIVERSITY COLLEGE  
;NELLYADI**

**ABSTRACT:**

**ABSTRACT:** The objective was to see if pre-soaking gram seeds in solutions of different pH value would affect germination rate. The hypothesis states that if gram seeds are soaked in different pH solutions and then planted, then the seeds that were pre-soaked in the most acidic solution (vinegar, pH2) will germinate first.

**METHODS/MATERIALS:** Twenty-five seeds were soaked for twenty minutes in each of three solutions: household ammonia (pH11), local tap water (pH5) and white vinegar (pH2). Twenty-five seeds were not pre-soaked.

The pre-soaked seeds were rinsed and then each of the four groups were placed into a tray packed with moist cotton. The trays were placed in a warm, dark area to allow the seeds to germinate.

The seeds were observed every twelve hours for six days and the time was recorded.

**RESULTS:** After seventy-two hours, the group that had been pre-soaked in tap water had the most seeds to germinate followed by vinegar and then the control group (seeds that were not pre-soaked). The group pre-soaked in ammonia had the least seeds to germinate.

At the end of six days the group of seeds that had not been pre-soaked had the most seeds to germinate, followed by tap water, then vinegar and ammonia had the least.

**Project Code: BIO-10 (Team)** **Online ID:557**

**Title: A novel antibacterial product using Piper Betel**

**Subject Category: BIO**

**Name: Tanaya K & Vighnesh Std: 9th**

**Guide: Vasanthi K**

**School: Sri Ramakrishna High School; Puttur D.K**

**ABSTRACT:**

The aim of our project is to prepare an antimicrobial product using natural and Eco-friendly ingredients. The product was prepared by piper betel. A creeper usually Piper betel are

commonly used in Ayurvedic medicines and chewing pan.

Betel leaves are collected and washed. 250g of dried betel leaves are crushed and powdered. Then 50g of wet betel leaves are crushed and got extract is obtained. We boiled 25g of bee wax and 25g coconut oil and mixed the extract and powder of betel leaves. Thus we got 350g of the product after cooling.

Phytochemical test and antimicrobial test of our product is done in research. The product is used for various kinds of wounds as that of to the commercial product we get in the market. It is Eco-friendly, cheap, safe and betel leaves are found abundantly in nature and market. It is very easy to prepare.

**Project Code: BIO-11 (Team)**      Online ID:559

**Title: A Novel Herbal Mouthwash from Psidium guajava and Phyllanthus niruri**

**Subject Category: BIO**

**Name: Sneha Bhat. K & Naithika Std: 9**

**Guide: Suman Bhat K.**

**School: Indraprastha Vidyalaya; Uppinangady**

**ABSTRACT:**

We feel inconvenience when somebody speak to us with bad odour from their mouth. Some have mouth sores, ulcer and bleeding gums. As a solution to this we thought of preparing a mouth wash from locally available Guava(Psidium guajava)and Stone breaker(Phyllanthus niruri). Periodontitis and Gingivitis are the disease causing microbes. Periodontitis causes Histiocytosis and Streptococcus. Chlamydia pneumoniae and Endocarditis are also the other disease related to mouth. Guava can overcome this disease as it is anti bacterial and herbal.

**Methodology:**

Tender leaves of guava and Stone breaker are ground and then boiled with water for 15 to 20 minutes. As it boils sodium chloride, crushed clove and sodium benzoate are added and filtered. Brownish coloured solution is obtained as filtrate.

The following the tests are conducted on our project;

>>pH value (when 2ml is dissolved in water):6.64pH

>>Conductance (when 2ml is dissolved in water):0.888Sm-1

>>Viscosity: 0.0012Nm-2

>>Surface tension:0.058Nm-1e

It has 2 good effects in it. They are:

>>It is mainly used to cure mouth ulcer.

>>It is also used as a mouth freshener.

The mouthwash is preserved for 3 days without sodium benzoate and can also be preserved under cooling. It can cure mouth ulcer within 3 days as temporary relief.

**Project Code: BIO-12 (Team)** Online ID:561

**Title: NATURAL PERMANENT MARKER**

**Subject Category: BIO**

**Name: Tejaswini A N & Spandana chilthadka Std: 10**

**Guide: Prathima.N G**

**School: Sudana Residential School; Nehru nagar Puttur**

**ABSTRACT:**

Markers are one of the common things used by all of us for one or the other purpose. But the ones available in the market are made from chemicals which may cause some allergies in some people. We thought of preparing a natural permanent marker using easily available natural ingredients.

Usually after removing the fruits from the banana plants, stem and other parts are discarded. We are using this discarded part in the preparation of our marker.

First we have to take the outer peel of the banana plant and grind it. We will get a watery substance and we have to boil it with tea decoction. It will become a thick liquid. After a few hours, we will get a permanent marker.

As banana is an annual yielding plant, it will give the yield once in a year which will not be used for any purpose after this. Using this waste, we can easily prepare a permanent marker without any harmful effect to the nature which is also eco-friendly. The marker obtained can be used for giving various colour patterns in clothes, writing purposes, drawings, paintings or any other such uses.

The marker is easy to prepare and use. Prepared in less time with easy method. Easily available discarded part of the banana plant is used. It is eco friendly.

**Project Code: BIO-13 (Team) Online ID:562**

**Title: Tooth pain relief from Mimosa pudica**

**Subject Category: BIO**

**Name: Vrinda. R. Prabhu & Prapthi Jain Std: 9**

**Guide: Jyothi Kiran Rai.D.**

**School: Indraprastha Vidyalaya; Uppinangady; Mangalore**

**ABSTRACT:**

Mimosa pudica is a creeping annual or perennial herb. It was first formally described by Carl Linnaeus in species plant arum in 1753. All parts of the plants are considered to possess medical properties. It is used in treatment of leprosy, inflammations, and asthma, fatigue and blood diseases. It has pharmacological activities like anti-diabetes, anti-toxin, anti-oxidant and wound healing activities. It contains alkaloids, glycoside, flavonoid and tannins. It can form root nodules that are habitable by nitrogen fixing bacteria. Bacteria converts atmospheric nitrogen which plants cannot use into a form that plants can use. This is common among plants in fabaceae family.

The extracts of the plants have shown significant neutralizing effect. These were assayed four antibacterial activities against Escherichia coli, Klebsiella aerogenes, Proteus vulgaris, Pseudomonas Aerogenes (gram negative bacteria).

Oral bacteria include Streptococci, Lacto bacilli, Staphylococci, corynebacteria and various anaerobes. Streptococcus mutans, Streptococcus sanguineus are mainly colonized on the teeth.

As we know that all parts of the plant has medical values we used roots as our main source for the remedy for tooth ache instead of using analgesic which is harmful for the health.

Methodology: the root of mimosa pudica is powdered and mixed with the juice made from all

parts of the same plants. The powder and the juice are macerated and added benzoic acid as a preservatives and this is made into small pellets. These pellets are placed in the socket of the painful tooth. The pain gets relieved in 15-20 mins.

The pH value of this sample is found to be 6.49  
The conductance value of the sample is found to be 1.83 Sm-1.

**Project Code: BIO-14 (Team) (Jr)** Online ID:575

**Title: A NATURAL MOSQUITO AND ANT REPELLENT USING COCONUT SHELL**

**Subject Category: BIO**

**Name: ANVITHA HEBBAR & NIRANJAN GOKHALE M Std: 8**

**Guide: H AJITH HEBBAR**

**School: SRI SHARADA VIDYANI KETHANA PUBLIC SCHOOL;  
TALAPADY**

**ABSTRACT:**

In this project work, the inner hard shell of the coconut (*Cocos nucifera*) was used to extract the oily contents. A blackish brown liquor was recovered during the extraction process. The coconut shells were crushed (about 30 in numbers) into small pieces and collected in a vessel. Another container of smaller size was placed inside this vessel along with the crushed pieces of the shells. The purpose of this small container is to collect the extracted oily liquor. The top of the vessel was covered by another water filled big container so that vessel was totally covered up and the assembly was made air tight by using mud packing. The vessel was heated on a traditional firewood oven for about 45 minutes till the water in the container was about to boil. At this stage this hot water was removed from the container and refilled with the cool water. By now, the heated coconut shells have already started releasing their essence in the form of vapors and the change in the temperature made them to condense and release the black liquor (about half a litre). Eventually this liquid got collected in the inner container. The heating was stopped and assembly was dismantled. It was observed that the shells have already converted into charcoal. The oily liquid extracted had a pungent odour (due to the presence of polyphenols and organic acids). Diluted oil (1:1 with water) was sprayed on the colony of Ants. The Ants were extremely repulsive to this liquid and disappeared in no time. The smoke formed with arecanut shell and this oil proved to be good mosquito repellent. The liquid was also tested for its medicinal value like skin infection, toothache, pain relief and gave very good results. During the application for skin infections, excess burning sensation and irritation were felt by patients. It was also tested on veterinary infections and showed good results.

**Project Code: BIO-15 (Team)** Online ID:581

**Title: Herbal pimple healer**

**Subject Category: BIO**

**Name: Amogh versha.k & ashutosh noojibail Std: 10**

**Guide: Mrs Prathima**

**School: Sudana Residential School Nehru nagar; Puttur**

**ABSTRACT:**

We have chosen this project because people have been fighting to get rid of pimples of their faces especially during their adolescence. We have decided to use natural ingredients to find the solution for pimple problem. We have explored the effectiveness of the pomegranate peels (which generally is thrown away as a waste) for pimple treatment. Properties of other natural substances such as Murraya sprigs and lavancha(Vetiveria sp) root and honey are also used. This is an effective and harmless treatment for pimple without causing harm. Besides it has no side effects of harsh chemical.

**Chemical analysis of products**

Sample	pH	Propylene glycol	Parabens	Benzoyl peroxide
1	6.10	3%	present 2.5%	
2	8.55	2.5%	present 4%	
Product 1	4.95	0%	absent 0%	
Product 2	6.36	0%	absent 0%	
Product 3	5.85	0%	absent 0%	

Product 1= Pome, Murraya and lavanche

Product 2= Pome and Murraya

Product 3= Pome and lavancha

Our cream can be prepared at home because it is prepared by using peel, lavancha and Murraya sprigs. It does not cost more than 10rupees so cost wise it is better. In market product chemicals like benzoylperoxide, parabens are present which can cause allergic reaction in some people. Our product is 100% harmful chemical free. Hence definitely there is no side effect.

Our cream shows a positive result within 20days where as market product takes 1½months to 2 months to cure and is cost effective. According to us

The powder is very effective in the treatment of pimples. It is easy to carry as it is not a lotion or a cream.

This powder does not have any harmful effects like that of chemicals based creams that are available in the market. The question of allergic reactions is avoided as only natural things have been used to prepare this powder. It is also natural cleanser. Our family members have used it and found very useful.

**Project Code: BIO-16Online ID:582**

**Title: The study of antimicrobial property of Pimenta dioica**

**Subject Category: BIO**

**Name: ASEEMA.D. & Std: 9th std**

**Guide: Smt.Vasantha.K**

**School: Sri Ramakrishna High School;Kombettu;Puttur**

**ABSTRACT:**

The aim of my project is to study the antimicrobial properties of Pimenta dioica. Pimenta dioica is related to the Myrtaceae, well known for its berries called Pimento, used as an

important spice since time immemorial, for its culinary as well as medicinal qualities. It is commonly known as All spices In India these are used flavor rice. Found in Jamaican countries and also found in Southern part of Asia. But experiment is done here to test the antimicrobial properties of Pimenta dioica leaves. The plant grows to a height of 10 to 18m or 32 to 60 feet with oval shaped dark leaves of 5 to 10inches.

I took 200g of Pimenta dioica leaves and powdered it .Then I added 260ml of gingelly oil and heated it for 15minutes.Then filtered it. The filtrate thus got was green coloured thick oil. I added honey wax to the oil, mixed it well and cooled it. Thus I got 500g of antimicrobial natural product. This product is just like Amrithanjan which is available in the market. So I compared my product with the commercial product.

The product is tested for sterility of the product in the research lab and it is found that this product is having antimicrobial property. This product can be used as a pain reliever by all as it is cheap. It is safe,natural,eco-friendly and non-toxic.

**Project Code: BIO-17 (Team)**      Online ID:586

**Title: Impact of Pandanus unioapillatus on microbes**

**Subject Category: BIO**

**Name: N.SHRILAKSHMI.PAI & PRATHEEKSHA.S Std: 9TH STD**

**Guide: VASANTHI KEDILA**

**School: SRI RAMAKRISHNA HIGH SCHOOL;PUTTUR**

**ABSTRACT:**

The main objective of our project is to study the Pandanus species which is abundant in the banks of the rivers, ponds of our region (south-west). Pandanus, screw pine or pandan is a genus of monocots with about 600 known species. They are palm-like, dioecious trees and shrubs native to the tropics and subtropics regions. Extensive research is done using the fruits of pandanus unipapillatus to test the anti-microbial property of fruits of it.

To prepare 1 liter of extracts of Pandanus utilis we used 500 grams of Pandanus unipapillatus fruits and crushed and squeezed using 300 ml of distilled water and is filtered. Thus 1 liter of the extract is prepared. The extract was evaluated for its anti-bacterial and anti-fungal properties in the Mangalore university research laboratory and compared with commercial products.

The result showed the inhibition of staphylococcus aureus, Bacillus subtilis, Aeromons hydrophila, Escherichia, Candida albicans, K.pneumoniae bacteria and inhibition of the fungi candida albicans. Thus it is proved that it is having more anti-bacterial property (staphylococcus aureus) which usually effect human respiratory tract and on the skin. The Phytochemical screening of the natural product showed the presence of Saponins, Flavonoids, Alkaloids, Phenolics, Anthraquinones, Terpenes, Molisch test. So this anti-bacterial, novel, safe product can control disease causing micro-organisms the product cheap and easy to prepare by common people.

**Project Code: BIO-18 (Team) Online ID:587**

**Title: HERBAL PEST REPELLENT**

**Subject Category: BIO**

**Name: Agnivesh pradeep & Abhiram mithur Std: 9th**

**Guide: Nivedita bandary**

**School: Sudana Residential School Nehru nagar; Puttur**

**ABSTRACT:**

This herbal pesticide can be used to keep away the pests which attack the vegetable plants and food crops. To prepare the pesticide , we collected tobacco leaves ,lantana leaves and eucalyptus oil. First we boiled 50grams of tobacco leaves with 50 grams of lantana leaves by adding 200 ml of water for 25 – 30 minutes and reduced to  $\frac{1}{4}$  that is 50 ml of decoction of the solution . Later we added 5ml of eucalyptus oil to the solution . This solution is used as pesticides to the plants.

**Project Code: BIO-19 (Team) Online ID:589**

**Title: Ixora coccinea ointment for fungal infection on the foot**

**Subject Category: BIO**

**Name: Shravya.K & Fathima Misbaha Std: 9th std**

**Guide: Ashalatha**

**School: Indraprastha vidylaya uppinangady Puttur T.Q D.K**

**ABSTRACT:**

India is a country of villagers where they suffer from fungal infection on their foot. I decided to prepare an ointment for this problem when I found that the people of our village using the ointment of Ixora coccinea root in a very unscientific way.

To prepare 100gms of Ixora coccinea ointment, we have to take 200 gms of its root. The peeled roots should be kept under sunlight for 3 days to dry up. The dried up roots must be powdered finely. Take 20gms of bee wax and heat it in 60 ml of coconut oil (1:3 ratio) to get white sticky substance. This should be mixed with the powder in the ratio of 2:1

This Ointment is useful in treating fungal infection on the foot, Dy sentry, Diarrhea, Sores and Ulcers. Compared to the market products, this ointment is free from any harmful chemicals, cheap and the raw materials are available in plenty.

We gave our product to few person who was suffering from fungal infection and other few market products. We noticed that our product cured one day before than the market products . And also the person who applied market products their infection was continued but it was not so in our product.

**Project Code: BIO-20 (Team) (Jr)** Online ID:591

**Title: Antiseptic property of Calycapteris floribunda**

**Subject Category: BIO**

**Name: Lokesh & Akshay S K Std: 8th**

**Guide: Vasantha K**

**School: Sri Ramakrishna High School; Puttur D.K**

**ABSTRACT:**

The aim of our project is to prepare Eco-friendly products using natural ingredients. Calycapteris floribunda is used in Auyrvedic medicines and many purpose.

Calycapteris floribunda collected and washed. 500gof Calycapteris floribunda is boiled with 1litre of water. Then we took the extract and put it in a container after cooling. Thus we got 1litre of product.

Ph test of the product is found out. Our product will be used for washing different kinds of wound similar to the product we get in the market[as it contains potassium permanganate. It is Eco-friendly, cheap, safe and betel leaves are found abundantly in nature and market. It is very easy to prepare

**Project Code: BIO-21** Online ID:593

**Title: The study of anti-microbial property of brassica juncea seeds**

**Subject Category: BIO**

**Name: CHINMAYA B I & Std: 9TH STD**

**Guide: VASANTHI KEDILA**

**School: SRI RAMAKRISHNA HIGH SCHOOL;PUTTUR**

**ABSTRACT:**

Abstract: My project aims at developing an eco-friendly product using brassica juncea in place of harmful chemical products available in the market and test it against diseases causing microbes.

Brassica juncea is a key component in our product. Niacin is the active component of brassica juncea. 100 grams of the natural product developed by me includes 80% brassica juncea seed powder. 10% rice powder and 10% jaggery.

Brassica juncea (a specie of mustard) seeds are having anti-microbial property and used in cooking in South Asia. Rice powder helps to cool the affected area as it has soothing properties. Jaggery is used as base. I conducted more than five trials, did the chemical analysis of my product.

I conducted PH, EC, TLC tests and compared it with the chemical product available in market. I tested my product against microbes. My product is cheap, harmless and socially useful

**Title: AN EFFECTIVE HERBAL OINTMENT FOR MASTITIS**

**Subject Category: BIO**

**Name: Vishnu ES & Samarth B Std: 10**

**Guide: Bhuvaneshwari.M**

**School: Sudana Residential School; Nehrunagar; Puttur.DK**

**ABSTRACT:**

Mastitis occurs through out the world. It is a very common disease causing problems to the dairy industry in both the developed and developing countries of the world. It is a common disease of high milking cows like exotic and cross breeds.

Treatment:

Mastitis is treated with drugs and steroids. The Rural farmers find it very difficult to get the service of veterinary doctors in time.

As a first aid measure, body heat is to be reduced. For this, Cold fomentation is required. Swelling is to be get reduced by massaging. This will cure Mastitis and hardening of Udder is avoided.

For this purpose an effective herbal ointment is prepared by us.

**PROCEDURE:**

A collection of fresh tender leaves of sclerophyllum pentandrum is used. Leaves are ground into a paste, squashed liquid is extracted. 90ml of Mustard oil is heated in a pan. 30 grams of Honeybee wax is added to the hot oil until the wax melts. Immediately the liquid extract is added to the pan. This mixture is stirred until it turns into a thick paste form. Then add 0.5ml of sodium benzoate as a preservative. Stir it well and stop heating. Then add 10ml of petroleum ether to get homogeneous mixture. Sodium benzoate is added as a preservative.

Therapeutic uses:

This has to be externally applied as liniment. This helps in curing swellings of udder. This relieves from pain.

This drug works as anti inflammatory on udder tissues. Apply this ointment and slight massaging will bring about cold fomentation in the effected udder tissue. Initial utilization anti inflammatory drugs decreases the udder inflammation or udder infection. So this drug is useful in controlling damages occurred by Mastitis. By using antibiotic medicine thus antibiotic residue will be present in milk for a week. This will be controlled by using our medicine.

**Project Code: BIO-23 (Team) Online ID:602**

**Title: Multi purpose insecticide from Carica papaya leaves**

**Subject Category: BIO**

**Name: ASHA PRIYA D SOUZA & JENISHA PINTO Std: 9TH STD**

**Guide: ROSHAN PINTO**

**School: CARMEL HIGH SCHOOL; MODANKAP**

**ABSTRACT:**

Papaya leaf extract can be used as an insecticide against various organisms and their larvae such as mosquitoes, aphids, caterpillars and worms. The toxic compounds in papaya leaves extract that are insecticidal are alkaloids, papain and cyanogenic glycosides.

**Material Required :** Five papaya leaves, 200ml.beaker, strainer, mortar and pestle, water and spray bottle.

**Preparation:** A multipurpose insecticide can be extracted from papaya leaves by following method.

1. Take five papaya leaves.
  2. Wash it with water.
  3. Grind the leaves in the mortar with the pestle .
  4. Add the paste to the beaker and add 200 ml. of water to it.
  5. Leave the content for soaking overnight in water.
  6. This mixture is strained .
  7. The strained solution taken in a spray bottle and it is ready to used as an insecticide.
- This aqueous solution is then sprayed on crop palnts .

**Project Code: BIO-24 (Team) Online ID:611**

**Title: A SIMPLE REMEDY FOR SOUREYES FROM CALOPHYLLUM INOPHYLLUM**

**Subject Category: BIO**

**Name: Varsha .Manjeshwar & Theertha Anaje Veeramangala Std: 10**

**Guide: JAYALAKSHMI A**

**School: SRI RAMAKRISHNA HIGH SCHOOL;PUTTUR**

**ABSTRACT:**

The title of our project is A SIMPLE REMEDY FOR SOUREYES FROM CALOPHYLLUM INOPHYLLUM. Calophyllum inophyllum is a low-branching and slow-growing tree with a broad and irregular crown. It usually reaches 8 to 20 metres (26 to 66 ft) in height. The flower is 25 millimetres (0.98 in) wide and occurs in racemose or paniculate inflorescences consisting of 4 to 15 flowers. Flowering can occur year-round, but usually two distinct flowering periods are observed, in late spring and in late autumn. The fruit is a round, green drupe reaching 2 to 4 centimeters in diameter and having a single large seed. When ripe, the fruit is wrinkled and its color varies from yellow to brownish-red. The aim of the proposed project is to prepare an ointment using Eco- friendly product against the chemical product .The main product used here is the decoction with calophyllum inophyllum leaves along with water. First we took some calophyllum inophyllum leaves and washed them

properly. Then finely grind it with help of mixer. We needed 3glasses of boiled water so along with that we let the water boil for about 1000c. Then we added the finely grind mixture to the boiled water and let them boil for half an hour once again. After evaporating of water we got green coloured solution and then we sent the product to SDM CENTRE FOR RESEARCH IN AYURVEDA AND ALLIEDSFENCES. LAXMINARAYANA NAGAR UDUPI

Preliminary phytochemical analysis of the product is done in research laboratory the tests revealed the presence of alkaloids, steroids, carbohydrates, tanning, flavanoid and coumarin in the given sample

The medicinal properties of alkaloids are quite diverse. They are narcotic used to relieve pain, analgesic, respiratory stimulants. Some are used to treat anti-arrhythmia tic, many affect respiration, induce severe respiratory depression. Act as blood vessels constrictors, used to relieve the discomfort of common colds

This is an eco friendly project and less costly comparing to the other market products and there are no side effects from our product.

**Project Code: BIO-25 (Team) Online ID:612**

**Title: A wound healing product for burns using Tectona grandis**

**Subject Category: BIO**

**Name: Swathi T & Shraddha M Std: 10th Std**

**Guide: JAYALAKSHMI A**

**School: SRI RAMAKRISHNA HIGH SCHOOL;PUTTUR**

**ABSTRACT:**

The aim of the proposed project is to prepare a wound healing product for burns using eco-friendly product against the chemical product .The main product used here is the decoction of tectona grandis leaves along with coconut oil and honey wax.

Firstly, take a leaves were collected and washed, then the leaves were grained with water, filtered it and we go liquid extract .Then the teak leaves were dried for a week and a powder was made out of it by grinding .The liquid extract and the powder mixture content evaporates .It is then strained and the liquid content of the above is poured over honey wax with continuous stirring. The wound healing product for burns is obtained after cooling for above 60minutes.

Preliminary Phytochemical analysis of the product is done in research laboratory .Tests revealed to presence of tannin, quinine and terpenoids in the given sample .Tannins are antiseptic on skin and mucous membrane, they are used as healing agents in burns etc.

**Project Code: BIO-26 (Team) Online ID:622**

**Title: Wild Seeds – A Source of Nutrition**

**Subject Category: BIO**

**Name: LAHARI.G.R. & KAVYA Std: 9**

**Guide: Smt.JAYALAKSHMI.A.**

**School: Sri Ramakrishna High School;Kombettu;Puttur**

**ABSTRACT:**

The aim of our project is to prepare a nutritional power from roasted Cassiatora seeds.

Wild plants play an important role in the diet of most rural dwellers. These plant tend to drought resistance and are gathered both in times of plenty as well as times of need. Cassiatora is a legume belonging to the caesalpiniaceate family. It grows wild mostly in the tropics and is considered a weed in many places. During the dry season when cultivated vegetables are scarce. Although commonly eaten the rural areas. They are also consumed by urban people who buy from traders who also collect them from the wild.

The seeds of Cassiatora are popular consumed by certain tribes in our villages. They were studied to determine proximate content, amino acid composition and some selected minerals and elements. The seeds of Cassiatora (100 grams) were collected from wild. They were air dried and ground into fine powder using a stainless steel motar and pestle and mixed with milk powder (10 grams), cardamom (5 grams) and prepare nutritional powder.

So this seeds can be used as a food supplement for the childrens suffering from mal-nutrition.

**Project Code: BIO-27 (Team) Online ID:636**

**Title: Paper from the water hyacinth plant**

**Subject Category: BIO**

**Name: Abshitha & Kavana Std: 9**

**Guide: Sadhana hebbar**

**School: Sudana residential school**

**ABSTRACT:**

Paper can be made from the fibre of water hyacinth. The water hyacinth fibre is blended with waste paper or jute and the result is good. The pulp is dosed with bleaching powder, calcium carbonate and sodium carbonate before being heated.

Water hyacinth pulps, obtained by open-vessel cooking of fresh, air-dried, and ground water hyacinth stems, are mixed with abaca and wastepaper pulps to form handsheets. The handsheets have natural glaze and those from pure hyacinth pulps were fairly translucent, that compare well with commercial parchment paper. Compared with either pure abaca or pure wastepaper pulp, replacement with water hyacinth pulp by 25 to 75% significantly improved burst index and tensile index, suggesting better formation and bonding of fibers. With wastepaper pulp, water hyacinth pulp improves the tensile property to a level comparable with that of paper from abaca pulp as well as parchment paper. The paper is used for making folders, boxes, etc.

**Project Code: CHEM-01 (Team) Online ID:532**

**Title: NOVEL APPLICATION OF CANDLE RESIDUE**

**Subject Category: CHEM**

**Name: Kaushik P. & Vivek Jadhav Std: 2nd PUC**

**Guide: Ankita M A**

**School: Hongirana Independent PU College; Amtekoppa; Sagar**

**ABSTRACT:**

Candles are manufactured by paraffin which is a petroleum byproduct, then there is stearin which is a palm wax, gel wax which is made out of resins and some mineral oils. But we throw the residue, which we get after lighting of candle, which has heel healing property.

In our work, an attempt is made to utilise this non economical compound into heel healing product.

We have used melted candle residue, turmeric powder, coconut oil, and gum, obtained from mango tree. First candle residue of 20g is melted in the presence of 20mL of coconut oil. The mixture is heated until the candle residue is completely miscible in coconut oil. Now 2mL of gum obtained from mango tree and 5g of turmeric powder is added to the solution. This solution is allowed to cool for an hour.

This obtained cream is stored in a container and can be directly applied on cracked heel, cut wounds, and dry skin..

This cream is compared with commercially available creams. It has been found that our product is less toxic, has got better pH and cost of production is far less than commercially available.

It has been found, this cream has got good heel healing property, can cure wounds and even dry skin. Beside all this, our cream is more effective, and very less harmful than creams available in market.

As citizens of developing country people of our society could easily meet the need of proper, inexpensive but an effective cream for their heels.

**Project Code: CHEM-02 (Team)      Online ID:538**

**Title: An Innovative Natural Instant Binding Material from CNSL and Lime**

**Subject Category: CHEM**

**Name: Shreevara A. & Thejas K. S. Std: 9**

**Guide: Krishnaprasad V.**

**School: Indraprastha Vidyalaya; Uppinangady**

**ABSTRACT:**

Cashew nut tree is grown all across India. This tree grows up to 10ft with peculiar bark. The outer shell of the nut is mainly discarded as a waste. The dark oil extracted from cashew nut shells is popularly known as CNSL which is being used in painting industries. Our aim is to prepare a natural binding material using this oil.

To prepare a natural binding material, we took CNSL and lime in the ratio of 4:1 and mixed it well. The combination of phenol present in the CNSL and the Calcium Carbonate (lime) produces salt called Calcium Phenate. This resinous polymer acts as an adhesive. This salt has the binding property and we thought of using it as a gum.

By conducting different experiments, we found that this gum binds almost all types of materials and has got a wide range of daily application. The gum can be applied to bind materials like paper, plastics, pipes, woods, metals, earthen pots, glasses etc. The gum can be an alternate for M-Seal, Fevicol, Bril, as it binds almost all types of materials whereas other gums do not. This gum is cheaper and faster than other market products.

We also prepared bricks of sized 9x4x3 by mixing 280gms of gum for 3kgs of clay and baked it. When the Pressure Calculation is conducted, it proved as a failure because of some improper method of preparation. As per the experts improved procedure may provide the positive result. So, we are working on it.

**Project Code: CHEM-03 (Team) Online ID:569**

**Title: A novel way of controlling Hirudo medicinalis using Eco-friendly products**

**Subject Category: CHEM**

**Name: CHINMAYA B I & SUJANRAM B Std: 9TH STD**

**Guide: VASANTHI KEDILA**

**School: SRI RAMAKRISHNA HIGH SCHOOL;PUTTUR**

**ABSTRACT:**

Hirudo medicinalis,a parasitic worm of phylum Annelida usually found in heavy rain fall regions of our western ghats and these are found in Coconut ,Arecanut ,cardamom farms. Hirudo medicinalis (Leech)sucks blood of farmers during their work.Thus it is a harmful worm.So we decided to find out solution to eradicate this harmful worm using some natural products.

We collected Hirudo medicinalis and did three experiments to find out the mortality of it . Experiment 1:-To test the effect of Mentha arvensis(Pudina) leaves on the mortality of Hirudo medicinalis.

Experiment 2:- To test the effect of Nicotin tobaccum leaves on the mortality of Hirudo medicinalis.

Experiment 3:- To test the effect of waste white chalk powder of our class room on the death rate of Hirudo medicinalis.

From the above experiments we found out that the mortality rate of Hirudo medicinalis is high in chalk powder.We found out PH of our product and found that the alkaline property is responsible for the control of Hirudo medicinalis.

**Project Code: CHEM-04 (Team) Online ID:584**

**Title: NEW GENERATION GREEN TECHNOLOGY BASED EFFICIENT AND CHEAPER WATER PURIFIER FOR DRINKING WATER**

**Subject Category: CHEM**

**Name: NEHA YARAGATTI & ASHNI V SUVARNA Std: 10**

**Guide: MRS GOWTHAMI PARTHIBAN & MRS SUMANA**

**School: NITK ENGLISH MEDIUM SCHOOL**

**ABSTRACT:**

Abstract:

Pure drinking water has become an extra essential commodity as drinking water is getting more contaminated than before. With the growing demand for purified drinking water. The purification process also needs to be simpler, natural and effective ones. So we have come up with the novel process that purifies water naturally. This process can be used anywhere, any time without electricity or any other fuel. In this process, we are making use of fine sand, Chitosan (a natural polymer, that is obtained from the hard outer skeleton of shellfish, including crab, lobster and shrimp), drumstick seeds and charcoal.

After Cellulose acetate, Chitosan is the second most abundant biopolymer available in each.

This natural polymer is known for its properties such as anti microbial, non toxic and heavy metal adsorption, similarly drumstick seeds also known for adsorption of coagulated particles in water. In this proposal we have combined both Chitosan and drumstick seed powder, which effectively removes any heavy metals and other coagulated particles from water. Also the resulted water is found to be free from most of pathogenic bacteria, due to the anti microbial nature of the Chitosan. Cost for making such water purifier could be around Rs.100/-.

**Outline of the Procedure:**

1. Chitosan was chemically extracted for the Prawn waste available from local fish market.
2. Connect 4 container with bottom drain
3. Add fine sand to the 1st container and pour the impure water. The sand helps in removing the dirt and other suspended particles from the impure water.
4. Next, the water is allowed to pour into the second container which contains Chitosan. Chitosan removes heavy metals like copper, zinc arsenic and other regulated toxic heavy metals. Also acts as germ killer.
5. Then the water drains into the next container, which contains crushed drumstick seeds. This removes any coagulated particle present in water.
6. Finally, water drains into the last container containing charcoal, which removes the smell, organic chemicals and any coloured compound from the water.

**Project Code: CHEM-05**      **Online ID:596**

**Title: Removal of heavy metals using coconut fruit shell nano particles**

**Subject Category: CHEM**

**Name: Shree Gowri Rao Ullal & Std: 10**

**Guide: Vasanthi Kedila**

**School: Sri Ramakrishna High School;Puttur**

**ABSTRACT:**

The main threats to human health from heavy metals are associated with exposure to mercury, lead, cadmium and arsenic. These metals have been used by humans for thousands of years. Although several adverse health effects of heavy metals have been known for a long time, exposure to them have been continued. Acute mercury exposure may give rise to lung damage, Minamata, nervous and kidney damage etc.

In order to overcome this problem, I have tried to use burnt coconut fruit shell powder. I have experimented my product 15 times by using different ratios of polluted water and the powder. To prepare this powder I took 5 medium sized coconut fruit shell, burnt it and cooled it. Then made a fine powder of it. To purify the water, first took 100ml of polluted water and added a 20 grams of the powder, stirred it. I allowed it to settle for 2 hours.

The tests for the presence of heavy metals like Mercury, Lead and Arsenic are conducted in the Chemistry laboratory of Vivekananda Degreee college, Puttur.-1. The polluted water showed the presence of Mercury and Lead.2. The treated water (by coconut fruit shell nano particles) showed positive result only for Lead. Thus it proved that Coconut fruit shell nano particles can remove Mercury from water. The reason is that the CFS nano particles have many pores(higher porosity) than other substances. This helped to reach the conclusion that my product can be used to removal of heavy metals.

**Title: Increasing Soil fertility and Crop Production using Waste Iron Materials**

**Subject Category: CHEM**

**Name: Sushma A & Avina C.A. Std: 10th Std**

**Guide: JAYALAKSHMI A**

**School: SRI RAMAKRISHNA HIGH SCHOOL;PUTTUR**

**ABSTRACT:**

The aim our project is to increase the fertility of soil due to metal Irons to gain good yield. Iron draws energy to the leaf by absorbing heat from sun; it makes the leaf darker, thus absorbing more energy. Iron is needed by nitrogen fixing bacteria. Iron is good thing in photosynthesis. Iron fertilizers like ferrous sulphate ( $\text{FeSO}_4$ ) contains 20% Iron. This fertilizer is expensive. So we thought of making the product from waste Iron materials.

At first, we took 200grams of waste Iron powder and mixed with 500ml of water and stirred it well then kept it 24 hours. Then we used it as fertilizer.

We took two flowering plants of garden and named it as plant ‘A’ and ‘B’ then we sprayed our product to plant ‘A’ and left plant ‘B’ without any treatment, and kept for observation for two weeks. After two weeks the leaf of plant ‘A’ was darker than the leaf of the plant ‘B’.

The plant ‘A’ was named as Iron treated soil and plant B was named as non treated soil. The pH test was maintained in both cases. As soil is the medium for the plant growth which provides not only mechanical support but also nutrient for their growth. So these two samples were submitted for soil test for further research.

Evaluating their factors and correcting them can save great deal of money spent ineffective and unnecessary iron application. This Idea was very helpful to farmers to gain good yield in their agriculture field.

**Title: Preparation of Ethanol and Bio gas from Jack fruit (*Artocarpus heterophyllus* )**

**Subject Category: Energy**

**Name: MAHESHA.K & Std: 10**

**Guide: Dr.K.Suryanarayana**

**School: St.Philomina High School; Puttur**

**ABSTRACT:**

The overproduction of jack fruit (*Artocarpus heterophyllus*) during harvest season and its short self-life have caused serious losses for farmers. The unused jack-fruit and its parts also produces environment pollution in the form of odd smell. Since there is high sugar content in the jack fruit pulp makes it a potential substrate for alcohol production. Basically, the fruit juice should contain at least 14% of sugar to be converted into alcohol. If the sugar content is less than 14 % , some amount sugar must be added to compensate the lack of sugar content. Since the sugar content of jack fruit is in the range of 18% with out any extra sugar it is possible to convert it in to alcohol. It is also known that all parts of jack-fruit are biodegradable. The present work deals with the formation of ethanol and bio-gas from jack-

fruit.

The collected ripened jack-fruit is cut and peal its fruit pulp and separated it from seed. This is allowed to fermentation process in a container . After the required number of days when fermentation is over squeeze the content to get the juice. From this the alcohol is extracted using a air condenser extraction system. The juice is heated and the vapour is condensed using air condenser system. The vapours formed up to 78.3oC, which is the boiling point of ethanol is collected. The collected solution is extracted again and again to get pure ethanol. We confirmed the ethanol by few basic tests like odor, flame test and reaction with sodium etc. It is found that about 18% of alcohol present in the ripped jack-fruit pulp. In addition to this we extracted the alcohol from the outer part and the waste part of the jack-fruit using same method. It is found that it also contains about 13% of ethanol. We quantitatively studied the variation of ethanol quantity with the number of days needed for fermentation. The minimum 14 days are needed for fermentation in the case of fruit pulp and 20 days for external parts of the fruit. The addition of yeast accelerates the fermentation process.

It is also very interesting that the all parts of jack-fruit is degradable and is a good source of cooking gas. For this experiment we designed a small bio-gas plant of our own using a 60 litre and 50 litre fiber cans and small other accessories. Using this we studied the bio-gas formation quantity from jack fruit pulp, the outer cover, jack fruit seed and all the unusable parts together etc. We found that in each case we got a good amount of cooking gas. We did the comparative study of bio-gas formation in different cases.

### **Project Code: Energy-02 (Jr) Online ID:576**

**Title: vented dam (using rubber)**

**Subject Category: Energy**

**Name: Shrutha P shetty & Std: 7**

**Guide: Praveen Shetty**

**School: VIVEKANANDA ENGLISH MEDIUM SCHOOL TENKILA  
PUTTUR**

#### **ABSTRACT:**

Rubber bags are used instead of wooden planks (vented dams)

In summer season vented dams are used for irrigation purpose in the agricultural field. After rainy season, when the water flow in the river and other water sources decrease the water is made to store in the vented dams. This water can be used to save agriculture. Water stored in vented dams built across the river is used for drinking purpose in towns. The main benefits of building vented dams are to maintain water level and increase the ground water level.

Usually vented dams are built using wooden planks. These wooden planks are kept as boxes and filled with soil. It should be removed when the rainy season starts.

Every year the same procedure is repeated.

Alternatively rubber bags can be used instead of wooden plants. Instead of soil we can fill air using compressor and store flowing water . In rainy season air is removed.

This idea can save labour problem and it also saves time .It is easy to maintain and construct even in Village areas permanently. This is a small step to Conserve Water

**Project Code: Energy-03 (Team) Online ID:579**

**Title: Rocket stove - Synonym of energy efficient healthy stove**

**Subject Category: Energy**

**Name: vishnu keerthi bs & G. Pranvith Alva Std: 9**

**Guide: Yeshwanth**

**School: Vivekananda English medium School ;viveka nagar;by**

**ABSTRACT:**

More than 50% of the worlds population relies on the bio mass such as wood, coal, petrol, LPG as this is the main source of energy, And which is extinct and to be protected. By keeping this intension Rocket stove is designed with energy efficient and Eco friendly plans. The rocket stove generates efficient energy which is used to cook food and generate electricity easily and worthily. Rural people have excess biomass but don't have power supply, by using rocket stove they can easily convert bio mass into pallets using pallet creator apart of rocket stove and easily convert to electric energy and heat energy. The rocket stove is designed worthily,Eco friendly and mechanized with locally available components.

**Experimental design:**

The scrap of CPU cabinet is used as the outer cabinet of the stove. 2 milder circular plates made of GI sheet and the scrap from old stove is used and they are kept coaxially. The diameter of the circular chamber is 12 cm. Feed chamber is fixed firewood chamber with primary inlet and secondary inlet is provided. Top rest chamber is also provided.

**Principle:**

Rocket stove achieves efficient combustion of the fuel at high temperature by ensuring good draft into fire. As the fuel burns in the combustion chamber convection draws new air from below ensuring that any smoke from smoldering wood near the fire is also drawn into the fire and up the chimney. Improving combustion and ensures that heat goes into pot or electricity generator.

**Project Code: Energy-04 (Team) (Jr) Online ID:585**

**Title: FUEL LESS WATER PUMP**

**Subject Category: Energy**

**Name: Thushar S N & Varun K Std: 7**

**Guide: Shantharam.B**

**School: Vivekananda English Medium School Tenkila; Puttur**

**ABSTRACT:**

In this material used are PVC pipes, fittings, tap, Plastic bushes, Buttons ,Nylon rope, Iron rod, Wooden Batten , base peace and pully with handles. Pipes are setted vertically on the wooden plat form as shown in the photo. In the bottom of the bush fix the button and pass Nylon rope in between them, pass the bushes and Nylon rope in {bushes should not be so free in the rope but it should be free in the pipe} , keep wooden peace vertical to the plat form and fix pully on its top adjust the pully that the bushes it should not be slipped from the pully, join the handle to the pully. Rotate the pully at that time the bushes will go down receives the water and comes up again at that time water will pass from the tap.

**Title: SAW DUST WATER BOILER**

**Subject Category: Energy**

**Name: PRA & Std: 8**

**Guide: DINESHA GOWDA K**

**School: NAVODAYA HIGH BETTAMPADY**

**ABSTRACT:**

SAW DUST WATER BOILER

BRIEF INFORMATION

Basically this water boiler has three parts.

1. Saw dust stove.
2. Closed vessel with heating coil.
3. Storage tank.

Saw dust stove is a stove which uses saw dust to burn. The cost of this stove around Rs. 500/- and the cost of saw dust per bag is Rs. 50/-. We can burn this saw dust 10 to 15 times. So the cost of fuel is around Rs. 3/-for one full burning.

First we keep a piece of PVC pipe of diameter 3 inches vertically inside the stove from upper side. It has a hole on one side and it is kept by a PVC pipe of 1.5 inches diameter. Now saw dust is filled inside it except the pipes. Remove the pipes slowly. We can see the arrangement of saw dust in a circular shape. Burn the saw dust with the help of Kerosene Oil. We can see the flame emerging from inside. Then keep the special sealed vessel on the stove.

Sealed Water Tub with spring type copper pipe is the special device which actually does the job of heating. It is a device which has two pipe connections. Its bottom is fitted with copper pipe. Carefully place the SWT on the stove. Ensure that water is filled in it. The source water get the heat in two ways. One is into the coil and other is to the bottom. On the coil the heated water flows upside due to density change. Thus water inside the SWT is heated slowly. Density change makes this water makes to move to storage tank kept little higher to SWT. Less temperate water enters to SWT and heated and this cycle continues upto maximum heat gain or end of saw dust. Now this hot water is ready for our use.

Thus a model water boiler works. Once you fill the saw dust full to this stove it will burn around two to three hours. In this duration we can get more than 50 litres of water. The cost per litre is simply some paises compared to other fuels. For a family of five members one time burning is sufficient. If we heat in traditional way, we can get just 30 to 35 litres of water.

**Title: NOVEL FUEL**

**Subject Category: Energy**

**Name: Thaslima Fathimath & Swasthika Std: 8 th std**

**Guide: Ms. Sindhu V K**

**School: G.P.U.C Uppinangady**

**ABSTRACT:**

Our project includes the use of waste water for increasing the production of Gobar Gas. We

being to rural area, So we noticed that very few hours are making use of waste water for Rubber sheet production plant increase Gobar gas production normally by wine crowding is used in Gobar gas plant, the energy from this is used for house hold activities. In our Dakshina kannada district Rubber is a major commercial crop. From rubber Latex, rubber sheets are produced and the waste water comming out of therubber production plant is mixed with cow dung in a tank and let it go to the Gobar gas plant, by this method there is increase in the Gobar gas level. Our project helps to keep our surrounding clean. Now a days rearing of cows is decreasing so we don't get enough cow dung. So our project is going to help the farmers in increasing the Gobar gas level which intern will help to meet their energy requirements. We are confident that our project will enlighten the back bone of our country.

**Project Code: ENGG-01 (Team) (Jr)**

Online ID:540

**Title: Guest or thief detector**

**Subject Category: ENGG**

**Name: Amrith Narayana.Hosamane. & Manan.Chandrashekhar.Kattatila**

**Std: 7th Std**

**Guide: Jayalakshmi Saravu**

**School: Sudana Residential School**

**ABSTRACT:**

Guest or thief detector has much use in this electronic age. Also Known as magic eye. It can be used as an automatic guest indicator at the door, If fitted on the bottom of the door entrance. Once it is installed at the door there is no need to install a call bell. It can also be used at homes or in banks as a burglar alarm.

Fix the LDR to the wooden door or a locker to be protected in such a manner that when anybody tries to open it, a shadow falls on the LDR and the circuit gets activated and produce a pleasant sound through the buzzer.

This detector circuit uses NOT gate from CMOS I.C CD 4049. CD 4049 contains 6 independent NOT gate in one package; we have used here (a) one only. NOT gate output goes high(1) when the input pin 3 is at lower then 1/3rd level of the supply voltage. Conversely the output goes low (0) when it is above 1/3rd level. So small change in the voltage of pin-2 is enough to change the level of output (pin-3) from 1 to 0 and 0 to 1. The output has only two states high and low and can not remain in any intermediate stage. It is powered by a 9V battery for portable use. The circuit is economic in power consumption. Pin 1 is connected to the positive supply and pin 8 is grounded.

To detect the present of an object we have used LDR and a source of light. LDR is a special type of resistance whose value depends on the brightness of the light which is falling on it. It has resistance of about 1 mega ohm when in total darkness, but a resistance of only about 5k ohms when brightness illuminated. It responds to a large part of light spectrum.

We have made a potential divider circuit with LDR and 220 K $\Omega$  resistance connected in series. We know that voltage is directly proportional to conductance so more voltage we will get from this divider when LDR is getting light and low voltage in darkness. This divided voltage is given to input of NOT gate.

As soon as LDR gets dark the voltage of input not gate drops 1/3rd of the supply voltage and pin 2 gets high and LED or buzzer which is connected to the output gets activated.

**Title: Heart beat monitoring system**

**Subject Category: ENGG**

**Name: Shamil Abbas & Std: 9**

**Guide: Sadhana hebbar**

**School: Sudana Residential School Manjalpadpu Puttur**

**ABSTRACT:**

The heart rate is the number of heart beats per minute. A heart rate monitor measures the heart rate. This device helps to detect malfunctions. Some severe disorders e.g. heart failure need continual monitoring procedure after diagnosis, in order to prevent mortality or further damage as secondary to many heart diseases. Monitoring these types of patients, usually occur at hospitals or healthcare centres. Heart arrhythmias for instance, in many cases need continual long term monitoring. However, the patients are often released too early, owing to need of hospital bed for another patient on waiting list, who needs to be hospitalized immediately. I have made this device which counts pulse continuously and automatically. This device consists of a PIC microcontroller [16F877A], a piezo electric accelerometer as sensor, a blinking LED for visual indication of person's pulse, a MIC [DB 107], LCD display, potentiometer, resistors, capacitor, crystal oscillator and a adapter. Heart beat monitoring system works on the modulation by blood flow through finger at each pulse.

This device can be used without any problem by any layman and can be used even at home. The input is sent through heart beat sensor, it gets processed in the I.C and the output is displayed in the LCD display. The oscillator, capacitor and resistor regulates the voltage. Potentiometer controls the volume of MIC.

**Title: Intelligent shopping cart.**

**Subject Category: ENGG**

**Name: Sangam S kedilaya & Shashan Std: 10**

**Guide: Ismail kaleem**

**School: Sudana Residential school; Nehru Nagar; puttur**

**ABSTRACT:**

Some customers in shopping complexes have a particular cumulative budget in mind. It is difficult for a person to keep in mind the total cost of the things he buys.

In order to overcome this problem, we have designed a special cart which when the product is placed on the trolley, it displays the cost of the product and the total amount. These carts are capable of knowing what a customer has put in them by scanning the contents for an RFID tag: a sort of wireless bar code that is being introduced in products. It would soothe the shopping essence of customers. RFID card is used as security access for product. This project improves the security performance and also the speed.

The proposed working of this project might be as follows:

Initially, the cart will be taken by the customer. Whenever the customer purchases the product and puts it into the cart, the RFID card of the product is sensed by the RFID tag reader and the cost will be displayed on the LCD screen. Whenever the products are put into the cart, its cost will be added and displayed. If any product has to be removed, then the customer has to press

the remove button and then remove the product from the cart so that the cost will be deducted from the total cost. Once the shopping is complete, the enter number must be pressed and a message will be sent to the billing counter through ZIGBEE. This message will be consisting of the information's like the cart number, total cost and the commodities purchased, so that it can be confirmed at the billing counter and the bill can be paid directly. Thus reducing the burden of the cashier to get the bar code and then bill it. Initially the cart is connected to ZIGBEE, thus the information is updated. When the cart reaches the billing section, the RFID number of the cart is automatically sensed and the bill will be generated.

Please refer the attached PDF file the block diagram and it's brief description.

Hardware requirements:

RFID reader

89s52 micro controller

RFID reader

ZIGBEE transceiver

16\*2 LCD

MAX 232

PC interface

Software requirements:

BASCOM C Compiler

PROGISP 8051 programmer

**Project Code: ENGG-04 (Team) (Jr)**

Online ID:566

**Title: Dust free classroom**

**Subject Category: ENGG**

**Name: KINJAL.N & MAITHILY.S.NAIR Std: 8**

**Guide: GAYATHRI K**

**School: Sudana Residential School; Nehru nagar Puttur**

#### **ABSTRACT:**

In the classrooms we are using chalk boards. Whenever we clean or erase the board, so much of chalk dust falls down, flies everywhere and causes much problems. Many teachers get continuous sneezing due to dust that is inhaled.

so we thought of a simple remedy for this problem. We have invented a new device that easily cleans the board without the dust problem.

We have to fix a vaccum pump below the writing board. It should be switched on whenever there is writing work on the board. The chalk dust will be collected by the pump and is sucked in. Even when the board is rubbed the dust is collected by the vaccum suction.

The waste powder and can be reused for making chalk.

This is efficiently solves all the problems. The purpose of our project was to help in keeping the class room clean as well as reduce the problems created by chalk dust.

**Title: SOLAR POWERED SPRINKLER**

**Subject Category: ENGG**

**Name: ABHIJNA K C & Std: 6**

**Guide: K.CHANDRASHEKAR BHAT**

**School: SUDANA RESIDENTIAL SCHOOL PUTTUR**

**ABSTRACT:**

We have devised an efficient irrigation system using solar energy. Solar energy is converted in to mechanical energy and is used to run the sprinkler irrigation system.

Approximately 60% of the earth's fresh water being used to irrigate crops. Hence increasing its efficiency and potential are of great importance. Irrigation is the sue of water for the plants. There are actually two popular irrigation methods that are being used today. The first is the drip irrigation method and the other is the spray irrigation or sprinkler method. Each method has its advantages and with proper customization contribute greatly to the conservation of water through near complete elimination of excessive spillage and water waste.

Using solar energy to run the sprinkler system is an efficient way to irrigate a large field with minimum machinery. Since electricity is not used we have saved on it. The motor is connected to the battery through an eliminator to regulate the power supply.

This method of using Solar Sprinkler certainly shows some promise as an alternative to electricity powered pump driven irrigation in small residential gardens. Aside from the electricity consumption issue

**Title: Portable washing machine**

**Subject Category: ENGG**

**Name: Prathyush Hebbar A & Std: 8**

**Guide: Sadhana Hebbar**

**School: Sudana High school; Nehru nagar Puttur**

**ABSTRACT:**

We have made a portable washing machine which is very cheap and small. It is useful when travelling. It is handy and easy to use.

We have used a churner as the shaft of the motor. To make the stand for the motor We have used two L shaped clamps of which the smaller arm is a bit bent. These two clamps are retractable. The stand having the motor is attached on top of the bucket. the churner which is covered with a mesh gets immersed inside the bucket with the clothes. We have used a circuit to make the motor rotate forward and backward alternately. The circuit is built around a common IC called NE555. It is configured here as a Astable multivibrator which produces periodic pulses. When the output of the multivibrator is low, the relay is off. By this, the motor will rotate in one direction say forward. When the output is more, the relay switches on and the motor connects to the power supply. By this, the motor will rotate in the opposite direction.

We have made this micro washing machine which can benefit people living in small houses. The need for small gadgets has become a necessity as we live in smaller spaces. The use and storing is easy. it has to be detached from the bucket and kept aside after use

**Title: MULTIPURPOSE NANO MACHINE**  
**Subject Category: ENGG**  
**Name: KSHITHEESH R RAO & Std: 11TH**  
**Guide: GAYATHRI K**  
**School: VIVEKANANDA PRE UNIVERSITY COLLEGE;NEHRUNAGAR; PUT**

**ABSTRACT:**

I have seen small houses with congested areas filled with many items like washing machine, mixer etc. So I thought of making a handy portable multipurpose machine which consumes less space.

The modern technology has made our life easy and comfortable. The word ‘nano’ is becoming familiar to all of us. The devices at home becoming nano.

I have made this ‘in(na)novative multipurpose machine which consumes less space. This is designed especially for bachelors who live in small houses and rooms. Since this device consumes less space, cheap, handy it is very useful.

This is dual purpose machine which can be used like a washing machine or mixie as per the need.

If we want to use the machine as a washing machine first we have to place the washing machine drum inside the machine. Then we have to fill the drum with water through inlet pipe. Then we have to switch on the relay. At this point the power supply goes both to the motor and relay. This makes the wheel to spin in both directions like a washing machine. To use the machine as a mixer we have to use a mixer jar. Then cut off the relay. This makes the power supply to go only to the motor Hence, the blades turn in one direction.

**Application**

It is useful especially for bachelors those who live in small rooms and for small families who live in small rented houses.

**USES**

- i. It can be used for washing clothes.
- ii. It can be used as a mixer in the kitchen
- iii. It can also be used for churning the curds
- iv. With little modifications it can be used for kneading Atta and scraping coconut.
- v. It consumes less space
- vi. It is economical
- vii. Can be cleaned easily.

**Title: Rajans Sachidanand Innovative Generater (RSIG)**  
**Subject Category: ENGG**  
**Name: Rajan Pujari & Sachidanand Raikar Std: 10**  
**Guide: Sapna naik**  
**School: Amrita Vidyalayam Sadashivgad Karwar**

**ABSTRACT:**

Procedure – our innovative idea is to use the mechanical energy while riding a vehicle or so which is usually wasted and utilizing it to convert into induced current.

According to fleming's right hand rule when there is change in motion if there is magnetic field an induced current is produced . Here in our device we are changing the magnetic field by using the mechanical energy in moving the wheels of a vehicle .NOW This lets a induced current which is stored in dc 12 volt battery .THEN This dc current is changed into ac with the help of dc -ac converter. This current can be easily used to run any of the appliances .

11 key results – when we input a mechanical energy of riding a bicycle for 20km/hour for 5 min an output of electrical energy of 12 v dc is generated which further can be converted to 220v ac

we tested our circuit on various mechanical inputs

example- - with 10 kmph for 5 minutes itis not possible,with 15 kmph is gives little less output,with 20 kmph its perfect.

**Project Code: ENV-01 (Team)**      Online ID:524

**Title: Calotropis gigantea-A novel way of treating & repeling Muca domestica**

**Subject Category: ENV**

**Name: Shivaprasad Bajakkaremoole & Karthik P K Std: 12**

**Guide: Vishalakshi**

**School: Vivekananda pu collge puttur**

#### **ABSTRACT:**

This project aims at the control of household pest "Muca domestica". House flies may seem to be a destructing agent along with as a disease spreading vector. It is an agent that is also responsible for increase in unhygienic environment. It transmits some dreadful disease to mankind like Typhoid, Cholera,dysentery etc & even for cattles. Many chemical housefly repellents are available in the market but these are toxic to human health so there is a need for an effective,eco-friendly and also safe housefly repellent. So this project using a plant source to get rid of house flies

At first 200gm of calotropis gigantea leaves are taken.washed.chopped and boiled with 1000ml of water in about 80-90°c for about 20 Minutes. Then the solution is filtered and thus obtained solution will be a concentrated solution which will be quarter of the initial volume. Thus obtained extract can be used as pest control by just spraying 2or 3 ml at a Time.

The experiments were done on houseflies in order to test the effect of the extract. A blotting paper of 1\*4cm was dipped inside the solution for few seconds and was dried while this was kept near a housefly source,no houseflies were seen near its proximal range of around diameter of 4mtrs for next 36 hours.The larvae of house flies were collected in an aquarium jar and was sprayed with the extract and the death of larvae was seen simultaneously. The toxicity test was done by taking 10 Earthworms in 1\*1mtr tub and was sprayed with 1ml of solution everyday for next 10days. Thus no death of earthworms were seen so its eco friendly(ie currently available agents destroy all creatures and harms the biosphere) Thus obtained result shows that the spray can be used to destroy larvae and repel houseflies.

**Title: Solar Factory**

**Subject Category: ENV**

**Name: Darshan S & Sampreeth B Nadig Std: 10**

**Guide: Ankita M A**

**School: Hongirana School Of Excellence; Amatekoppa**

**ABSTRACT:**

Purpose of experiment:-

Now a day's one of the major problem people are facing is lack of drinking water. As there is lots of sea water in the atmosphere to solve this problem we have planned a model which completely works on solar energy and it has the capacity to convert sea water into pure drinking water.

Procedure

We have taken an aluminum utensil which is connected through a copper pipe attached with condenser to a utensil. These parts are the heart of the model and these are kept on a base – the top of the aluminum utensil is covered by a convex lens. A Death Ray pointed to the body of the aluminum utensil. Is used to produce more heat using solar energy. This is the view of the model.

It works as follows

\*)First the seawater is stored in the aluminum utensil, due to the converging of sun rays by the convex lenses the water in the all utensil starts boiling and even we have used the death ray to increase the rate of boiling, as a result water converted in to water vapor.

\*) This water vapor passes through the copper pipe, condenses due to the condenser and enters the other utensil. To the obtained water we add the required quantity of solute obtained and make it suitable for drinking.

Result

By this model the places there is lack of water. We can supply water for this. We should especially setup this type of factories near sea.

**Title: AN ENVIRONMENTAL FRIENDLY PRODUCT TO PREVENT MOSQUITOS AND ITS LARVA**

**Subject Category: ENV**

**Name: Chandana Shankar & Kumkuma Shankar Std: 6**

**Guide: Shankar Bhat P.**

**School: Sudana Residential School; Puttur D.K.; Karnataka**

**ABSTRACT:**

Developed and under developing countries facing many types of diseases like malaria, dengue etc... Which are spread by mosquitoes. To prevent these mosquitoes people using commercially available mosquito coils which cause health hazards like allergies etc.

So, here we are introducing eco friendly product to destroy mosquitoes, its larva and some small insects. Purpose of this work is to replace the use of chemical products (Like coils, spray and etc) by our natural eco-friendly mosquito repellent product.

General information's and properties of many natural products were collected through

discussion with resource persons. Based on this we have scientifically produced a Bio-spray which can reduce above mentioned problems. Materials involved in the preparation of this spray are Strychnos nux vomica extract, Euphorbia nerifolia extract and cashew nut shell extract.

As per the result obtained it is proved that when compared to commercially available chemical sprays, this spray is highly effective on mosquitoes and its larva. It is not harmful to health and it is non toxic. By going through our all experiments we considered that this natural spray is very useful, bio-degradable, eco-friendly, natural product, farmer friendly, pollution free, economically feasible, without harming animal kingdom. By cost also it is cheaper because the user himself can prepare the spray.

**Project Code:** ENV-04 (Jr)      **Online ID:535**

**Title: Clerodendrum inerme-An effective house fly repellent**

**Subject Category:** ENV

**Name:** Gowtham PB & **Std:** 8th std

**Guide:** VASANTHI KEDILA

**School:** SRI RAMAKRISHNA HIGH SCHOOL;PUTTUR

**ABSTRACT:**

The aim of my project is to prepare a natural ,homemade house fly repellent using Clerodendrum inerme extract. House fly is considered a pest that can carry serious disease .House flies feed on garbage and manure and may contaminate human food with their feces .House flies can spread over 30 different diseases including typhoid fever, tuberculosis,polio,anthrax,cholera ..etc. Chemical pesticides are an effective way to control them but they are not ecofriendly. So eco-friendly ,non –toxic ,natural way to control the house fly is prepared using Clerodendrum inerme leaves,commonly known as housefly plant. I took 500g of Clerodendrum inerme leaves, 100g of Azadirachta indica leaves and chopped it,mixed it in 500ml of water. Then, I boiled the solution for 5 minutes.After cooling I squeezed and filtered it.Thus I got 500ml of the natural house fly repellent.

The product is used to repel the house flies in our area.The chemical analysis of the product is to be done in the research laboratory.Thus ,a safe ,effective less expensive house fly repellent can be used by common people all over the country.

**Project Code:** ENV-05 (Team)      **Online ID:545**

**Title: Eco Toilet**

**Subject Category:** ENV

**Name:** Shyam Pradeep K & Kedar Krishna Panaje **Std:** 9th std

**Guide:** K S Prasad

**School:** Vivekananda English Medium School Puttur

**ABSTRACT:**

Working Principle of the Eco toilet

Eco-toilet can be constructed in different ways. But, the working principle is same. The dummy working model what we constructed has three holes.

How to use Eco toilet correctly:

Step 1: Step on the marked places with the feet and squat down.

Step 2: Urinate into the front small hole & defecate into the big second hole.

Step 3: The third hole is used to clean with water.

Two levers are fitted at the site, one lever helps to open & close the second hole. The other lever is used to spray ash, lime or sawdust soon after defecating. After every long call (defecate) these agents have to be sprayed as dehydrating agent and so on.

Ash prevents fly breeding and bad odor. Sawdust & ash also regulate the carbon to nitrogen ratio (C/N) and enhance the composting process. If ash & lime are used as adding materials, this has the additional beneficial effect of raising pit, which leads to improved pathogen die-off.

The water should be thrown to first hole after urinating. The arrangement is made in such a way that liquid from the first & third hole meet through a pipe. Any solids found in the liquids can be responded by using some parchment membranes. But here we used sponge instead of these membranes. Sunlight can be used as agent of evaporation & pure urine can be collected which can be used for the plants.

**Project Code: ENV-06 (Jr) Online ID:568**

**Title: An Easy and Cheapest technique to mass produce Bio Degradable Nursery Pots**

**Subject Category: ENV**

**Name: Vismaya Devasya & Std: 7**

**Guide: Lakshmana Devasya**

**School: Kumaraswamy Vidyalaya Subramanya**

**ABSTRACT:**

Plastic bags are extensively used for growing nursery plants. Failed plants are thrown just like that along with the plastic bags. Also during planting the removed bags are left in the farm. These bags mix with the soil creating lot of nuisance.

My invention is aimed at finding an alternate solution for these plastic bag problems. I have invented a new method to make bio-degradable pots to replace the plastic bags. I have employed banana stem, waste gunny bag and cow dung as the raw materials. Unlike plastic bags these bio degradable pots serve as manure once it is planted. Means the pot is consumed by the plant as manure after planting in the soil. The mass production and the cost factor also considered in making these pots. After few trial, I have arrived at a method to produce bio degradable pots and grown the nursery plants successfully.

**Project Code: ENV-07 (Team)**      **Online ID:621**

**Title: SPILANTHES ACMELLA- ITS IMPACT ON VEGETABLE PESTS**

**Subject Category: ENV**

**Name: NIKHIL BHAT & SRIJAN S Std: 10Th STD**

**Guide: VASANTHI KEDILA**

**School: SRI RAMAKRISHNA HIGH SCHOOL PUTTUR D.K**

**ABSTRACT:**

In this project we have prepared a natural pesticide from Spilanthes acmella flower head to kill the vegetable pests and did the comparative study of Spilanthes acmella .We also demonstrated its efficiency and compared it with other commercial pesticides that may cause side effects to the vegetables and plant.

Spilanthes acmella is an important medicinal plant, found in tropical and subtropical countries mainly India and South America. Popularly, it is known as toothache plant which reduces the pain associated with toothaches and can induce saliva secretion. We decided to study it deep and modified it as the natural pesticide which is useful to the farmers.

To prepare 1 litter of pesticide from Spilanthes acmella's flower head, we took 500g of Spilanthes acmella's flower head. Crushed it well. Then we filtered it and got the extract and then we stored it in the bottle. Thus we got 1 liter of the pesticide. The total cost of our ointment is Rs.2/- for 1 liter of pesticide. We compared our product with commercial product. Preliminary phyto chemical test, is in the process. Our product is easy to prepare, and less expensive and can kill the pests. It has the property, which include anti-fungal, , local anaesthetic, bio-insecticide, a, antioxidant, aphrodisiac, analgesic, pancreatic lipase inhibitor, antimicrobial, diuretic, toothache relieve and anti-inflammatory effects.

**Title: ARTIFICIAL SAFFRON THROUGH ANCIENT METHOD**

**Subject Category: ENV**

**Name: EESHA K & Std: 9**

**Guide: DR. KRISHNAPRAKASH**

**School: ST. PHILOMENA HIGH SCHOOL DARBE PUTTUR**

**ABSTRACT:**

Aim and Introduction:

Our(Indian)ancient or classical literatures never supported or advocated the duplications and adultrations. But substitutes and equivalent things were suggested whenever one object or factor is not available easily.

At present crocus sativus (saffron) is considered as the most expensive spice of the country. we are using the saffron in many sweets and other food articles for its attractive colour as well as flavor. in our country, saffron is available (through cultivation)at few areas of kashmir only. Because of these reasons businessmen duplicating the saffron through some synthetic and chemical contents for their commercial purpose. This synthetic saffron causes many bad or adverse effect to the health.

In the preparation of artificial saffron, the flower of Palasha(Butea frondosa) takes the main role.

Method of preparation:

1. instruments: Boat shaped stony domestic grinder (khalva Yantra). A steel spoon for the sake of convenience while grinding

2. Ingredients:

- a. Fresh petals of flower - 1 part (1 Cup)
- b. Powder of white rice - 1/4 part (1/4 cup)
- c. Lime powder - 1/8 part (1/8 cup)

Procedure:

After grinded for one hour, the product converted into sticky mass with beutiful orange (saffron) colour.

Result:

1. K.K.K (krithaka kumkum kesari) posses the attractive colour of N.S (Natural Saffron)
2. But flavor (smell) is dissimilar to that N.S
3. While preparing the sweets (e.g Kesaribath)K.K.K added four times more than N.S, means K.K.K neads four time more compare to the Natural Saffron.

Uses:

1. It can be used in the preparation of many sweets and other food items for the natural colour.
2. To be useful in the preparation of saffron for the natural colour
3. It can also be used in painting and cosmetics.
4. May be useful in textile industries.
5. It can be used as medicine after clinical studies

6. Indirectly it helps for the development and conservation of the forest.

**Project Code: ENV-09** Online ID:628

**Title: The study of Pesticidal property of Andrographis paniculata**

**Subject Category: ENV**

**Name: Shreeranjan sharma.Nekkare & Std: 10**

**Guide: Vasanthi kedila**

**School: sri ramakrishna high school Puttur**

**ABSTRACT:**

Vegetable pests are one of the big threats to farmers as they destroy the cultivated crops. There are a number of harmful chemicals available in the market to control pests, destroying the cultivated crops which cause large scale of loss to farmers. They are dangerous and cause pollution to the environment. So as to replace the use of these hazardous chemical sprays, I thought of preparing the natural pest control spray from a medicinal plant Andrographis Paniculata.

General importance and properties of Andrographis Paniculata were collected through discussion with resource persons. Based on this I have scientifically produced a bio-spray which can control the attack of pests on cultivated crops.

Materials included in the preparation of the natural spray are Andrographis paniculata leaves and water for dilution. Preparation method:-800 ml of Andrographis Paniculata leaves were taken and crushed well. This should be filtered to get one liter of concentrated solution. Before spraying to the crops, dilution is required in the ratio 1:2 with water.

The mortality rate of our spray is 100%. I did more than 10 trials to get best result. Field trial is done . Thus my product is effective, as chemical spray available in the market. It is economically avialable and, Eco-friendly and involves easy methodology. I also performed soil test of sprayed soil sample which proved that spray increases soil nutrients.

**Project Code: ENV-10** Online ID:634

**Title: Coconut rhinoceros beetle control by Arachis hypogaea fermented solution**

**Subject Category: ENV**

**Name: Sagar M & Std: 10th std**

**Guide: Vasanthi Kedila**

**School: Sri RamaKrishna High School Puttur D.K**

**ABSTRACT:**

Coconut rhinoceros beetle has been a pest of coconut and other palm trees .it damages the plants by boring into the center of the crown where it injures the young growing tissues and cut the developing leaves.So in this project I tested Peanut -Arachis hypogaea powder to control the dangerous coconut beetle.

I took 2kg of Arachis hypogaea powder, added 5 litres buttur milk and stirred well in a container. Then I kept whole solution in the coconut farm .Within 3 days I observed the falloff Coconut rhinoceros beetle into the solution.I observed it for more than 10days where the attraction of the beetle into the solution increased.Totally, there were 10 number of beetle in it.The reason I got for is that –the bad smell reasedd during the fermentation of the solution

just like some perfumes attract flies.

Thus ,this method of controlling beetle may help the farmers in an easy way .

**Project Code: Physics-01 (Team)**      Online ID:528

**Title: WIND MOBILE CHARGER**

**Subject Category: Physics**

**Name: PADHAVISHRI & HARSHITHA K Std: 10TH STD**

**Guide: ROSHAN PINTO**

**School: CARMEL HIGH SCHOOL;MODANKAP BANTWAL**

**ABSTRACT:**

**METHOD OF MAKING:**

Take 9 volt D .C Motor and fix the plastic fan to it and connect the charging wires from D .C motor to the mobile. When the wind blows the fan rotates the D .C Motor which acts as a D .C Dynamo which converts mechanical energy into electric energy. It works on the principle of electro-magnetic induction the output voltage is 4.5 volt which is necessary to charge a mobile with this device we can charge many mobiles at a time continuously because of the continuous flow of energy. This device is specially useful in long journeys.

**Applications :**

- \*It can be used while travelling.
- \*Easily portable mobile charger.
- \*Useful to common people because this charger is cheaper than battery bank which costs Rs.2000 to Rs.3000 in the market.
- \*Continuous flow of energy which can be used to charge many mobiles but battery bank can be charged only twice.
- \* Electricity can be saved