

# ABSTRACT BOOK

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

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**Project Code:BehvSc-01 (Team)**

**Title:BLIND PEOPLE ARE NOT BLIND! Do the blind people dream?**

**Subject Category:** Behavioural Science

**Name:Madhura PK BP Madhushree**

**School:**Sri Ramakrishna high school, Puttur, D.K

**Abstract:**

We grow through the perceptions of panchendria, the five sensory organs ,namely eyes ,ears, nose, tongue and skin. However among these eyes are the most important one. Without eyes the whole world will be totally dark for someone. It is our social responsibility to feel for these unlucky people. Hence we have met 8 blind people ,asked questions to understand their behaviour . We prepared question –nair and interviewed 8 blind children. The questions are mainly helpful to understand their feelings, their ability to recognize the worldly things and to know how they communicate them to the others.

**Project Code:BehvSc-02 (Team)**

**Title:Stresslevel in toppers between different boards**

**Subject Category:** Behavioural Science

**Name:Saniah Nasil Abid Nimra**

**School:**TheYenepoya School

**Abstract:**

Life of a high school student, especially the toppers can be pressurised and stressful because a lot has to be achieved in the limited time available.The present study is carried out to find out if there is any significant difference in the level of stress among the top scoring students of high school. We would also like to find out whether the CBSE and State board examination toppers show variations in the perceived stress level. The final objective is to analyse the stress of the high school toppers and compare the level of stress among the toppers of CBSE and State Board schools. A group of 120 high school students of the age range 13 to 16 years are chosen from urban setting to assess the level of stress among the toppers. Descriptive Comparative Research Design like mean value, standard deviation and T-test would be used to analyze the data. Perceived stress questionnaire is used to measure the stress level of topper students. We hypothesize that State toppers have more stress than CBSE toppers and the reason could be the examination and evaluation pattern of both the boards. The two semester and grading system of the CBSE may lessen the burden of the students. Besides, they are internally evaluated based on CCE, whereas, State Board has an annual written examination which evaluates the total performance of the students. Also, the ranking system of the State Board may increase competition and comparisons among the toppers.

**Project Code:Bio-01 (Team)**

**Title:Anti-dandruff from Cynodon Dactylon PERS**

**Subject Category:** Biology

**Name:Aneesh krishna Bhat M Ajith Prabhu**

**School:**Shree Ramakrishna High School.Puttur

**Abstract:**

Anti-Dandruff Shampoo is used to remove the Dandruff. Nowadays many Anti-Dandruff Shampoos are used, which contain many chemicals. Which sometime cause skin allergy. Knowing this we thought to prepare safe Anti-Dandruff from Cynodon Dactylon PERS.

To prepare 1litre of Shampoo we took the whole plant of Cynodon Dactylon PERS and crushed it and filtered it and got the extract. Adding a small quantity of coconut oil (5ml) to 1litre of our novel Anti-Dandruff product, we kept in a cool place and compared this product to the commercial Anti-Dandruff shampoos.

We founded the Viscosity, Surface Tension, E.C, and pH of our product in Vivekananda Degree College Puttur D.K and compared it with one of the Market product (Head and Shoulders) the ingredients/active components present in our product are Tricin, Syringic acid, Ferulic acid, Vanillic acid, and Coumaric acid.

The prepared Shampoo is used for the treatment of Dandruff. It is low cost compared to the other Shampoo which we get in the Market. This product is Non-Toxic, Safe and Eco-friendly.

**Project Code:Bio-02**

**Title: A NOVEL INSECTISIDE FROM MESUA FERREA AND CALLOPHYLLUM INOPHYLLUM -A NOVEL WAY OF TREATING CONJUNCTIVITIS**

**Subject Category:** Biology

**Name:VISHWAS CHANDRASHEKHAR**

**School:**Sri Ramakrishna high school,puttur

**Abstract:**

I have prepared a natural bio insecticide from the leaves of mesua ferrea and demonstrated its efficiency of repelling property. Insects like termites,ants,mosquitoes,housesflies cause a greater damage to us & our surrounding. As our ancestors used mesua ferrea leaves to repel termites in their houses,thus I got the idea of preparing bio insecticide from it. So,I decided to scientifically investigate and prove the insecticidal property of leaves of mesua ferrea and prepared an eco friendly, non-toxic insecticide from the leaves of mesua ferrea.

0.5 kg of mesua ferrea leaves are heated in a water bath and crushed and added with 2 liters of distilled water and heated it for about 15-20 minutes. Then it is filtered and cooled. We obtained 1 liter of insecticide. It is directly used without any dilution.

Surface tension and the pH of the extract is maintained. The mortality rate of our insecticide was found to be 99%. We are able to kill 50 termites of 1sq m area within 20 minutes.

The phytochemical test of my product is done, which shows the presence of bio active constituents. The leaf analysis of the leaves proved the presence of element.

Thus I have prepared a eco-friendly, nontoxic,low cost,bio insecticide which can be used for house hold and industrial purpose

I have formed a new way of treating conjunctivitis using the leaves of Callophyllum Inophyllum and founded its healing property against conjunctivitis. Conjunctiva, is the outermost thin transparent covering of the eye ball. Conjunctivitis is classically defined as conjunctival hyperaemia associated with a discharge which may be watery mucoid, mucopurulent or purulent. Conjunctivitis

is an eye disorder usually caused during summer, which causes swelling of blood vessel in eye, which result in redning of eyes of the victim. Conjunctivities can be due to infective organisms, allergy, trauma etc. Infective conjunctivities could be due to bacteria, virus, fungus, parasite. As bacterial conjunctivities is common in India, so, I'm going to research on treatment of bacterial conjunctivities by *C.inophyllum*

It is easy to prepare medicine from *C. inophyllum*. To prepare 50 ml of medicine take 2-3 leaves of *C. inophyllum* and 50 ml of water in a bowl. Crush the leaves in water we will get a milky white liquid. Then the liquid is used as eye drops. pH of the liquid is maintained. The healing property of our medicine is better than medicines available in market.

The phytochemical test of my product is done, which shows the presence of bio active constituents. The leaf analysis of the leaves proved the presence of element.

It is a good medicine for the people in forests and remote areas who are not affordable to buy allopathic medicines. Where these plants are available easily.

Thus I have prepared a natural, nontoxic, chemical free, low cost medicine, which can be used both in house and hospital

**Project Code:Bio-03 (Team)**

**Title:A novel anti-inflammation treatment using *Barringtonia acutangula***

**Subject Category:** Biology

**Name:**Karthikeya HK      KS Abhishek

**School:**Sri Ramakrishna High School,Puttur

**Abstract:**

The aim of our project is to compare Anti-inflammatory property of *Barringtonia acutangula* with present day medicines.

No research has been carried about the Anti-biotic property of the quadrangular shaped fruits of *Barringtonia acutangula* upto now, the plant grows through out India especially in the banks of River. These plants are 10-15mts in height.

We took 25gms(3seeds) of *Barringtonia acutangula* and crushed it with Butter milk. We took small quantity of Bees-wax and melted it in another container. After Bees-wax melted we added the mixture of *Barringtonia acutangula* and Butter milk to it and stirred it well. Then we kept the container on(above) Freezed water along with Ice cubes and stirred it. Then we got the Anti-inflammatory ointment from *Barringtonia acutangula*

Thus we got 100gms of Anti-inflammatory ointment from *Barringtonia acutangula*.

The pH of our ointment is 3.54. and EC is 5.21 found in Vivekananda Degree College(Chemistry laboratory).

These seeds contains Vitamin C. The seeds are Non-toxic and for human consumption. When the children consume our ointment by mistake there is no effect on them. Where as other chemical used ointments can harm internal organs. So our ointment is better than present day Anti-inflammatory medicines.

**Project Code:Bio-04**

**Title:SALT FROM COCONUT PALM PETIOLE - A REMEDY FOR SKIN AILMENTS**

**Subject Category:** Biology

**Name:RASHMIPARVATHI K**

**School:VIVEKANANDA P U COLLEGE, PUTTUR, D.K.**

**Abstract:**

The Coconut palm is referred to as 'Kalpavruksha', the 'tree of heaven' as each and every part of the palm is useful to mankind in one way or other. It is grown all over the world in tropical countries. It is one of the most useful plants in the world and is the most important of all cultivated palms. One unknown fact of the petiole of coconut palm is that it is a source of salts. The petiole consists of a mixture of salts like carbonates, sulphates, chlorides and many others. This mixture of salts is used as a medicine for skin ailments in folklore. This is totally a new concept which has a vast scope for further investigation. This is my sincere effort to highlight this new concept from ancient Ayurvedic literature and to scientifically prove the uses of salt extracted from the petiole.

**Project Code:Bio-05 (Team)**

**Title:A Novel Ant repellent product using *Premna serratifolia***

**Subject Category:** Biology

**Name:Kedarnath nath Kamath            Nithin G.C**

**School:Sri Ramakrishna high school,puttur**

**Abstract:**

Substance used to repel pests is called as pesticides. There are 2 types of pesticides. 1 type is used to kill pests and 2type which we have tried is to repel the pests. To prepare 1ltr of pesticides we took 500grams of *preмна serratifolia* leaves and 1ltr distilled water we took a vessel and added 1ltr of water and 500grams leaves of *preмна serratifolia* leaves and 1ltr distilled water .we took a vessel and added 1ltr water and 500grams leaves crushed it and grinded and filtered it .this obtained extract was stored in a dry and clean container .thus we got 1ltr of pesticides .

The extracted what we got from the above experiment can be used for repel ant and housefly.

Thus this extract we prepared is low cost ,eco-friendly and free from harmful synthetic chemical .thus we can conclude that our pesticides is eco-friendly and non-toxic we compared viscosity ,surface tension ,pH ,EC of our product with synthetic pesticides available in the market.

**Project Code:Bio-06**

**Title:Mussaenda frondosa - an alternate biomedicine for dandruff**

**Subject Category:** Biology

**Name:RASHMIPARVATHI K**

**School:VIVEKANANDA P U COLLEGE, PUTTUR, D.K.**

**Abstract:**

This project is an effort to investigate the efficiency of the mucilage of the leaves of *Mussaenda frondosa* on dandruff.

The mucilage of the leaves of *Mussaenda frondosa* is the best medicine for dandruff. The fungus causing dandruff like *Malassezia furfur* were cultured in suitable media and the effect the extract of the leaves of the plant has been studied. The plant inhibited the growth of microbes causing dandruff. The project aims at highlighting the anti dandruff properties of *Mussaenda frondosa* and to popularize the plant as an alternate bio medicine for dandruff.

**Project Code:Bio-07 (Team)**

**Title:Preservation of Jackfruit seeds**

**Subject Category:** Biology

**Name:Fathima Sana Ashura Sara**

**School:**Sudana High School Puttur D.K

**Abstract:**

We have noticed that the preservations of any fruit or seed is very important as it grows only at a Particular season. Jackfruit seed is used in making curry, snacks etc. People throw the seed after eating the fruit, they think that it will be spoiled after few days and it cannot be used. Instead of wasting it can be used. So, we have found this method of preservation. We think that this project will be helpful for those who make snacks, curry etc. using this seeds throughout the year.

Directions to preserve : Wash the Jackfruit seeds and keep it to dry, after dried take and mix both the seeds and Calycopteris floribunda leaves and put it inside the earthenpot. Close the mouth of it tightly.

Result: The antimicrobial activities of leaf extracts of Calycopteris floribunda in three different solvents such as diethyl ether- methanol, aqueous 90% methanol extract and petroleum ether – butanol extract were tested against Bacillus cereus, Bacillus subtilis and Staphylococcus aureus. If we open the mud pot even after one year the seeds will not be spoiled. Hence, the seeds will be preserved for one year.

This experiment had been successfully proved by us and this Calycopteris floribunda is also used in modulation of diseased states such as cardiovascular ailments, neurological disorders, cancer and diabetes using dietary components, including fruits and vegetables, natural products and medicinal plants as a possible therapeutic measure has become a subject of active scientific investigations.

**Project Code:Bio-08**

**Title:A natural milk substitute from the decoction of Bridelia scandens (Roxb.) Willd.**

**Subject Category:** Biology

**Name:Athreya Narayana Jeddu**

**School:**Sri Satya Sai Loka Seva High School, Sharada Vihar

**Abstract:**

This project aims at developing a natural milk substitute from the decoction of Bridelia scandens (Roxb.) Willd. a woody climber belongs to Euphorbiaceae family known locally as Bandanaru found habitually in scrub forests along foot hills of Western Ghats and low lands of Karnataka.

The knowledge base is from indigenous medicine were the freshly prepared bark decoction is used to feed infants in case of non- availability of breast milk or the infant has milk intolerance or indigestion.

This decoction is considered to be equivalent to mother's milk in all aspects. Infants are sometimes fed with cow's milk mixed with decoction of this plant to avoid any sort of stomach upset, stomach pain or diarrhea, which may affect children.

Apart from this, bark decoction of Bridelia scandens (Roxb.) Willd, is used to treat bloody diarrhea, dysentery, intestinal disorders and stomach complaints in children with addition of coriander, cumin and black pepper powder in combination. From retrospective perception it can deduced that Bridelia scandens (Roxb.) Willd is a very useful plant in child health and nutrition.

In this study, preparation and standardization of bark decoction, phyto-chemical analysis, food values of the decoction and its effect as milk substitute are under evaluation. The study is still in progress and final results are awaited

**.Project Code:Bio-09 (Team)**

**Title:A FLUORIDE LESS HERBAL TOOTH PASTE FROM MANGIFERA INDICA LEAVES**

**Subject Category:** Biology

**Name:**AJEY AMTANGE      NAYAK N. PRATHIK

**School:**Indraprastha Vidyalaya, Uppinangady

**Abstract:**

Introduction :

India is rich in plant diversity in which most of them are the inhabitants of western ghats. Mangifera indica is a huge tree distributed throughout in India. The leaves of this tree has anti bacterial property.

Origin of idea:

Our ancestors used Mangifera indica leaves for brushing their teeth. We inspired by this.

Objective of project :

Our aim is to prepare fluorideless toothpaste from Mangifera indica leaves which can keep away the bacteria responsible for tooth decay.

Methodology:

We have to take 150 ml of Mangifera indica leaf grinded paste.Then we have to add the following ingredients in following propotion:

10 mg of table salt.

25 mg of shell powder( $\text{CaCO}_3$ ) as abrasive.

25 mg of Woodfordia floribunda flower grinded paste as preservative.

15 mg of peppermint oil as flavor and surfactant.

10 mg of clove essence for freshness and smell.

25 mg of vinegar as coagulating agent.

Thus we get 250mg of mangifera indica toothpaste.

Experiment:

viscosity, Surface Tension, pH, Electric Conductivity, Fluoride tests are done to compare our product with other products in different laboratories.

Results:

We have tested our toothpaste with staphylococcus bacteria which causes tooth decay and we got the result that our product can inactivate this bacteria.

Conclusion:

The product we got is fluoride less, anti bacterial, it is also free from harmful chemicals. So we can conclude that we can use this natural, fluorideless, safest toothpaste and keep our self healthy.



**Project Code:Bio-10**  
**Title:Parasite V/S Pumpkin Seeds**  
**Subject Category:** Biology  
**Name:Naval Kishore**  
**School:**Sudana High School Puttur D.K

**Abstract:**

Tape worm infection is the infection of digestive track by adult parasitic flat worm called cestodes or tape worms. Tape worm larvae are sometimes injected by consuming under cooked food.

**Symptoms:**

Some people experience upper abdomen discomfort diarrhea and loss of appetite, anemia may develop. Rarely worm may cause obstruction of the intestine larvae may migrate to brain causing severe head aches, seizures and other neurological problems.

Ascaris lubricoides is a giant round worm of humans belonging to phylum Nematoda. One quarter of human population is estimated to be infected this parasite. It is a length of upto 35cm. Infections with these parasites are common where sanitation is poor and infected animals feces are used as fertilizers.

This can be treated with mebendazole or Ivermectin can also be used. It causes fatigueness in the patient after a long term use. Instead, a patient can use 2 tables spoon of pumpkin seeds for a about 2 time per day for about 2 years to get read these parasites.

These seeds are good sources of protein, iron, manganese, zinc, manganese, phosphorus, copper & potassium. This is helpful against anxiety , clinical depression and other disorders. They also prevent atherosclerosis and regulate cholesterol in the body.

These seeds mainly contain the acids such as myristic acid , palmitic acid, stanic acid, Oleic acid, Linoleic acid, linolenic acid, arachidic acids , gadoleic acid, behenic acid etc.

These acid are helpful in removing parasites.

So considering all these, practical application is done on my mother in eradicating parasites, gave 95% cure till now, without any side effects.

**Project Code:Bio-11 (Team)**  
**Title: Multi-Purpose Medicine by Cocos Nucifera.**  
**Subject Category:** Biology  
**Name:Krithesh Rai Shetty Srujan**  
**School:**Sudana Residential School

**Abstract:**

Multi-Purpose Medicine by Cocos Nucifera.

**Introduction:-**

By the help of natural fruits we have preferred to prepare an Ayurvedic medicine, which will remove the scars of the minor injuries,cut wounds etc.The Allopathic medicines have come in the market to cure such scars,but they require 60-80 days to cure it partially.

The main theme of our project is to remove the scars faster than that of the Allopathic medicines.

**Procedure:-**

Take some coconut water in a container and boil it.Allow it to boil till the water content

evaporates and a thick oily substance remains. Allow it to get cooled. Store it in a container, so that it can be used later. It removes the scars within few days i.e. within 5-6 days. It has to be applied on the place where there are scars and fresh wounds are found and even where cut wounds are found. With the help of cotton we can apply it on our face to cure the pimples, to nourish the skin etc.

**Advantages and Conclusion:-**

This preparation is mainly used to remove the scars of the burns, minor injuries, wounds etc more fastly than other medicines available today; to cure the fresh wounds, cut wounds; nourishes the skin and improves the tonal value; it makes our skin fair and beautiful. We have used only the natural things in the preparation, no chemicals and preservatives are added. Hence it can be used safely without the fear of allergies and side-effects. It can be prepared easily and once prepared it can be stored for few years.

**Project Code: Bio-12**

**Title: Chocolate from Cashew Apple**

**Subject Category: Biology**

**Name: J. Shachi Adiga**

**School: Vivekananda English medium school, Puttur, D.K dist**

**Abstract:**

On analyzing and comparing the properties of Cashew Apple with Pineapple, Orange, Grape, Mango and Lemon, cashew apple juice contains almost four times the amount of Vitamin C per 100 ml. Vitamin C is essential. Its important functions are

- Immune stimulation
- Antioxidant
- “Cement” for connective tissues
- Wound healing
- Teeth and gum health
- Iron absorption
- Eye health.

India stands 2nd in malnutrition, according to the World Bank. Deficiency in Vitamins and proteins are the main reasons. As Cashew Apple has more vitamin C compared to other fruits, it is very useful. But only 20,000 tonnes of the cashew apple is being utilized and most of it in Goa, whereas the remaining 4.38 million tonnes of the fruit is treated as a colossal waste amounting to Rs 400 crore loss.

Take 10 cashew Apples and grind them thoroughly in mixer. Boil this semi-solid in a pan for 20-25 minutes on medium flame. Do not add water. When it is boiling, add half cup of milk. When the solution starts getting thick, add double the amount of sugar. After sometime, add a quarter cup of ghee followed by cardamom powder. Put off the flame and when it is still hot, start making chocolate out of it. This makes 100 toffees.

As chocolates are one of the popular food habit, these toffees can avoid the huge wastage of the Cashew Apples and also malnutrition.

**Project Code:Bio-13 (Team)**

**Title:NATURAL DRUG FROM GARCINIA INDICA FOR BURNS**

**Subject Category:** Biology

**Name:GAURAV G. SHETTY      SHETTY U ANANYA**

**School:VIVEKANANDA ENGLISH MEDIUM HIGH SCHOOL**

**Abstract:**

Already we know the medicinal values of *Garcinia indica* from its fruit, leaves, bark, root etc. According to my grandmother the Kokum seed butter is very good medicine to cuts, wounds, burns, foot cracks, fungal infections, lip cracks. The present study was under taken to identify the chemical compounds of kokum butter for cure of burns. It is also an effort to popularise the medicinal values of kokum butter.

*Garcinia indica* is a well known plant available in western ghats, but it is also identified as a threatened species. The seed butter is astringent, demulcent, emollient and soothing in cutaneous affections.

As we have analysed the chemical constituents of the seed oil, we found steroids, especially triterpenoids and cholesterol. The results have been established scientific evidence for the folklore claims of the drug. Hence it is an excellent natural drug for curing of burns, scalds and boils. Apart from these scars also vanishes by the use of this Kokum butter. Our effort is to establish a natural cost effective approach to cure burns, scalds and boils.

**PREPARATION:** Kokum butter is extracted by crushing the seed kernels of *Garcinia indica*. Boiling the paste in water and skimming of the fat from the top and it solidifies after cooling.

**MERITS:**

- It is a natural drug without side effects and with very low cost.
- It can be preserved without any preservatives.
- As it has astringent, demulcent, emollient properties it nourishes the skin and vanishes the scars.

**Project Code:Bio-14****Title:Effect of Amrutha Sara, a bio fertilizer on survivability & growth of Rauvolfia serpentina (Linn.) Banth.ex Kurz in nursery unit.****Subject Category:** Biology**Name:**Ahalya Saraswathi Bhat Jeddu**School:**Sri Satya Sai Loka Seva Higher primary School, Van**Abstract:**

This project aims at studying the proclaimed results of Amrutha Sara a bio fertilizer on survivability and growth of Rauvolfia serpentina (Linn.) Banth.ex Kurz, in nursery unit. Different methods of preparing Amrutha Sara, based upon cow dung slurry was studied and documented. Method of preparation of Amrutha Sara has been standardized based upon experience and indications by the farmers. It is desirable to grow medicinal herbs using natural products.

Rauvolfia serpentina (Linn.) Banth.ex Kurz, found to be very rare in natural condition and its red listed status has been assessed as endangered globally. More over, the part used in this plant is roots resulting in unsustainable harvesting, and which also demanded in large scale for medicine industry. Considering this it was selected for study in nursery unit.

A comparative study in two groups Group A as Amrutha Sara treated and Group B as Amrutha Sara untreated on plant survivability and growth is in progress. This species can be grown either by seeds, root cuttings and stem cuttings. All the three types of propagation are taken in both the groups for comparison.

Agro-climatic requirements for the growth of this herb are noted. Growth indexes like root thickness and length, height of the plant etc, soil test for fertility, Bio chemical composition, bacterial flora and other biochemical values like Ph, nitrogen content etc of Amrutha Sara, is to be studied. The study is still in progress and final results are awaited.

**Project Code:Bio-15 (Team)****Title:A Herbal Fabric Conditioner and Fresher from Indigofera tinctoria****Subject Category:** Biology**Name:**B.S. Gautham Rai      G.K Akshay**School:**Indraprastha Vidyalaya, Uppinangady**Abstract:**

Indigofera tinctoria is a shrub which is familiar in Western Ghats of India; the leaves of this shrub have the property of freshening, whitener and as a anti-bacterial component. Our ancestors used these leaves to wash the clothes. Inspired by this, we have decided to prepare the dyes from Indigofera tinctoria instead of harmful chemical product which are available in the market.

We have taken 0.25kg of Indigofera tinctoria and cleaned it with distilled water. The leaves are ground and filtered using filter paper. To compare the efficiency of the extract with commercial product the extract is applied on clothes and the result was equally good.

The Viscosity, Surface Tension, pH, Electric Conductivity, anti-bacterial and anti-fungal actions of extract of Indigofera tinctoria are conducted under the guidance of the experts in the research laboratories.

We have applied the extract to the clothes to control the attack of bacteria. This can also be used as whitener; fresher. This product is eco-friendly, safe and anti-bacterial. It is free from harmful chemicals and cheap natural product.

**Project Code:Bio-16 (Jr)**

**Title:Evaluation of Natural Herbal ointment on wound healing in Cattle: Mixture of Areca catechu, Curcuma longa & Azadirachta Indica.**

**Subject Category:** Biology

**Name:MEGHANA DIVANA**

**School:**Vivekananda English Medium School.Thenkila PUTTUR

**Abstract:**

This project aims at reducing treatment cost of cattle by Dairy farmer. Wounds occur on cattle quite often. Dressing wounds to prevent infection and maggot formation by chemical ointments is costly. The chemical ointments do not absorb the exudates oozing out of wounds and usually get washed away due to body heat, in turn exposing the wound to the flies which lay eggs on wounds and form maggots, hence the wound gets complicated further. Preparing an ointment, by mixing Areca catechu leaf sheath ash, Turmeric powder &Neem oil, in the proportion of 2:1:2(40g: 20g: 40ml) &conducting field trail at farmers' level by applying this ointment on various types of wounds in 20 cattle, it was found to heal the wounds without maggot formation or any other complications within 7-14 days as compared to chemical/herbal ointments with almost equal results. The volunteered farmers were asked to give feedback about its ease of preparation, efficacy, prevention of maggot formation & cost effectiveness. After analyzing their feedback, it is concluded that it is cost effective, natural, easy to prepare & quite effective as any other ointment, without compromising wound healing process. Likewise other farm by- products such as Karanja seed ash or any other farm by- products can also be tried. The novel aspect about this project is, farmers themselves can prepare it from farm by-products easily, it is cheap, effective & natural.

**Project Code:Bio-17 (Team) (Jr)**

**Title:A Novel way of treating burns using Calycopteris Flouribunda**

**Subject Category:** Biology

**Name:Nikhil Bhat Rao Samprith**

**School:**Sri Ramakrishna high school

**Abstract:**

In the project we have prepared a natural ointment from calycopteris flouribunda leaves and demonstrated its medicinal efficiency. Other ointments causes side-effects on man.calycopteris flouribunda is a plants that grow in road sides of india. according to the knowledge calycopteris flouribunda is used to cure diabeties and other diseases. we decided to make deep study of calycopteris flouribunda. then we prepare the medicine for burns from calycopteris flouribunda leaves. It is medically proved. it has no side-effects on man. till now anyone did not do this project.

250gm of calycopteris flouribunda leaves and clean it. crush with 50ml of distilled water and filter the crushed leaves and take the juice from it.take a vessel and pour the 100ml of neem oil and 100ml of extract. start to boil. after boiling the extract and neem oil add bee wax to it and stir it well. After stirring store it in a container. after some time it will be an ointment. We have measured grams of the ointment with container is 105 grams. The container has 5 grams.the rate of(100 gm)our natural ointment is rs.54.00.

pH AND E.C tests ofthe ointment is maintained.

**Project Code:Bio-18 (Jr)**

**Title:ZANTHOXYLUM OVALIFOLIUM IN ANTI-LICETREATMENT**

**Subject Category:** Biology

**Name:TANISHA SHETTY**

**School:SUDANA RESIDENTIAL SCHOOL**

**Abstract:**

#### ZANTHOXYLUM OVALIFOLIUM IN ANTI-LICE TREATMENT

We came to know a plant called from my granny which was used to remove lice from during her childhood days. As it is natural way of removing lice, we started our experiment out of curiosity. We prepared decoction out of 1 Kg of fresh leaves by boiling it in 4 liters of water for about 2 hours and reducing it to 2 liters. We also prepared decoction out of dried leaves of zanthoxylum ovalifolium by boiling ½ Kg of dried leaves in 1 liter of water for about 1 hour and reducing it to ½ liters. We also prepared oil by boiling 1/4th liter of water extract of the fresh leaves with 1/4th liter of coconut oil.

We applied each of our preparations on different types of lice infected hair for different time intervals of 30 minutes, 1 hour and 1 1/2 hours. We observed that the decoction made out of fresh leaves was very effective and suitable to all types of hair. Through our experiments we came to the conclusion that this decoction when applied and kept for 1 hour on hair removes lice from hair. For complete removal we need to use it 4 times at a gap of 4-5 days.

**Project Code:Bio-19 (Team) (Jr)**

**Title:Natural lipstick from kunkum and bee wax**

**Subject Category:** Biology

**Name:ANJALI K KAMATH SATHVIK**

**School:SUDANA RESIDENTIAL SCHOOL**

**Abstract:**

Lipstick is one of the common cosmetics used by a woman everyday. But it has been found that dangerous chemicals like Hydroxy amisol, sodium saccharine etc are found in the lipsticks that are available today. Some are allergic to them due to the chemicals in it. Keeping all these points in mind, we thought of preparing a natural lipstick from naturally available things and natural colours with no side effects. Since this preparation is chemical free, it can be used by everyone everyday without any fear and side effects. This preparation can be applied to the cracked heels and we got best results there also.

About 20g of Bee wax is heated, when it melts 10g of pure turmeric powder or Kumkum [prepared by mixing lime powder with powdered Curcuma longa in the ratio 2:3] is added to that and stirred well. After 1min it is allowed to cool. On cooling pour the mixture into a container and give any desired shape.

We gave our preparation to 10 ladies .5 of them were already using other lipsticks from the market. others were not using any lipstick But they all said lipstick is too good and stays properly on lips, no need of repeated applications.

**Project Code:Bio-20 (Jr)**

**Title:NATURAL AILMENTS FOR PIMPLES FROM IPOMEA CAIRICA**

**Subject Category:** Biology

**Name:Kavana B. S**

**School:**Vivekananda English Medium School

**Abstract:**

ABSTRACT: Adolescence is a stage of body and mind transformation in humans. Appearance of pimples is one of the changes seen on face. Here are some natural medications prepared from Ipomea cairica belonging to convolvulaceae family. Based on nature of pimples we can have different kinds of medicines from the leaves such as-

- 1) Oil based lotions- Leaves are crushed to squeeze the extract to which equal quantity of oil and milk is added and boiled, strained filtrate used especially for curing pimples with heavy pain.
- 2) Ghee based lotion- Leaf extract is mixed with equal quantity of ghee and milk, boiled, strained filtrate is used for pimples with burning sensation.
- 3) Leaf powder- Leaves are dried, powdered.
- 4) Decoction- Leaf paste is mixed with water in 1:8 ratios, boiled till the content is reduced to one unit.
- 5) Guda paka/ Sharkara paka- Leaf extract is mixed with equal quantity of jaggery/ sugar, boiled till semisolid mixture is got, taken as medication to avoid pimple infection.

These medications are eco friendly, cheaper & devoid of side effect unlike the chemical rich creams/ lotions marketed today.

**Project Code:Bio-21 (Team) (Jr)**

**Title:Herbal pain relieving spray from Spilanthes acmella buds**

**Subject Category:** Biology

**Name:Suthan K S B Gautham**

**School:**Shri Ramakrishna High School puttur

**Abstract:**

We have prepared a pain reliever from the buds of Spilanthes acmella & tested its pain relieving property against sprains, muscle catch etc. Sprains and Muscle catch are commonly caused for Sportsmen, Hard workers, Labourers and Aged people. As our ancient people used this bud to cure tooth ache we thought of preparing a pain relieving spray from Spilanthes acmella buds. The scientific investigation of pain relieving property has not been done, so we decided to scientifically prove the pain relieving property of Spilanthes acmella. The pain relieving spray prepared by us is safe, eco-friendly, non-toxic, low cost & chemical free. So it does not cause any harm to humans and environment.

100 grams of Spilanthes acmella buds are steam boiled and are crushed finely in a mixer. The crushed substance is taken into a bowl and 100 m.l. of water is added and fine grinded. Then the extract thus obtained is filtered and the filtrate is used.

Flavanoid test has been conducted in our school laboratory. This test showed the presence of Flavanoid in Spilanthes acmella buds.

Thus we prepared an eco-friendly, non-toxic, low cost, bio pain reliever from Spilanthes acmella buds can be used in household and hospital purposes.

**Project Code:Bio-22 (Jr)**

**Title:Ecofriendly lipstick/lipgel from Garcinia indica(kokum fruit)**

**Subject Category:** Biology

**Name:Deeksha Hebbar**

**School:**Vivekananda English medium school Tenkila puttur

**Abstract:**

Abstract

Lipstick is a popular facial cosmetic used among women. Variety of lipsticks that are available in the market contain synthetic coloring agents and other chemical component which are not only expensive but may be harmful to the skin if it is used for long time. A kokum fruit a purplish red colored from Garcinia Indica, a tropical tree native of Western Ghats and konkan coasts of India containing the natural red pigment called anthocyanin and its seeds containing kokum butter which has been explored for the production of eco friendly natural lipstick or lipgel. The dried kokum rind extracts containing anthocyanin pigment is blended with kokum butter extract from kokum seed kernel in 4:1 ratio for 1-3min at 400c to get lipstick/lipgel. A little amount of lime water is added to counter acidic PH . Efficacy was tested on human volunteers and when it is applied it appeared purplish red to maroon color and gave smooth and shining finish and served as very good facial cosmetic without any side effects. It is also used as lip guard to prevent lips from cracking or fissures and dryness. The cost of production of natural lipstick was compared with that of commercially available lipstick and it was found to be 5-8 times more cheaper as compared to commercial lipstick. So it is found to be economical and ecofriendly and easy to prepare and beneficial to skin texture.

**Project Code:Bio-23 (Team) (Jr)**

**Title:Comparative study of nutritional value of cassia tora**

**Subject Category:** Biology

**Name:Sanjana P R AV Theertha**

**School:**Sri Ramakrishna high school, Puttur, D.K

**Abstract:**

Wild plants play an important role in the diet of most rural dwellers. Some of these plants can be used as a food supplement.

Cassia Tora is a legume belonging to the Caesalpiniaceae Family. It grows wild mostly in the tropics and is considered a weed in many places. Throughout the year the plants play an important role in the supplying nutrients and calories especially during the dry season when cultivated vegetables are scarce. Such a plant is cassia tora. The aim of our project is to compare the nutritional value of cassia tora with other health drinks

The leaves of cassia tora are popularly consumed by the people in our village. we analyzed the leaves to determine proximate nutrient content, amino acid composition and some selected minerals elements and compared it with other health drinks in the market. we found that this plant has got more nutrition than the other products

Thus this plant can be used as a food supplement for the children suffering from malnutrition



**Project Code:Bio-24 (Team) (Jr)**

**Title:EFFECT OF CLERODENDRUM VISCOSUM ON ANIMAL PARASITES LIKE LICE**

**Subject Category:** Biology

**Name:**Bhavith B K Shetty K Manoj

**School:**Shree Ramakrishna High School

**Abstract:**

The aim of the project is to study the effect of clerodendrum viscosum on animal parasite like lice. Clerodendrum is a genus of flowering plants in the family Lamiaceae. Its common names include glorybower, bagflower and bleeding-heart. It is currently classified in the subfamily Ajugoideae

We took 200gms of leaves of clerodendrum viscosum and prepared the water extract . Then we applied it on animal lice and observed that they were repelled. We did the leaf analysis at NRCC puttur. Then we did the test for flavonoids in our school lab and got the results.

So we think that we can prepare a n ecofriendly parasite repellent ointment or spray from this plant for the pets in our home

**Project Code:Chem-01**

**Title:Ethenol From Cellulose Based Biodegradable Waste**

**Subject Category:** Chemistry

**Name:Prathiksha bangera**

**School:Sri Ramakrishna high school,puttur**

**Abstract:**

Now a days petrol, diesel, coal and many other energy resources are vanishing. Therefore there is a need of other energy resources in the field of transport and agriculture. The solution for this problem is the use of bio ethanol as a fuel.

Bio ethanol can be produced from biomass by the hydrolysis and sugar fermentation process. Biomass wastes contain a complex mixture of carbohydrate polymers from the plants cell walls known as cellulose. The cellulose portions are broken down by the enzymes or dilute acids into sucrose sugar that is then fermented into ethanol.

Yeast is added to the solution, which is then heated. The yeast contains an enzyme called invertase, which acts as a catalyst and helps to convert the sucrose sugars into glucose sugars then react with another enzyme called zymase, which is also contained in the yeast to produced ethanol and carbon dioxide. Ethanol prevents the evaporation of fuel during transport.

The use of bio ethanol as fuel decreases green house gas. Bio ethanol from solid municipal wastes decreases environmental pollution. It is eco friendly. It is an renewable resources. The use of Bio ethanol in vehicles decreases the rate of pollution up to 40% to 50%. It increases the milage of the vehicles up to 20%.

In the process I took 250 gms of samples and mixed it with 5 times of water. Then I fermented it with yeast for four days. So as to separate bio ethanol from its byproducts I conducted the distillation process with help of the teachers. From distillation process I got the bio ethanol.

By all these experiments conducted I came to conclusion that my ethanol is purely natural, economically advisable.

**Project Code:Chem-02**

**Title:Comparison of pain killing property of Citrus aurantium with the ordinary pain killer.**

**Subject Category:** Chemistry

**Name:PAVAN SHYAM BHAT**

**School:Sri Ramakrishna high school,puttur**

**Abstract:**

Citrus aurantium is a fruit which is used for recover the Jointpain in the form of painkiller oil. This fruit contains-NEOHESPERIDIN, LIMONENE, MYRCENE, LIMNOID.

Pandemic of joint pain in school area resulted with complaints from the patients of prolonged joint pains. This resulted disturbances in life. Some uneducated people are unaware of the use of painkillers and balms. So I thought of pain killer oil from Citrus aurantium. The active component SYNEPHRINE present in the fruit of Citrus aurantium act as pain killer.

To prepare this oil:-

I took one liter coconut oil in a bowl and added 100gm of citrus fruit in the form of pieces. Then remove its pulp. Then add the Turmeric and small amount of its outer layer. Then mixed correctly. Then boiled it for 25-30 minutes. It reduced to half of its initial amount. Then cooled and filtered it.I did the preparation more than 10 times.

I gave this medicine to 35 members of 50-70age, both male and female who had the problems of Arthritis and leg pains. The medicine, worked up to 85%.From the comparative study

of this fruit and volini ointment I got the expected result .The chemical tests are done in Vivekananda Degree College. Proper Viscosity and Surface tensions are mentioned. The pH test is also done. I did the experiment using other fruits like Citrus limonum (lemon), Citrus sinensis (orange), Citrus limatta (sweet lemon) to test the painkiller content . But I didn't able to get the painkiller contents in any of the fruits except lemon. Which contains small amount of the painkiller contents.

**Project Code: Chem-03**

**Title: Michelia Champaka-A natural repellent for Oryctes Rhinoceros, A common pest of cocos nucifera**

**Subject Category:** Environment

**Name: Mohd. Tabish Hassan      Nayak U. Akshay**

**School: Indraprastha Vidyalaya Uppinangady**

**Abstract:**

Synopsis

Michelia champaka is a tree growing about 12m. This flowering tree has a large, cup shaped flowers where petals, sepals cannot be distinguished. It's used as a source of timber. Since the flowers are aromatic, the essence of the flowers is used to prepare oil for perfumes.

This special property of flower can be used as a pest repellent. The aroma of the flower can repel the pests like oryctes rhinoceros which usually attack the tender leaves of cocos nucifera.

Hence we choose this as a project. We wanted to find out how efficient the Michalia champaka is to repel the pest oryctes rhinoceros. As a methodology we took champaka flowers & some oryctes rhinoceros in a glass jar. We tested by keeping one champaka and found the distance to which the pest moved away from the flower. We then increased the number of flower to 2-50 and calculated the distance to which the pest moved away from the flowers and observed that the pests every time moved away from the flowers. As the number of flowers increased the distance to which the pests moved away also increased.

We even observed that when the pest is locked inside the jar it became unconscious within an hour and died within 6-7 hours.

So we can conclude that michelia champaka acts as a very good biological pest repellent hence we are thinking of growing these trees around cocos nucifera plantation in our region. As a future plan we are thinking of preparing spray.

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

**Title: cease stain**

**Subject Category:** Chemistry

**Name: Yenepoya Saad      Ahmed      Arzoo**

**School: The Yenepoya School**

**Abstract:**

**Objective:** To remove the stain of permanent marker ink using organic solvent and to avoid using toxic solvents.

**Review of work:** The stained fabric was washed with different detergents, tamarind and salt, lemon & salt, toothpaste, soapnut, vinegar in pure form (Glacial acetic acid)

**Research Methodology:** The stained fabric was washed as follows-

\* 10ml water + 20ml vinegar - no reaction

- \*10ml water + 20ml vinegar +1.5gm salt-no reaction
- \*10ml water+10ml vinegar-no reaction
- \*10ml water + 10ml vinegar +1.5gm salt-no reaction
- \*5ml water + 20 ml vinegar -colour of ink slightly diffused
- \*5 ml water + 20 ml vinegar + 1.5 gm salt - colour absorbed by salt
- \*20ml vinegar + washed with water -stain disappeared

official requirements:Dr.Rekha Bhagwath & r.Arun Bhagwath-Yenepoya Univesity,Junior science lab-The yenepoya school,Chemistry lab-yenepoya PU college

Scientific apparatus Used: Beaker,Measuring jar,glass rod,pippet, watch glas,distilled water,spatula,weighing machine,dropper

**Project Code:Chem-05 (Jr)**

**Title:The study of soil texture of Puttur to keep constant bio-diversity**

**Subject Category:** Chemistry

**Name:Shree Gowri Ullal**

**School:Sri Ramakrishna high school, Puttur, D.K**

**Abstract:**

Soil is responsible for growth of the plants which is polluted in our area & there is need to conserve soil to retain biodiversity. So i decided to test the soil of our area.

NPK Test:- I Collected 18 samples of soil from 6 different areas & broadly divided the soil on the basis of its colour as red ,black & reddish black etc.,. The soil collected are from different areas like slop region, Grass land, Farm land, Plain region etc.,

Method of Soil Extracting:-1.. Dig 4 Corner areas of the field 9” deep in cone shape (From the place where no manure is or was stored ) 2. Reject the soil dug 3. Using the steel sheet dig the edges of the cone by 2” 4. Collect & mix all the 4 soil samples, dug by the steel sheet 5. Divide the soil samples into 4 parts. A part is considered for the test & other 3 parts are rejected.A similar process is worked out until the sample is reduced to ¼ of the initially collected sample.6. Sample is then sent to MANGALORE AGRCULTURAL DEPARTMENT to test the percentage of N.P.K in the soil. All % of N.P.K are found to be less then required for the normal growth of plants. The soil are found to be acidic by our pH test. Because of soil pollution there will be less plant species in near future.

**pH Test**

The secondary rejected sample part of the N.P.K test are considered for pH test. Sample is filtered to obtain only the fine particles of the soil in the sample.Sample is weighed by the term of chemical balance .50gm of soil is mixed with 100ml of distilled water & made saturated solution of the sample.Final sample is tested by litmus paper . Introduced blue & red litmus paper into the sample.

**Project Code:Chem-06 (Team) (Jr)**

**Title:Anti termite powder from Azadirachta indica cattle food**

**Subject Category:** Chemistry

**Name:Sagar M Shekh Suhail**

**School:**Sri Ramakrishna high school, Puttur, D.K

**Abstract:**

Termites are a big threat to farmers as they destroy crops cultivated. There are a number of anti termite powder available in the market mainly made up of various chemicals. these anti termite powder cause harm to the handlers who use them without proper information or if they are illiterates. Considering these problems we thought of preparing an anti termite powder using Azadirachta indica.

To prepare 100gms of anti termite powder we took 500gms of Neem cattle food and powdered it 280gms of vitex negundo leaves and prepared 30ml of extract of these leaves. We took a container and mixed powdered neem cattle food and extract of Vitex negundo. Then we dried it. After drying we powdered it using a mixer. 100gms of anti termite powder is ready.we applied our anti termite powder on termites cultered in a aquarium.After 5-10 minutes every termites were killed.

The anti termite powder we have prepared is non toxic, safe and easy to handle when compared with chemical anti termite powder.

**Project Code:Chem-07 (Jr)**

**Title:Separation of oil and grease from wastewater using Laterite adsorption**

**Subject Category:** Chemistry

**Name:Anvith A Hebbar Hebbar**

**School:**St.Ann's School Kadaba

**Abstract:**

This project is about separation of oil and grease from wastewater coming out of garages and vehicle service stations using Laterite grains. The technique used for separation is adsorption unlike filtration or gravity separation(Adsorption is a process in which one material or chemical adheres to the surface of the other due molecular attraction). A synthetic wastewater containing discarded oil and grease is used for the experiment and it is stored in a tank. This wastewater is slowly allowed to pass through a vertical PVC pipe of aprox. 4.5 ft(called Column), containing Laterite grains.Care is taken that the wastewater is constantly stirred during the experiment so that oil and grease doesn't float.Water at the exit of the column is collected in a transparent container and observed for floating oil and grease. Visual observations clearly shown that collected water was clearer than the original wastewater.To ensure the observations, a laboratory test will be performed for oil and grease contents(supervision and assistance of the guide is necessary. Same experiment is repeated for a pipe containing small pebbles and stones. The results show that the oil removal was not achieved.The adsorption property of laterite stone is responsible for the purification of water ( waste oil and grease sticks to grain surface). The purified water may be reused for other utilities.

**Project Code:CSE-01 (Team)**

**Title:Eye-Blinker – A novel computer application to reduce dry-eye among computer users**

**Subject Category:** Computer Science & Engineering

**Name:Karthik Bhat A P K Karthik**

**School:**Sri Ramakrishna high school, Puttur, D.K

**Abstract:**

In this project, we have innovated a computer-user-friendly application to minimize eye related problems. Blinking is an essential eye function and normal blink rates vary between 12-20 blinks/minute. Computer users blink less than the normal and problems are present in children due to attractive computer programs.

So, we created a user-friendly solution for blinking of the eye called Eye-Blinker. We used Visual Studio 2010 (Integrated Development Environment) using C# (programming language) to create Eye-Blinker. We programmed such that an opened eye and a closed eyes are seen simultaneously, which makes the user to feel that eyes are blinking.

Additional features like, Eye format, (human/animated), type (single/both), position (random, fixed) and start time (now, delay) we added. While the executable file (eye.exe) is clicked, a window containing options appears. By selecting required options and clicking on the start button, blinking eye pops. The execution of eyes can also be delayed for a definite time. It can be closed by a double click on the image. This application works along all other opened windows. While reading e-books, net browsing etc., it is visible over it. It helps the user to blink his eyes automatically and also sensitize him to regain the normal blink rate.

Advantages include Eye care benefits, User Friendly, Easily executable small file, No installation memory required, etc. It can be further developed to work over all the opened game applications.

**Project Code:CSE-02**

**Title:Matrix Calculator**

**Subject Category:** Computer Science & Engineering

**Name:Shrijith SV**

**School:**Vivekananda PU College Puttur

**Abstract:**

Matrix Calculator is a program designed to simplify the process of performing calculations with matrices. Especially, it makes it a breeze to do matrix multiplication and finding the determinants. Further development of the program, which I'm sure I will be making sooner or later, would be to provide step by step solutions to the given problems. It would be a great asset to both the teacher and student community in mastering the often scared subject of mathematics.

**Project Code:Energy-01**  
**Title:converting gravity into electricity**  
**Subject Category:** Energy  
**Name:Harath poojary**  
**School:**viveka pre university collage kota

**Abstract:**

There are many force in the nature.But we can not make the use of all the forces.According to the 'law of conservation of energy' energy can be converted in to other forms of energy so there was a idea of converting gravitational energy in to electricity and store it and use to all purposes was rise in my mind.according to newton gravitation force depended on mass of the two object and distance between two objects this is the first principle of my project and second one is the density of a object.using this two principle I made to rotate a closed hollow tube and by connecting this to a generator we can produce electricity and it could be stored.

**Project Code:Energy-02 (Jr)**  
**Title:Power Generatihg Revolving Doors**  
**Subject Category:** Energy  
**Name:Haritha M.B**  
**School:**Sudana Residential School Nehru Nagar Puttur

**Abstract:**

Power generating Revolving Doors

**Introduction:**

As the demand for energy grows exponentially, we are faced with the challenge of harnessing power from various sources around us. We then have to look around for economical methods for generating and storing electricity.

Revolving doors serve to control traffic. Revolving doors are installed in many major buildings since, by design, they do not provide a direct path for the cold air from inside the building to escape outside; thus, improving the energy efficiency of the building.

Developing a system to convert the rotational motion of revolving doors in buildings all over the city into electrical energy will result in a very viable and sustainable source of electricity.

**Procedure:**

- Fitting the central bearing of the revolving door to a dynamo will help convert the rotational energy of the door (that would otherwise have been wasted as friction and heat) into useful electrical energy.
- Connecting this system to a battery will help store this energy when not needed and supply the same when the door is not in use.

**Applications:**

- These doors can easily power light sources (especially LED bulbs and other such low-voltage devices) near the door itself.
- Since the door starts generating electricity when it is turned only, it can also serve as a trigger to turn on the lights, AC, etc.
- The system can also be used to power detectors fitted into such doors at airports, railway stations and other such places.
- Apart from all these, installing revolving doors at all entrances will help people shed a few calories when they push these doors!

**Project Code:Energy-03 (Team)**  
**Title:Pedal Power- Potential For future**  
**Subject Category:** Energy  
**Name:Sumukha Nadig Shetty Athmeeya**  
**School:S.D.M English Medium School Ujire (C.B.S.E)**

**Abstract:**

After doing a little research, We found that an efficient Sewing generator pedaled by a reasonably fit person can produce continuous output. An experienced Peddler can produce more , but peaks don't count for much when it comes to pedal power generators. Assuming an ambitious exercise period of one hour, a person could produce a reasonable amount of electricity.

Most of us pay our local utilities per kilowatt-hour for electricity, including taxes and surcharges. By getting our heart rate up and breaking a sweat for an hour, we could produce worthy amount of electricity. Not much incentive, We thought.

With the electricity produced by an hour of pedaling, we could light a incandescent bulb , or power a compact fluorescent bulb.

Pedal power is a fun idea that does generate usable amounts of electricity, but it's easy to understand why a human-powered device can be viewed as a trinket without a meaningful role in a household's energy supply. Nevertheless, some pedal generators are used regularly to do serious work. The critical factor to making pedal power a viable option is matching expectations with realistic output.

**Project Code:Energy-04 (Jr)**  
**Title:Multi Fuel Hot Water producing System**  
**Subject Category:** Energy  
**Name:PREETHAM G R**  
**School:NAVODAYA HIGH SCHOOL BETTAMPADY**

**Abstract:**

This is a hot water producing system which uses 2 fuels.

- 1 The solar energy.
2. Energy from firewood.

Basically this contents a solar water heater system with solar panel, and storage tank. Addition to this one special cylinder is added and heat from firewood is used to produce hot water. we can get hot water in two ways - By solar energy and by firewood energy 24 hours a day.



**Project Code:Energy-05**  
**Title:Solar Magnetic Crane**  
**Subject Category: Energy**  
**Name:RAVISHANKARA D N**  
**School:NAVODAYA HIGH SCOOOL,BETTAMPADY**

**Abstract:**

As per the Farady law, when current is passed through a coil, strong magnetic field will be created around the coil and the coil will act as Magnet. When the current is stopped, coil will lose the magnetic power.

Today all the magnetic cranes available in the world uses fossil fuel. In this magnetic crane designed by me, I have used Solar energy and hence this is environment friendly.

The following materials are used in preparing this crane.

12V power motor

12v power battery

2 way switch, Ordinary switch.

12v Solar Panel

Electric wire

Fuse

Through a Two way switch fuse and battery are connected to the motor and Motor will move forward and backward. Coil is connected to a thread at the end. Coil wire is connected to the switch. Crane can be moved forward and backward through the wheels connected to it.

When the Two way switch is pressed the thread and coil wire will go down and when iron element is touched to the coil through pressing two way switch coil will come up with the touched element.

Thus, when the iron element is lost in deep water, through this crane that can be easily taken out.

As camera is fixed to this, the location of the element also can be ascertained easily.

This is also useful to take out submersible pump which is fallen in to borewell.

Finding out and Separating iron ores from soil

**Project Code:Engg-01 (Team)**

**Title:Germicidal dustbin-A novel way of treating clinical pathogens**

**Subject Category:** Engineering

**Name:Shivaprasad Bajakkaremoole Shankaranarayana Bhat Adithya**

**School:**Sri Ramakrishna high school,puttur

**Abstract:**

Clinical wastes are of serious concern to the public health due to various forms of infectious micro organisms.the clinical wastes such as swabs,dressings,wipes,etc are routinely disposed in all the clinic , including outpatient clinics.improperly trained waste handlers ,absence of strict disposal guidelines and awareness causes spillage of infectious micro organisms into the environment . this problem is present in most of the clinics in the sub-urban or rural areas.hence,considering the socio-economic problems associated,we have designed a novel ,low cost,user friendly-"Germicidal dustbin"which incriminates all the micro organisms present in the dustbin containing high load of clinical wastes.we have used a germicidal UV lamp because;UV light has been used as decontaminant of micro organisms historically.UV lamps are been routinely used to treat water( drinking water) sanitizing the saloon instruments etc.a household dustbin is fitted with a germicidal UV lamp which operates by both AC and DC electricity .the other features included are ,the lamp is automatically switched off when the dustbin is opened and the lamp lits up when the lid of dustbin is closed. An UV resistant sheet of aluminium is wraped here to prevent the leakage of UV rays. We proved its working by testing against bacteria Estirichia coli. The application of this dustbin is not only restricted for hospitals but also this can be used in food processing industries, Pharmaceutical industries, saloon, research labs and also to reduse the microbial contaminants

The merits of this dustbin are;

- Reduces the risks of infections to the waste handlers of clinical wastes
- User friendly and low cost
- Minimize the load of pathogens in the dustbin
- Can be custom made for the requirement

This simple to use dust bin not only protect the waste handlers but also protect the environment and public health

**Project Code:Engg-02 (Jr)**

**Title:Automatic and flood indicator dam**

**Subject Category:** Engineering

**Name:Nishan M.N**

**School:**Bethany English Medium High School

**Abstract:**

A water dam is a barrier for rivers to impound water. Water stored thus are used for irrigation, industrial and other household purposes and for generation of electricity.

'Automatic and flood indicator dam' is a working model of a water dam along with water level indicators. There are two distinguishable water levels; one to open the dam gates/valves automatically and another to indicate possible floods (Flood level indicator).

In this project, a fibre tub simulates a river and a dam built on it. Whenever the water level in the container raises to say LEVEL1 (50% of the height of the dam), Floodgates are automatically opened and water flows out of the reservoir. This ensures that only required amount of water is

stored and also avoids any human intervention to close/open the valves thus reducing human efforts and manual errors.

When water level in the reservoir raises to LEVEL2 (75% of the height of the dam) a siren will be triggered to alert the residents in the surrounding areas. This would avoid any possible wreckages and severe loss of lives and property due to floods.

**Project Code:Engg-03 (Jr)**

**Title:SAVE ENERGY, SAVE THE EARTH**

**Subject Category:** Engineering

**Name:ADITYA KAMATH D.**

**School:**KUMARASWAMY VIDYALAYA

**Abstract:**

Objective :

Today there is hue and cry on saving energy in the world. Electricity is one of the important energy sources which is required for variety of purposes. It is essential to conserve electricity. This project aims at conserving electricity which is being wasted by lighting street lamps during day time. Usually in Indian cities and villages, street lamps will be on during night time and day time also. This product which is implemented automatically turns on the street lamps during night time and turns off during day time.

The main units are:

Power supply unit:

It consists of 9V battery supply and 7805 regulator which gives 5V supply required for IC (Integrated Circuit) and sensing unit.

Light sensing unit:

It consists of LDR (light dependent resistor) sensor. This changes the resistance due to the variation of light intensity. This in turn changes the voltage drop across LDR which is continuously monitored by comparator.

Comparator unit:

It consists of LM324 comparator IC which compares the preset voltage and change in the voltage across LDR.

LED bulb:

LED (Light Emitting Diode) is connected at the output of IC which turns on during night time.

**Project Code:Env-01 (Team)**

**Title:Preparation of novel “Tulsi ” based Kajal { KOHL – Cosmetics }**

**Subject Category:** Environment

**Name:Anum Abdul Rasheed                      Shamna**

**School:**The Yenepoya School

**Abstract:**

Kohl is an eye cosmetic used by everyone. Kohl was originally used for protection against eye ailments and darkening around the eyes . However the present commercially available kohl contains “Lead particles” due to the use of lead sulphide. Lead is a toxic component. Hence the usage of herbal , non toxic kohl is desirable. In the ancient kohl medicine property was mainly due to “ Carbon Nano” particles, which is lesser in the present commercially available.

Black Tulsi extract is obtained by crushing its leaves. A muslin cloth is dipped in this extract and dried in sunlight (in the absence of direct sunlight). The process is repeated 7 – 8 times. Then wicks are made from the piece of cloth , and this cloth is burnt in a castor oil lamp . A metal plate is then kept slanted over the lamp such a way so as not to extinguish it. Over a period of time the soot collected, is mixed with castor oil and can be used as herbal kajal.

The presence of carbon nano particles will be carried by TEM (Transmission Electron Microscopic), the surface morphology by SEM (Scanning Electron Microscope) and absence of crystalline substances by Infra Red (IR).

Toxicity test for the kajal will be tested against bacterial cells (Escherichia coli) at different concentrations and its antimicrobial property.

From this analysis we presume to prove that herbal kajal is non-crystalline , non-toxic, environment friendly, free from chemicals , and have properties which are totally medicinal.

**Project Code:Env-02**

**Title:A Novel Product to Increase Crop Production By Enriching Pollination.**

**Subject Category:** Environment

**Name:Sindhura Shankar**

**School:**Sri Rama Krishna high School, Puttur D.K

**Abstract:**

Project aims to increase the amount of annual yield by improving pollination as well as fruit setting by avoiding button shedding and related problems. It also aims to replace the use of harmful chemical sprays.

Ingredients included in the preparation of this spray (25 liters) are – cashew nut shell liquid (250 ml), coconut oil (250 ml), sodium silicate (250 ml), soap nut extract (without seeds) (250 ml), lime water (250 ml), turmeric solution (250 ml), coconut milk (250 ml) and water (23 liters). Mix cashew nut shell liquid, coconut oil with sodium silicate vigorously. Add turmeric solution, lime water, soap nut extract, coconut milk a

nd water to it. This is the concentrated solution of our spray. Further dilution is necessary, before spraying to any crop. Prepare the mixture of 20 liters of water with 1 liter of concentrated spray solution. This diluted spray solution can be sprayed directly to the inflorescence of the crop.

According to experiments and general scientific observation it is proved that our spray increases pollination and fruit setting by avoiding button shedding in monocotyledonous crops like, coconut, areca nut, and pepper. It increases pollination and fruit setting in dicotyledonous plants like mango, cashew, and coco, by increases total percentage of yield in both the cases. Our spray reduced fungal and insecticidal attacks on both male female flowers. More commonly, the process of pollination requires pollinators. By experiments performed, it is proved that our spray do not harm pollinators were as chemical sprays harm pollinators. It avoids the shedding of flower. It mainly prevents button shedding in which 50% of crop is lost.

By conducting several field trails and observations we concluded that this is one of the best ways to get more yield by putting full stop to some kind of problem in cultivation.

**Project Code:Env-03 (Team)**

**Title:Extended Applications of pollution free Vitex Negundo**

**Subject Category:** Environment

**Name:Abhirama PS T. kaje Ashish**

**School:**Vivekananda PU college Puttur

#### **Abstract:**

An insecticide is a pesticide used against insects. We came to know by our grand parents that they used Vitex negundo as a natural product to repel the house flies, which are non toxic and reduce the pollution problem caused by the conventional chemical insecticides and increase bio magnification. So we prepared an extract from Vitex negundo leaves and used it against houseflies and mosquitoes which spread diseases worldwide especially in India.

We took 2kg of Vitex negundo leaves and heated it in water bath then we crushed and squeezed it to get the extract of 1litre. Then we heated it for storage purpose.

We used this extract against houseflies and mosquitoes. We used it as a bio insecticide. It's a low cost natural, nontoxic safe and eco friendly product. The plant Vitex negundo is plenty in our area and Western Ghats we used our bio insecticide the place of chemical insecticides which cause water and soil pollution. Our product is cheap and can be made in ones home. We use this product to control insects like houseflies and mosquitoes, and we got the expected results.

The extract of the leaves can be made by rural people as it is easily available for them in open fields, near streams. The price of one liter product is Rs2/-. This bio product can also be used as a fungicide to control diseases; this product is to be tested for its anti bacterial anti viral property.

We also used Vitex negundo as mosquito coil which is very effective and ecofriendly. at first we took vitex negundo leaf powder then we mixed it with wood poder,charcoal, tulasi, cowdung, and some amount of vitex negundo insecticide then we left it to dry and after leaving for 1 day we burnt it in a mosquito effected area, within 15 minutes we got a expected result, and there was no disturbance of mosquitoes. we are on more study about the vitex negundo coil and chemical coil.we will complete it within a month.

**Project Code:Env-04**

**Title:Eco-friendly bio pesticide from Heloptela integrifolia**

**Subject Category:** Environment

**Name:Sudeep Kumar K**

**School:**Sri Ramakrishna high school, Puttur, D.K

**Abstract:**

Heloptela integrifolia is commonly known as Indian Elm tree. Its leaves are having pesticide property. Ancestors were using the leaves of Heloptela integrifolia in the preparation of pesticides. And also used protect from harmful insecticides.

I took 0.5kg of Heloptela integrifolia leaves, crushed it and mixed it with 2liters of water and heated it at 95\* C for 30minutes. The extract thus obtained must be filtered and cooled. From this I got 1 liter of bio pesticide from Heloptela integrifolia leaves. I applied this pesticide on caterpillars, housefly and other insects which harm the vegetables and the leaves flowers.

When I applied 5-10ml of pesticide on caterpillars, houseflies it was killed within 45-50seconds. I also applied this pesticide on spiders, termites and other insects harming to the plants, flowers and vegetables. It is a novel product.

Then I found out the pH, Electric conductivity, Surface Tension and Viscosity of the product in the lab of Plilomena College, Puttur. The product we got is Eco-friendly, safe, pest controlling solution. It is free from many of the hazardous chemicals and a low cost natural product. It can be easily prepared at home.

**Project Code:Env-05 (Team)**

**Title:Development of an effective bio-side from Acacia concinna AND A NOVEL ANTI-TERMITE TREATMENT AND CONTROL USING CALOTROPIS GIGANTEA**

**Subject Category:** Environment

**Name:Dhimanth Sediypu Kumar Shree**

**School:**Sri Ramakrishna high school

**Abstract:**

In this project we have prepared a biocide for slugs (scientific name) from Acacia concinna fruit. Slugs cause a lot of damages to plantations, crops, trees etc. So, we have worked into the possibility of developing a biocide from Acacia concinna (common name soap-nut). However no information on the biocidal activity of Acacia concinna fruit is available. So we have scientifically investigated the biocidal activity of soap-nut against slug in order to develop an eco-friendly biocidal agent.

We took 100 g powder of Acacia concinna dried fruits and mixed in one litre of distilled water. The filtered solution was kept for settling of foam and used as the biocide. This solution was sprayed on the slugs and observed for their activity. This was repeated at least 10 times to confirm. The experiment was carried out in a manner similar to the use of commercial repellents. This solution was very effective against the slug in very small quantity. We prove that, natural Acacia concinna based biocide is very effective, cheap, safe, non-toxic agent and can be prepared at home by common people for the agricultural or garden use.

Proper Viscosity, Surface Tension and pH of the extract is maintained.

In this project we have prepared an eco-friendly natural bio- termicide from Calotropis Gigantea leaves and demonstrated its termicidal efficiency. Termites cause a lot of damage to the buildings. Synthetic termicides like Deviban cause damage to environment. Calotropis Gigantea is a

plant that grows in road side region of India. According to traditional knowledge, Calotropis Gigantea is not attacked by termites. However, no analysis of insect repellent or insecticidal properties of Calotropis Gigantea is done till now. So, we decided to scientifically investigate the termicidal properties of Calotropis Gigantea and prepare a bio-pesticide from it.

0.5kg of Calotropis Gigantea leaves are crushed and homogenized with 2litres of distilled water and boiled it for 20minutes. Then it is filtered and cooled. Thus we prepared 1 litres of termicide is prepared. This extract is used as it is without dilution.

Proper Viscosity, Surface Tension and pH of the extract is maintained. The mortality rate of our natural termicide was found to be 90%. We are able to kill or inactivate 200 termites of 2sq m area within 1 hour.

The FTIR spectroscopy test of the extract showed the presence of Carbonyl (CO) hydroxyl (OH) groups. Thus we have an eco-friendly termicide which can be used both indoors and outdoors.

**Project Code:Env-06**

**Title:Eco Friendly Papers, paper plates and Cups from Banana waste + Eco friendly herbal hair conditioner from Cyclea peltata**

**Subject Category:** Environment

**Name:**Tanushree S. Rao      Shreenidhi Rai N. G.

**School:**Ambika Padavi Poorva Vidyalaya, Puttur

**Abstract:**

In this modern age, the consumption of paper has increased tremendously. Conventionally, paper is manufactured from cellulosic materials like bamboo, hardwood, cotton rags, etc. The ever increasing demand, especially of the advanced countries as resulted in continued denudation of forests causing severe environmental imbalances.

In this context, we have prepared eco friendly paper products from banana stem waste. Banana stem waste, thrown away by farmers after harvesting of fruits, is procured as raw material. The stems are chopped into small pieces. The material is soaked in 1-2% of NaOH for one day. The softened material is washed with water to remove the black liquor of sodium lignite and unused alkali. The washed material is then subjected to beating. A solution of resine soap, talc, potash alum, rice straw or waste paper are used during wet beating. Paper is made by deposition from a dilute water suspension of pulp, an even layer of cellulose fiber on fine screen that permits the water to drain through but retains the intermingled particles of cellulose. A sheet of pulp is formed over mould by hand. Then wet paper sheet couched onto a cloth which acts as a interlesf separating the wet sheets. A pile of the wet sheets then pressed and excess water is removed from the wet sheets. The pressed sheets are peeled and separated from the cloth and dried. Thus eco-friendly paper is made by the banana stem waste. By using different moulds, paper plates and cups is prepared.

In this modern day, the consumption of shampoos and conditioners has increased tremendously. So to earn more profits, the chemical factories have adulterated some unwanted chemicals which leads to severe dreadful diseases like carsogenic disease etc. so in this context we have prepared eco-friendly herbal hair conditioner from the local plant Cyclea peltata. We took about 35g of Cyclea peltata in a chinadish and added about 10 mL of water. Later we squeezed the material finely and finally a jelly-like substance will be formed. Then we allowed it to dry. Thus eco-friendly herbal hair conditioner is prepared.

**Project Code:Env-07 (Team)**

**Title:To study the property of Breynia vitis-idaea and in curing chickenpox and many other diseases related to skin**

**Subject Category:** Environment

**Name:Manish SK KN Sampreeth**

**School:Sri Ramakrishna high school.puttur**

**Abstract:**

In this project we have prepared an eco-friendly natural ointment from Breynia vitis idaea leaves and demonstrated its medicinal efficiency. Other ointments causes many side effects to man. Breynia vitis idaea is a plant that grows in road side region of India. According to the knowledge Breynia vitis idaea is used to cure diseases like chicken pox, small pox, heat boils, acidwarm bite, etc

We decided to make deep study of Breynia vitis idaea. Then we prepared ointment from the extract of the leaves of Breynia vitis idaea. First we took Leaves of Breynia vitis idaea – 100gram, Neem oil – 75ml, Bee wax – 20gram, Water – 50ml. Then we took leaves of Breynia vitis idaea and wash it with water and crushed the leaves of Breynia vitis idaea and filtered it by using clothes and we took a big container and added 50ml of water to it and added 75ml of neem oil to it. Then we heated mixture in about 95° - 105°C. After heating the mixture we added 20 gram of bee wax and stirred it, till it dissolves, then we kept for cooling.

**Project Code:Env-08 (Jr)**

**Title:An inexpensive hot box using paddy hay**

**Subject Category:** Energy

**Name:MAHESHA K**

**School:St.Philomina High School, Darbe, Puttur**

**Abstract:**

**TITLE:** An inexpensive Hot box using paddy hay

**Abstract:**

We have made inexpensive hot box using paddy hay which is available in villages easily. The product is just to prepare cheaper hot box to boil the rice or any vegetables using minimum fuels. The principle is almost same as the principle used in the manufacture of hot boxes which are available in the market. The raw materials needed are three packing boxes, one bundle (about 2 kg) of paddy hay. We have taken two packing boxes of different size such that one box can be inserted in to other with small gap of about 3 to 4 cm. The size of the smaller box is comparable with the cooking utensils. The gap is filled with paddy hay. On the upper side we prepared a closing lid using another packing box of about 5-6 cm thick filled with paddy hay. The cap is prepared to fit exactly to the open end of the main box. Since paddy hay is pure non conductor of heat (Thermal insulator) if we place any hot contents inside the box it maintains that temperature for long time. This is the basic principle of any hot box. We observed that it is very competitive with hot box which is available in the market. We observed that to boil 1 kg of boiled rice in general method it needs about 90 minutes. Using our product if we boil it for about 40 mins and keep it inside the box after about 2 hrs it will be well cooked for eating. Thus fuel for about 50 mins is saved. The cost of the product is about 40 rupees. However if we use waste packing boxes which is available in any shops the cost becomes still lesser. We may increase the efficiency by increasing the thickness of



the paddy grass pack. The replacement of paddy hay once in a year is needed for better performance. This saves lot of fuels without much cost which may help the poor family.

**Title:** Paper from Areca nut sheaths (extension of the leaf) or areca nut shell

**Abstract:**

The main raw material for paper making is the fibers. Most of the fiber used for paper today comes from wood that has been purposely harvested. The remaining material comes from wood fiber from sawmills, recycled newspaper, some vegetable matter, and recycled cloth. We are trying to manufacture the paper using the Areca nut sheaths (extension of the leaf) or areca nut shell. Other materials used in paper manufacture are bleaches, fillers such as chalk, clay and sizings such as gum or plaster of paris.

The number of trees and other vegetation cut down in order to make paper is enormous. Therefore we thought of to use these waste materials to manufacture paper. The method used is as follows. Cut the areca nut sheaths in to pieces and put into a pot. Also add a chemical solution of sodium hydroxide and sodium sulfide. The chips dissolve into pulp in the solution. Bleach may be added at this stage. The pulp is next filtered and put through a squeezing process. At this point, various filler materials can be added such as chalks, clays.

**Project Code:Env-09 (Team)**

**Title:Computer printing fuel using the fruit shell of Cocos nucifera**

**Subject Category:** Environment

**Name:Shreedevi Kemmai Shreedhara      Kauledurga Subramanya jois    Suchetha**

**School:**Sri Ramakrishna high school,Puttur,D.K

**Abstract:**

1. Synopsis

Now a day's people use the fruit shell of cocos nucifera to fuel purpose only. But they don't know that we can also produce ink from fruit shell of cocos nucifera and so we tried to prepare an ecofriendly ink from the fruit shell of cocos nucifera.

To prepare 1 litre of ink we took 2 kilo gram of fruit shell. And burned it we got 500 grams of char coal and we boil that with 1.5 litre of water. We got 1 litre of ink.

We found the viscosity, surface tension, E.C and PH of our product in St.Philomen College, Darbe, Puttur and D.K.

The prepared ink is used in pens, printers, ink pads etc. It is low price when compared to the other product of ink which available in market. This product is non-toxic, safe and eco friendly.

**Project Code:Env-10 (Team) (Jr)**  
**Title:Natural shampoo from hybiscus leaves**  
**Subject Category:** Environment  
**Name:Varsha M T Swathi**  
**School:**Sri Rama krishna high school, puttur D.K

**Abstract:**

Shampoo is a hair care product used for the removal of oils, dirt, skin particles, dandruff, environmental pollutants and other contaminant particles that gradually build up in hair. Purpose of the project is to prove that natural shampoo is better than the ordinary shampoo available in the market. It also aims to replace the use of the shampoo available in market which contains lots of chemicals

We took some washed hibiscus leaves and inner jellies of alovera leaf then grind it. After 10 few minutes we added 10 drops of rose water for it.

If prevents hair fall loss in few days and get shining to hair we get clean hair and controls dandruff and keep it free from dandruff. It does not remove oil contents of hair making hair dry.

By performing various experiments and preparing our shampoo many times we came to the conclusion that ours shampoo is the best way to control dandruff

**Project Code:Env-11 (Team) (Jr)**  
**Title:POTABLE WATER BY THE RELATIVE HUMIDITY**  
**Subject Category:** Environment  
**Name:Mahima Shankar Puttur Naseeha**  
**School:**Sudana residential school

**Abstract:**

"water is the only drink for a wise man".Water is essential for all dimensions of life.Nobody in this world cannot live without water.Over the past few decades, use of water has increased and in many places water availability is failing to crisis levels.More than 80 countries,with 40 per cent of the world's population are already facing water shortages, while by year 2020 the world's population will double.The quality of water in rivers and underground has deteriorated, due to pollution by waste and contaminants from cities,industries and agriculture.Ecosystems are being destroyed,sometimes permanantly.Over one billion people lack safe water,and three billion lack sanitation.Eighty percent of infections, disease are waterborne,killing millions of children each year.

**OBJECTIVE:**TO produce fresh and pure drinking water from air.By a simple process we can condense the moisture in the air into pure drinking water by this simple gadget.

**METHOD:**We know that there is humidity .This is also called relative humidity.

A large condensing plate is kept,in which there is a cooling compressor at the back side of the plate.There is a fan which absorbs the moisture.Then the absorbed water is given to the condensing pipe [main unit]that condenses the water and the condensed water is received in a beaker or a receiver.

we have seen the problems faced by the people in drought areas and coastal areas.we have researched that we can implement energies like solar energy,wind turbine and also wind energy instead of electricity for the energy of the gadget.

This gadget is very useful in the coastal areas and drought areas.one can get pure water in the coastal area without any difficulty.

**Project Code: Maths-01 (Team)**

**Title: Easy way to find the square of a number**

**Subject Category: Maths**

**Name: KSHITHEESH R RAO      B MOHAMMED SAUD**

**School: SUDANA HIGH SCHOOL**

**Abstract:**

Easy way to find the square of a number

We have found a simple, easy method of finding the square of a number without much written steps, in less time, using less space.

2 digit number

$$(38)2 = ?$$

Start calculation from the unit place.

1)  $(8)2 = 64$ . Write 4 in the ones place of the answer and Carry 6 to the next place.

2)  $2 \times 3 \times 8 = 48 + 6 = 54$ . Write 4 in the tens place of the answer and Carry 5 to the next place.

3)  $(3)2 = 9 + 5 = 14$ .

So,  $(38)2 = 1444$ .

3 digit number

$$(345)2 = ?$$

$$1/6$$

$$345$$

1) write the square of tens place number above the taken number

2)  $(5)2 = 25$ . Write 5 in the ones place of the answer and Carry 2 to the next place.

3)  $2 \times 4 \times 5 = 40 + 2 = 42$ . Write 2 in the tens place of the answer and Carry 4 to the next place.

4)  $2 \times 3 \times 5 = 30 + 4 + 6$  (ones place number of the above written number) = 40. Write 0 in the hundred place of the answer and Carry 4 to the next place.

5)  $2 \times 3 \times 4 = 24 + 4 + 1$  (tens place number of the above written number) = 29. Write 9 in the thousand place of the answer, carry 2 to the next place.

6)  $(3)2 = 9 + 2 = 11$ . So,  $(345)2 = 119025$

4 digit number

$$(4356)2 = ?$$

$$2/5$$

$$4/8$$

$$0/9$$

$$4356 = 18974736$$

**Project Code: Maths-02 (Team) (Jr)**  
**Title: BASE SYSTEM CLOCK**  
**Subject Category: Maths**  
**Name: Sanjana P R     A V Theertha**  
**School: Shree Ramakrishna High School**

**Abstract:**

We have prepared a clock which we call as “base system clock” it is used to teach kids the base systems like ‘Binary, Quinary and Decimal system.’

Since no cheap base system clock is available for households’ schools etc, such a cheap and simple base system clock would create a market boom. It can be built and used anywhere. Since it requires no power and the raw material are easy to obtain.

This project aims at developing a highly cost effective simple system of base system clock which could get the needs of the children

**Quinary System Clock:-**

We use base 5 system clocks to study the quinary system. This is the simple base system clock which is not available in market. We can use this in Schools & Home

**Binary System Clock:-**

We use Binary system clock to study the binary system. . Base 2 system clock is easy to teach for kids and get them understand and made them genius in mathematics.

**Decimal system clock:-**

In our daily life we use decimal system clock. In real life situation, we use Hindu Arabic numerals. This system of reading and writing numbers is called ‘Base ten System’ or decimal number system has numerals from 0 to 9.