SYNERGY 2018

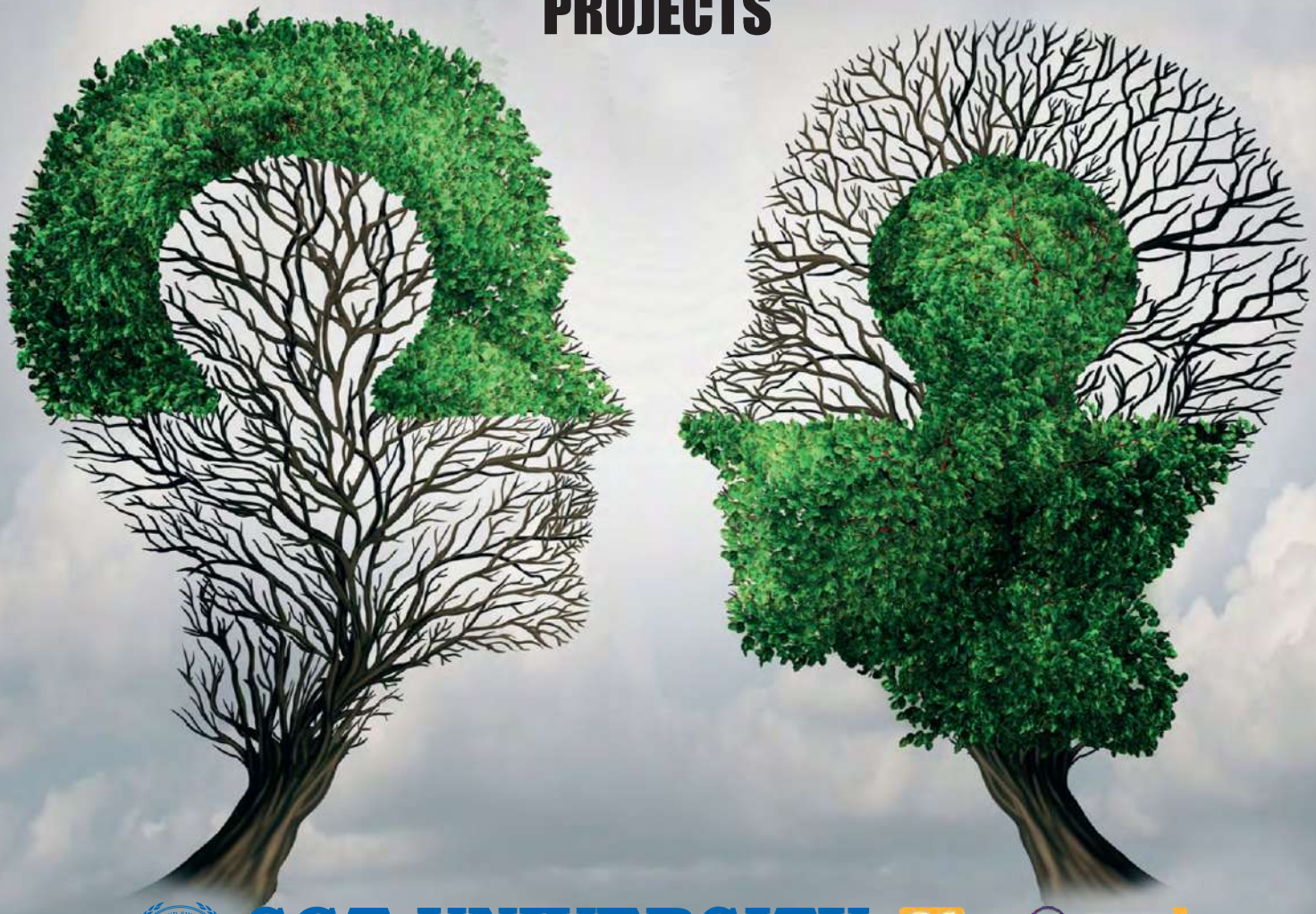
THE ANNUAL TECHNOFEST

10th-12th October 2018

SGT UNIVERSITY GROUND

HAND BOOK OF

PROJECTS



SGT UNIVERSITY

SHREE GURU GOBIND SINGH TRICENTENARY UNIVERSITY

(UGC Approved)

Gurugram, Delhi-NCR

QS I·GAUGE INDIAN COLLEGE & UNIVERSITY RATING GOLD




A CONCLAVE OF INNOVATION CUMULATING ALL SPECIALITIES

SGT UNIVERSITY
SHREE GURU GOBIND SINGH TRICENTENARY UNIVERSITY
(UGC Approved) Gurugram, Delhi-NCR

ABOUT SGT UNIVERSITY

A "University" is an institution of higher education and research which awards academic degrees in various academic disciplines. SGT University takes this one step further by integrating all disciplines into a unified, harmonious, and interrelated system. Fuelled by the zeal to innovate the University offers state of the art infrastructure and atmosphere for research and development to bring about a change from good to better and better to exemplary for the enrichment of society at large.

The University offers more than 120 courses by means of its 17 faculties that range from Medical, Dental, Ayurveda, Physiotherapy, Nursing, Para-Medical Courses, Allied Health Sciences to Engineering, Fashion Designing, Hotel Management & Law. SYNERGY 2017 was all about bringing these specialities to one platform and keeping our commitment to disseminate knowledge of diverse disciplines and work on the overall development of our students, by inculcating strong morals of compassion, empathy and service to mankind.

With our vision of Nurturing Excellence Synergy provided a learning stimulating environment, to place the pitch ready for our students to explore and experience the numerous possibilities in today's world.

ABOUT SYNERGY

A Platform for Promotion of Innovative Ideas & Interdisciplinary Research

Our vision statement is guided by Philosophy of Shree Guru Gobind Singh Ji- “Spread of Knowledge is the Highest Service to Mankind” and the spirit of Dr. C. V. Raman. Drawing inspiration from their teachings, the University is founded on the pillars of innovation, ethics and leadership. We are committed to serve the nation by imparting inclusive, innovative and holistic education.

It was in this background, the concept of synergy was envisioned in 2017, which aims at synergizing the young minds to be creative and innovative. The synergy provides an appropriate platform to the students to showcase their talent, creativity and innovative ideas developed by them.

Besides, encouraging & supporting its own students & faculty for research and innovation, SGT University also reached out to various schools and colleges in Gurugram and Delhi-NCR for creating and upgrading their innovative skills. The University encourages and support the promising projects and the deserving students to make India proud.

SYNERGY-2018 is being organized between 10th and 12th October 2018 to inculcate interdisciplinary innovative approach among the students for building New India.

SYNERGY 2018

'Spread of knowledge is the highest service to mankind' inspired by this philosophy, SGT University organized Synergy-2018 a multidisciplinary platform for catalyzing the growth of creativity, innovation and research from 10th to 12th October 2018.

Chief Guest, Shri Manoj Sinha inaugurating Synergy 2018

Guest of Honour, Dr. Vipin Sinha inaugurating Synergy 2018

SGT University provided a platform with the name of 'Synergy'- a Technical Fest to exhibit and showcase the talent and academic interpretations of SGTians. Students showcased their projects. Inter-disciplinary collaboration simulates professional front scenario and grooms the students. Innovation, creativity and inter-departmental collaboration are the key ingredients to encourage students.

Shri. S S Prasad IAS (Haryana 1984) inspecting the projects

Honouring the Chief Guest, Shri Manoj Sinha

School students from Delhi-NCR and Haryana participated and put forth their ideas and projects as well. It created an inspirational environment for all the students involved. Students from different streams showcased their innovative projects which were witnessed by students of various schools and colleges.

Shri S S Prasad IAS (Haryana 1984) distributing trophy and certificates to the deserving participants

Prof Rizwan Mussana felicitating Guest of Honour, Dr. Vipin Kumar

Hon'ble Minister of State (Independent Charge), Ministry of Communication & Hon'ble Minister of State, Ministry of Railways, Shri Manoj Sinha as Chief Guest and Director and Chief Innovation Officer, National Innovation Foundation-India, an autonomous body of Department of Science and Technology. Govt. of India, Dr. Vipin Kumar as Guest of Honour graced the inauguration ceremony of Synergy-2018

On the concluding day, Additional Chief Secretary to Government of Haryana, Home, Jails, Criminal Investigation and Administration of Justice Department, Shri S. S. Prasad IAS (Haryana 1984) distributed prizes to the deserving participants in the presence of SGT University dignitaries, Directors, Deans, faculty members and teachers from various schools.

MEDIA LITERACY BRIGADE

Faculty of Mass Communication and Media Technology came up with a project called "MEDIA LITERACY CAMPAIGN". It was one of the important platforms for media students. They described the audience about the fake news which can cause serious issues in society as well as how to use the applications of social media accurately.

Student's Team
Karandeep, Hemant, Shweta, Gautam, Aarti, Nimisha, Supriya, Sudipa, Ken, Tanya

Faculty Coordinators
Mr. Biswambhar Bose

RATING SYSTEM ANALYSIS

Faculty of Mass Communication and Media Technology came up with one more project called as "RATING SYSTEM ANALYSIS". This project dealth with on-spot feedback system of the visitors which were mainly school students and their teachers. On the basis of their feedback, we gave the ratings to the projects displayed in the Techfest. The feedback was collected through a carefully designed questionnaire.

Student's Team
Keshav, Kanika, Naima Khatoon, Kajal, Gunjan, Monika, Harshit, Jatin, Shalini, Shreya, Shrishti, Sanchit, Aman Yadav

Faculty Coordinators
Ms. Apoorva Agnihontri
Mr. Jitendra Singh

COMMUNITY TV

A Community Television Channel was set up in the university campus. The students were trained for the roles of Reporters, Anchors, Technical staff at News Desk, Input and Output editors. During the three days of the festival, the students went live on our Community television channel, presenting reports about Synergy, visitors and models prepared by different departments. Being a visual medium, Community television could play a vital role in stimulating development, dialogue, supporting local economics governance and share local content in local language. It can empower people to seek and develop independent perspective.

Student's Team
Rupansh, Joyti, Sandeep Kaur, Rupali, Reena, Vijay, Peter, Mahima, Nuruddin. Rupali

Faculty Coordinators
Mr. S.K. Pandey
Mr. Kranti Anand
Mr. Asif Husain

WORKSHOP ON SOUS VIDE COOKING

Chef Michael Meier, from BHMS Switzerland conducted a workshop on sous vide method of cooking. Sous-vide is a method of cooking in which food is placed in a plastic pouch or a glass jar and cooked in a water bath or steam environment for longer than normal cooking at an accurately regulated temperature. The intent is to cook the item evenly, ensuring that the inside is properly cooked without overcooking the outside, and to retain moisture. The aim of conducting this workshop was to apprise the students of this new cooking method and the latest developments in the culinary sciences.

Project Coordinator
Chef Michael Meier,
Bhms Switzerland

TURN THE OLD FILE CABINET INTO A BBQ SMOKER

Combo ovens are because they offer three methods of cooking in one unit: pressure less steam, converted heat, or a combination of both. Commercial combo oven being an expensive piece of equipment is difficult for small vendors to purchase. Our final product is an economically feasible equipment, which reduces cooking time, space requirement and time constraints. This equipment may revolutionize the small business entities and boost their profit margins.

Student's Team
Jatin, Deven Singh,
Sahil Sangwan, LakshyaSharma,
Nitin Sharma

Faculty Coordinators
Chef Madan Lal

GLUTEN FREE FOODS

The thought behind the project was to give a new dimension to the gluten free bakery products, so that it can be relished by the people on gluten free diet without any compromise to their health. The students prepared brownies using oats and bananas, cookies with (oats, peanut butter, cornflakes & honey), cupcakes were made with gluten free flour and were flavoured with fresh fruits like(green apple, pineapple, rose gulkand). The products were appreciated and relished by all.

Student's Team
Pinky Kumari, Babloo Saini,
Dinesh Singh,Azaz Ahmad,
Vivek Upadhyay

Faculty Coordinators
Mrs. Jaslien Chatwal

CHOCOLATES AS SUPER FOODS

With such stressed and hectic lifestyle, people today have very less time to spare for their well-being, which is paving way for some very serious medical conditions like obesity, diabetes, heart related problems etc. To rescue the individuals from this grave situation are the Super foods. The aim of the project was to make the audience aware about the health benefits of chocolates and how can we use them in our daily life to extract their utmost benefits.

Student's Team
Akash Kanojiya, Rupesh Rajpal, Ankush Gaur, Atit Khadka, Sahitya Mehra

Faculty Coordinators
Mrs. Jaslien Chatwal

VEGAN FOODS

Veganism is the practice of abstaining from the use of animal products, particularly in diet, and an associated philosophy that rejects the commodity status of animals. A follower of the diet or philosophy is known as a Vegan. The main concept behind the project was to make the audience aware about the importance and benefits of vegan diet and also to clear the myth that vegan food is not tasty. Students gave a new twist to the vegan food by using their creativity and innovation.

Student's Team
Jaspreet Singh, Harshit Tandon, Deepak Tomar, Jitesh Yadav, Mohammed Azhar

Faculty Coordinators
Chef Kaushal Gaur

SPRAYING MACHINE

The inception of this project idea was made when two students of Commerce and Management were roaming in the garden and they saw a gardener showering the plants, they felt that more water is being used for this work. They both discussed that this problem of excessive water wastage is very common in gardening. Some other students saw someone washing a car and there they noticed the same problem of water wastage. They all met up in the evening in the campus and discussed with faculty members about this alarming issue of water wastage. Then they decided to do something about this issue and they contacted to Faculty of Agriculture Sciences, to do something about it together. The group of students brain stormed and one fine evening when they were having discussion they came up with an idea of spraying machine which can be used for both the purpose, to shower the plants and to wash the car as well, by controlling the pressure of water. They decided to showcase this idea in the grand event of SGT, SYNERGY 2K18. This idea was then implemented practically. The result showed tremendous water saving. In almost one bucket water an SUV can be washed and in ½ Bucket of water motor bike/scooty can be washed. The spray method of gardening reduces the use of water by many folds. In synergy this idea was presented and was appreciated.

Student's Team
Neha Sharma, Shivangi Thakur, Bhawana Verma, Kunal Rana, Prashant Singh Kushwah, Subhash,Mrinal, Tanvi,Vishnu Puneet,Ravi Sehrawat, Neha

Faculty Coordinators
Dr. Sunil Kumar Verma,
Dr. Neha Gupta,
Mr. Chand Saini, Mr. Amit Dangi,
Dr. N.K Tiwari (Agri, Science).

3R APPROACH TO WASTE MANAGEMENT

3R Approach means using the 3R strategy to manage the community waste which stands for Reduce; Reuse; Recycle. For that we have prepared a project so that we can make the society aware of the various concepts behind the waste management and to use our waste as a resource, with a slogan, "Don't Waste Your Waste".
Through this project we will make you aware about three concepts;
what is our current situation or position in the field of waste management and What we can do; How we can classify the waste into different categories and What we can do to manage it;
Lastly, we have shown How we can use our waste to make innovative products.

Student's Team
Pinky Kumari, Babloo Saini, Dinesh Singh,Azaz Ahmad, Vivek Upadhyay

Faculty Coordinators
Sahil Massey, Kajal Tanwar, Abhishek, Pratap Aditya Mahajan, Utsav, Tanya Vats, Jyoti Sejwal, Bhavesh, Sourav, Priya, Vishal, Himanshu, Sulena, Neha, Naina.

HANDICRAFTS - CREATIVE PRODUCTS

Students showcased their ideas and talent by displaying their skills in the areas of Handicraft. The motto of the project was to make some productive things from the waste recyclable materials such as disposable plastic spoons, bangles, threads, paper scraps, plastic bottles, ropes, glass bottles, glass pieces etc. Here in this project we were promoted the concept of recycling that how a completely wasted material could be transformed into attractive and useful products. Recycling is necessary if we want to protect this world for our prospect generations. Some products that students have worked on were Wall Hangings made by bangles and plastic spoons, Photo Frames made by newspapers, Clock Frames by mirrors and spoons, pearl and glass jewellery etc. These all items were manufactured for sales purpose and the response from our audience was very phenomenal. The products were highly appreciated and liked by all, such positive response boosted the morale of the students and they felt motivated.

Student's Team
Jashi, Madhu Dewivedi, Sonia Verma, Komal, Sachin Rohilla, Ashi Sraswat, Yash Bhambhu, Kajal Sharma, Deepika, Sarika, Poorva Saini, Ruchi, Sibilis Nongsiej, Ritika Kumari Jaiswal.

Faculty Coordinators
Dr. M K Nair (Dean), Ms. Arshi

KHADI BASED HIGH FASHION GARMENTS

Students showcased their ideas and talent by displaying their skills in the areas of High Fashion Garments inspired by the Mushroom and the fabric was Muslin Khadi. Basically, by the elements of Mushroom like softness, texture, shape, colour, structure were used on the garments. All the garments were made from the Khadi fabric, blends of Khadi like Khadi silk, Khadi muslin etc. It is a versatile fabric, cool in summer and warm in winter. Keeping in line with the latest trends and concepts in Fashion Industry, students gave a new dimension to dresses which were very unique like Shrug and Dhoti Pants and Ruffle based dress. The products were highly appreciated and liked by all, such positive response boosted the morale of the students and they felt motivated to raise their standards to next level.

Student's Team
Kirti Rani, Astitav, Anusha R. Deshpande, Akash Saini, Pakhi Raj, Shreya Rathour, Praveen, Sushmita, Sapna, Mahima Sanklan, Varsha.

Faculty Coordinators
Dr. M K Nair (Dean), Ms. Jyoti Banerjee, Ms. Swati Yadav.

BLOCK PRINTING TECHNIQUES WORKSHOP

Hand Block Printing is one of the most famous traditional art of Rajasthan. During these workshops students helped the visitors to make their own piece of art. The Students developed their skills in block printing and also gained experience by learning and working skills. It was very interesting to see how the prints are handmade with small wooden blocks, usually with different colors extracted from nature. The products were highly appreciated and liked by all, such positive response boosted the morale of the students and they felt motivated to raise their standards to next level.

Student's Team
Ashi Saraswat, Madhu Dwivedi, Komal, Alijan Siblis.

Faculty Coordinators
Ms. Kavita

CREATIVE DRESS DEVELOPMENT

Students developed creative garments, to showcase their design ideas and creativity. They displayed the products for the retailing purpose.
Innovation dresses and products are developed by the fashion students. These dresses liked and taken by the different school students during the event. This techno fest has given the platform to fashion students for grooming and motivate them internally to come up with new ideas.

Student's Team
Ritu,
Komal Lohia

Faculty Coordinators
Ms. Swati Yadav
Ms. Arshi

KANOON KI BAAT

"**Kanoon Ki Baat**", the modus operandi of this programme was to solicit opinions about various contemporary issues from various visitors which then was streamed to a LED TV. To enlighten citizens to the importance of Law, having the potential for massive contribution towards the development of the nation, it is necessary to generate debate and make people aware about it. This practice of talking on issues which touches the lives of the citizens will also empower citizens in knowing their rights and forming an informed opinion. Various persons from the legal fraternity including practicing lawyers were invited to be the panelists, apart from the persons from respective fields.

Student's Team
Priya Mittal, Amol Chaudhary, Dikshant Bajaj, Ali Naqvi, Rama, Harsh Shukla, Chandini,

Faculty Coordinators
Dr. Ravi Bundela,
Ms. Komal Dahiya

CAREER OPPORTUNITIES AFTER LAW

This project was about describing the various career opportunities available to law students, and the various courses offered by Faculty of Law, (SGT UNIVERSITY). Thus, the project also suggested them a platform i.e. the SGT UNIVERSITY to realize their dream profession. It was to create awareness among students regarding various career options after law graduation. It also showcased SGT University law courses. The Video in form of cartoons and moving images an attraction in the synergy. Animation made the concept very exciting, interactive, creative, fun and motivational. It was enable the students to apply imagination and rational thinking.

Student's Team
Rama
Raghunandan
Rachana

Faculty Coordinators
Mr. Yatin Kathuria

PHOTO BOOTH

Students came to the photo-booth where we provided a photo cut-out of a life size lawyer. This photo booth was very attractive to the students and was planned to motivate the students to become future lawyers and judges and in choosing law as a career. This innovative projection of a lawyer's uniform attracted the students to the Faculty of Law booth from where they also took an interest in learning about the other projects of the Faculty. The school students were very excited to see and photograph themselves as a lawyer. Further, our Faculty member also held a one-to-one discussion with each student to gauge their understanding and knowledge of the law profession.

Student's Team
Aparna, Harsh, Komal, Babita, Sumrita

Faculty Coordinators
Mr. Azad Singh

CHECK YOUR KNOWLEDGE

Spreading the knowledge of law is a duty of every member of the legal fraternity. This project performed the same and the students visiting the stall were found to be particularly excited about the sessions. There were a number of envelopes on which important law facts, and other questions from various allied topics were written which included topics like Constitution, Political Science, etc. Students came by turn and picked up envelopes and were then asked about the various topics that were mentioned in those. On the right answer they were awarded chocolates, while on wrong answer they were educated about the subject.

Student's Team
Harmandeep Kaur, Preeti Deswal, Apsara Verma, Sahil Lakra, Sumrita, Babita

Faculty Coordinators
Mr. Shekhar Olhyan

NUKKAD NATAK- "JAGO GRAHAK JAGO"

The objective of the Nukkad Natak was to educate and spread the awareness among the school students about the various aspects of consumer rights. Today, in the age of globalization the issue of consumer exploitation is a smoldering topic and the Nukkad Natak cut across themes such as misleading advertisements, predatory pricing, quality of consumer goods, etc. This was an effective and interesting manner of imparting legal education as compared to the traditional way of teaching law. The students were made aware of their rights as a consumer in a lively way full of enthusiasm and joyfulness. The students of the Faculty of Law were involved actively in the implementation of the project and were imparting awareness in an interactive way.

Student's Team
Mohit Kaushik, Jasmeet, Tanya,Vasundhara, Aman, Rajan, Rishi, Nikhil, Akash Chaudhry.

Faculty Coordinators
Mr. Shekhar Olhyan

CREDIT CARD CLONING

The project was initiated by Department of Forensic Science in collaboration with Faculty of Law and Faculty of Engineering. The main purpose of the project was to educate, showcase the public about general use of ATM Machine, the process of credit card cloning and providing the appropriate remedy to the victims of the credit card by spreading awareness viz., RBI Guidelines, IT Act, etc. The entire project planning was done by Faculty of Law and Department of Forensic Science. Initially, professional guidance was to seek training by subject experts and train our respective students. However, due to the budget constrains, the initially planning was changed. This led to manually crediting the terminals and other devices to visually showcase the entire process of credit card cloning.
The planning included segregation of the project into three parts- initial dealing with the commissioning of the crime, secondly, guidelines for customers to be vigilant to avoid cloning of their card and third the recourse a victim needs to adhere.

Student's Team
Pulkit, Rashmi, Himanshi, Garima, Kailash, Amit Yadav, Suman, Abhishek Dalal, Souhardra Raj, Himanshi Panwar, Tejendra Sharma, Ankita Raj, Harsh Saini, Vikash

Faculty Coordinators
Madam Anchal Mitta

TWO STREET PLAYS TITLED AS 'DRUG DE-ADDICTION'

The Street Play Performed by B.Ed Students on Drug De-addiction was to create awareness and educate youth mass especially students at school and UG level about ill-effects of alcoholism and substance use on the individual, the family, the workplace and society at large. Drug abuse and alcoholism have become primary impediments of human resource development and economic growth. The more we say, the more it will bring effects on such wrong practices.

Student's Team
Jaya Verma, Archana Singh, Tanya, Madhu Yadav, Divya Mann, Beauty Kumari, Ashima, Bhawna, Niharika Gautam, Hema Tiwari, Ashi Yadav, Hansika, Juhi Dhankar, Lovely Kumari, V. Sharanya , Alok Kumar , Nitya Kataria, Meenakashi Saini, Shabnam, Kartik , Parul Uniyal, Babita , Divya Gahlot, Shruti Shree, Sangeeta Das, Sanjana, Samta Chopra, Rupal Rana, Pooja.

Faculty Coordinators
Ms. Ritika Devi,
Ms. Ruby Yadav

NUKKAD NATAK- 'HINDI BEEMAR HAI'

NUKAD NATAK 'Hindi Beemar Hai' was to showcase the present status of Hindi language in growing global world inspite of being the third most spoken language of the world. The play aimed to build understanding among students (about the state of Hindi language in our socitey).
During the Synergy Fest, School Students were involved and attention was easily grabbed by Performing arts. Street play is an effective means of communication to spread message to students in general. It was an initiative from faculty of Education to raise awareness among school students on these sensitive issues.

Students Team
Jaya Verma, Archana Singh, Tanya, Madhu Yadav, Divya Mann, Beauty Kumari, Ashima, Bhawna, Niharika Gautam, Hema Tiwari, Ashi Yadav, Hansika, Juhi Dhankar, Lovely Kumari, V. Sharanya , Alok Kumar , Nitya Kataria, Meenakashi Saini, Shabnam, Kartik , Parul Uniyal, Babita , Divya Gahlot, Shruti Shree, Sangeeta Das, Sanjana, Samta Chopra, Rupal Rana, Pooja.
Faculty Coordinators
Ms. Ritika Devi, Ms. Ruby Yadav

SGTU CROP PROTECTION CALENDAR

The recommendations applicable, under Haryana conditions, for Kharif, Rabi crops, vegetable and fruit crops with respect to their plant protection measures will were displayed.
Benefits ready to use system for farmers and students.

Student's Team
Sunita Yadav,
Neelesh Yadav

Faculty Coordinators
Dr. S.S. Sharma

VALUE ADDITION IN FRUITS AND VEGETABLES

India ranks second after China in production of fruits and vegetables in the world. Despite the huge production, we are not able to make targeted profit out of it. The major reason behind it is the non-availability of proper or sufficient storage facilities in our country. Along with this, the market glut plays an important role in rendering the horticultural produce at through away prices and approximately 15-30% of the produce goes waste. Processing serves as a viable alternative to minimize this wastage and vis-a-vis add value to the raw produce. A variety of products can be prepared by using different processing methods viz. jam, jelly, marmalade, ready to serve (RTS) drinks, squash, etc. This is also a viable alternative to the small scale business in the villages.
Benefits: Chemical free, healthy and nutritious products.

Student's Team
Reshma Bahuleyan,
Manisha Kumari, Anand,
Naveen Sharma, Lokesh,
Rohan Singh

Faculty Coordinators
Dr. Vinita Rajput

READY TO GROW MATS

India's population is growing exponentially and land holding is decreasing. The arable space left with most of the families living in urban areas is very limited. The fresh greens and vegetables available in markets are generally not trust worthy to be free from harmful chemicals and pesticides. The ready to grow mats provides this facility to grow plants (specifically greens) in short period. Only seeds of the desired crop need to be sown on the mat and watered as per requirement. In this process, germination is quite fast and plants start growing. The special feature of the ready to grow mats is that they can be placed anywhere for e.g. in balcony, drawing room, kitchen, roof, corridor, etc. The water requirement is less and the produce is organic in nature as the grow mats contains only organic substances for plant nutrition.
Benefits: Organic and chemical free greens are available at home.

Student's Team
Reshma Bahuleyan, Manisha Kumari, Anand, Naveen Sharma, Lokesh, Rohan Singh

Faculty Coordinators
Dr. Vinita Rajput

SGTU INTEGRATED CARROT CLEANING MACHINE

As carrots are grown both in rural and as well as urban areas, its potential for generating employment is an added advantage to improve the economic conditions of the weaker segment of the society. Moreover, carrots are a cheaper source of essential nutrients and its vegetative part can be used as fodder for the farm animals. Washing and cleaning of carrots is a cumbersome job. The small scale carrot growers are more affected by this problem as existing machine is suitable for large scale growers. For successful carrot cultivation it is necessary to remove soil and other material before sorting, grading, and marketing.
Benefit: Economical for small and marginal farmers

Student's Team
Madhu Sangwan, Ankit Singh, Aman Jain, Kenrik

Faculty Coordinators
Dr. Mohinder Singh

MODIFIED MAIZE COB GRAIN SHELLER MACHINE

The removing of the mature grains from maize by small/ marginal farmers is done manfully as there is no such small machine available in the market. The machine developed at SYNERGY-2018 will further be improved to make it easy and safe in handling by adding some extra features.

Student's Team
Puneet Sharma, Piyush Saini, Ankit Atri, Naveen, Vishnu, Neha

Faculty Coordinators
Dr. N. K. Tiwari

PREBIOTICS AND PROBIOTICS (COLLABORATIVE PROJECT WITH FAHS)

Antimicrobial resistance needs to grow into big science to deliver new innovative therapies. Alternatives to antibiotics is non-compound (i.e. non-classic antibacterial compounds) approaches that target the host to treat bacterial infection. To address the problem of antibiotic – resistant bacteria, alternative to antibiotics approaches are under consideration. Antibiotics have saved countless lives and enabled the development of modern medicine over the past 70 years. However, it is clear that the success of antibiotics might only have been temporary and we now expect a long-term and perhaps never-ending challenge to find new therapies to combat antibiotic-resistant bacteria. A broader approach to address bacterial infection is needed (Czaplewski et al. 2016). The primary objective is to identify and review prospective therapeutic replacements for antibiotics.

Student's Team
Anshu, Rishika, Vikram, Rupam

Faculty Coordinators
Dr. Vijya laxmi
Dr. Upasana Sarma
Dr. Manisha Sharma

KITCHEN WASTE COMPOSTER

All the garbage in our house i.e. dry and wet waste can be successfully used in making a home composter. Rich in nutrients and odourless, the compost coming out of it will be extremely useful to the growing plants in garden and it will also aid the growth of the plants growing around composter.
Composting is simply the process of breaking down the organic matter (food waste) in the presence of air and water, using microorganisms and small insects present in nature. The end product is called compost which is rich in readily usable plant nutrients forming a part of healthy soil.
Benefits: Food and kitchen waste can be put into the composter, rather than the landfill in a plastic bag. The soil produced is rich in nutrients. The soil is a natural fertilizer, and removes the need to use chemical ones. The best way to use kitchen waste is to grow herbal plants.

Student's Team
Richa Ratnakar, Deepika Yadav, Priya Yadav, Tarun

Faculty Coordinators
Dr. Priyanka Sharma

HYDROPONICS

Sustainable farming solutions in countries with arid climates such as India have caused an increased interest in hydroponic farms, which are farms that practice growing plants without soil in a nutrient rich water solution. Furthermore, because of its economic feasibility and ability to serve as a possible solution to India's dwindling availability of fertile soil or clean and surplus water, this practice of agriculture resolves many of the issues that challenge year-round growing. Combined with drought conditions and the vagaries of global warming, Indian agriculturalists are fighting a drastic reduction in the availability of locally grown food for India's large population.

Student's Team
Saania Balana,
Surjeet Kumar,
Sachin

Faculty Coordinators
Dr. Babli,
Dr. Pooja,
Dr. Mohinder

AGRICULTURE AROMATHERAPY: ESSENTIAL OILS AS GREEN PESTICIDES

Plants have the ability to synthesize a wide variety of chemical compounds that are used to perform important biological functions, and to defend against attack from predators such as insects, fungi and herbivorous mammals. Essential oils have a long traditional use in the protection of stored products, based on antimicrobial and antifungal activity. Plant's flowers and leaves produce essential oils that can be put to many uses such as making of perfumes, flavoring of foods, plant protection from different diseases and insects. There is a need for testing the essential oils of different plants from SGT University for other uses such as their antimicrobial properties.
Benefits: Environmental friendly, reducing the risks related to pesticides.

Student's Team
Tej Singh, Biri Rini, Deepak, Shivani, Rhea Ditto, Akash Kalra, Sourabh Sharma

Faculty Coordinators
Dr. Baldeep Singh, Dr. Supriya, Dr. Priyanka Sharma

REED BED SYSTEM

The Common Reed (Phragmites Australis.) has the ability to transfer oxygen from its leaves, down through its stem and out via its root system in the gravel bed. This encourages micro-organisms that digest the pollutants in sewage to colonize the area. The sewage effluent flows through this zone and is treated by the micro-organisms. Earlier Reed Bed Sewage Treatment systems used the horizontal flow type of reed bed.

Student's Team
Himadri, Amit, Rishita Tripathi

Faculty Coordinators
Dr. Sonia Goel

SUPER WHEAT

The project described the formation of hybrid wheat, evaluated for a number of traits like grain quality, yield, disease resistance and drought tolerance. This wheat has been developed by crossing a number of valuable traits from other wheat and to imbibe all traits into one superior wheat, called Super Wheat.

Student's Team
Anshul Phogat,
Kinshuk Sharma,
Nishita Tripathy

Faculty Coordinators
Dr. Sonia Goel

FOREARM, WRIST HAND MOBILIZER

Helps patients prevent post-operative joint stiffness. Its drive mechanism will allow continuous motion that matches the natural physiological spiral of flexion. This light weight, easily-transportable unit will also feature variable speed control, variable range of motion, and a pivoting palm support for increased comfort, while its easy-to-use cursors protect healing tissue by limiting range of motion. Numerous attachments allow a wide variety of applications

Student's Team
Prince, Ankit, Himanshu,
Sarabjeet, Gorvi, Akshay(FET)
Akhilesh Anurag(FET)

Faculty Coordinators
Dr Sheetal, Dr Sajjan,
Dr Sonia, & Mr Asad(FET)

PROTOTYPE - AUTOMATED DECOCTION DISPENSER (AUDDI)

"Ayurtechonolgy"- The proposed project is one among the thrust areas of funded research by govt. sectors like Ayush, CCRAS etc. Therefore the project aims at developing an instrument for preparation and dispensing of decoction which is based on the classical principles. It is an easy to use unit, following the basic principle of preparation of a decoction. Preparing a decoction is a meticulous process that requires time and skill. Therefore when one is prescribed a decoction he/she tends to avoid going through the classical methodology and opts for other less efficient methods of using a decoction like bottled preparations etc. These methods do not follow the basic principles and hence their efficacy is less, therefore affecting the outcome of a treatment. Hence, this new instrument can be an answer to the current problem. The product will simplify the process of preparation and method of delivering to the population. This prototype aims in preparing decoction according to Ayurvedic principles and dispensing it freshly to the patients arriving the hospital. The beauty and intelligence of AUDDI will be in freshly delivering decoction based on the required mode of action, with a single touch (Future voice command also will be implemented).

Student's Team
Piyush, Shrey Singh, Paras, Vidhi, Suvarna, Vishal.

Faculty Coordinators
Dr.Avnish Pathak, Dr.Avinash Chaudhary, Dr. Nithin Krishnan R.

AYURVEDA GARGLE

Due to unhealthy lifestyle, many oral cavity disorders such as gingivitis, foul smell, tooth carries, toothache have been seen in maximum people. So focusing on this issue, the study have been selected few excellent herbal drugs from Ayurvedic literature which are mentioned for common oral cavity problems. Based on Ayurveda literature, authentic raw drugs are identified and purchased from the market. Ethanolic extracts of these drugs will be drawn. These alcoholic extracts are made to act against the swab taken from the oral cavity of various patients and various standard organisms responsible for causing various oral cavity disorders. The zone of inhibition is measured. Formulation (Mouth wash) is developed and observed for stability, shelf life, palatability, etc.

Student's Team
Krishna Murari, Pallavi, Shweta Prajapati, Ajeet, Deepika, Ritu, Neha, Jyoti, Kumud, Priyanka, Prince, Sandeep, Mohit, Rajni, Kajal Yadav, Sahil Yadav.

Faculty Coordinators
Dr.Premraj Chaudhary, Dr.Milind Deshmukh, Dr.Nithin Krishnan R, Md.Nasir Mallick

BURN MANAGEMENT – A CURATIVE AS WELL AS COSMETIC APPROACH

Ayurveda being a god created science, has compiled excellent formulations for every problems of human being. So the purpose of this project is to explore the utility of such hidden readymade formulations for benefit of the sufferer. We used herbal ingredients from market and prepared medicated ghee preparation out of these ingredients by classical ghee preparation method. Burn is a very serious problem of the society. A very good healing gritha preparation out of simple herbal ingredients, for every types of burn has been advised by Maharshi Shushrut. So an effective formulation for burn for its healing and re-establishing normal color of skin is very much essential for the society. Due to easily available herbal ingredients and easy preparatory method and easy handling doses it forms a compelling study to prepare such formulation.

Student's Team
Ritu, Anmita,
Renu, Mohit.

Faculty Coordinators
Dr. Anupama Patra,
Dr. Vidyavati Hiremath

COSMETICS IN AYURVEDA

Cosmetic science has been practiced in India right from the Vedic period. Ayurveda, the science of life has rich knowledge of cosmetics. Practicing cosmetics in Ayurvedic way is very safer than market available for cosmetic products. Due to more usage of chemicals in market available cosmetic products, it's a need of hour to re-establish Ayurvedic cosmetic protocols which is way too safer. Most of products are easy to prepare and easy to carry out procedures. This will be solution for even economic burden as well. These Ayurvedic products and procedures are not only having preventive benefits but also have curative effect. The market for Ayurvedic beauty products is growing faster. Many companies have entered the segment with branded products in categories such as skin care, hair care, soaps and essential oils. Concern about harmful chemicals in beauty products has increased consumer interest in natural cosmetics. More and more products now include herbal and botanical ingredients. The products displayed will simplify the mode of administration along with ease in packaging and prescription.

Student's Team
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Sonali, Shreyanshi, Ajay,
Rajan Arya, Anumeha,
Sonu Raghav, Aditya, Abhay,
Chanchal, Urvashi, Shireen,
Namarah, Umarah

Faculty Coordinators
Dr.Timsi, Dr.Yagyik, Dr.Neeraj
Dr.Vikas Sharma, Dr.Dibyabh,

HERBAL NIRDHOOM

"NIRDHOOM" as the name itself suggests tobacco free organic herbal smoke that will help to prevent and cure the injurious effect of tobacco smoke, for this present work is proposed. Addiction of cigarette or bidi is injurious to health. It directly effects our lungs and then person lands into some health related issue and when it is chronic addiction, the person have health problems along with it, he will face some social, personal and psychological problems. So, to prevent and cure the health related issues and uplift or boost his/her psychological status, our pure herbal smoke will help to make person to stop taking tobacco cigarette or bidi gradually. This product will subside the effect of tobacco smoking, it will give strength to lungs and it is also going to prevent passive effects of tobacco smoking on children and other family members of a person who is addicted to tobacco smoking.

Student's Team
Manish Kumar, Aakash, Monika, Manoj, Parul, Anumeha, Monu Dagar, Mukul, Pradeep, Vasundhra, Urvashi, Amit Lokhana, Chanchal Soni, Shweta Kaushik, Chanchal.

Faculty Coordinators
Dr. Madhu Pathak, Dr.Kapil.

LIVE PANCHAKARMA DEMONSTRATION AND ON SPOT CONSULTANCY

In the modern times, with changing patterns of living, the human body is becoming more prone towards diseases, as a result of the faulty habits being inculcated into the regimens. Ayurveda, through Panchakarma therapies, provides an answer to such conditions. But the awareness among the general public regarding the positive effects of these therapies on such conditions are not well publicized. Therefore, to make aware the general public about these procedures and their therapeutic benefits, live demonstration of these therapies along with on the spot consultancy was conducted.

Student's Team
Ajay Sehrawat, Ajay, Aditya, Ajeet, Anmita, Chanchal, Ekta, Deepika, Jyothi, Krishna, Kritika, Lokesh, Manish, Monika, Paras, Piyush, Priya, Rahul, Shreyanshi, Shweta, Shweta, Saloni, Suvarna, Umakant, Urvashi, Vasundhra, Vidhin, Vishal, yogesh, Poonam, Yogaraj, Rajni, Chanchal, Anumeha.

Faculty Coordinators
Dr. Avinash Chaudhary,
Dr. Avnish Pathak, Dr. Swapnil A.

NATURAL HERBS AND PLANTS WITH MEDICINAL VALUE IN AYURVEDA

According to wisdom science of Ayurveda herbs may be used both in the form of food as well as medicine. India has a lot of herbs and natural remedies for almost every disease. So it's good to have knowledge of medicinal plant in and around us. Because you never know when you might need them. The simple herbs that can be given in the kitchen garden find meritorious & handy use in treating day to day maladies. In this project , we are educating the society regarding therapeutic uses of medicinal plants system wise described in Ayurveda like use of Kutki and Bhumyaamalki in liver disorder, Guduchi commonly known as Giloye in fever, Chitrak, Jeerak & Shunthi in GIT disorder, Punarnava, & Gokshuru in UTI disorders, Natural sweetning agent -stevia etc. Treatment of diseases with medicinal plant yields results without any side effect.

Student's Team
Ashu, Jyoti, Neha, Gaurav, Renu, Vijeta, Vishal, Puneet, Bhramrita, Aakash, Mohit, Tammana, Pooja, Paras, Manish, Yasir, Roopal, Kriti, Sonu, Vikas, Anmita, Jyoti Yadav.
Faculty Coordinators
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NUTRACEUTICS IN AYURVEDA

Nutraceuticals are natural bioactive materials that provide demonstrated physiological benefits or reduce the risk of chronic diseases. The concept of nutraceuticals is gaining more popularity more recently, its roots can be traced to the ancient Indian system of medicine, 'Ayurveda'. It is clearly stated that food, which besides providing nutrition helps to maintain the healthy state and prevents the occurrence of diseases should be consumed. The classical texts of Ayurveda are filled with scattered references of implication of food products in various disease entities. Affluence of working population with changing lifestyles and reducing affordability of sick care, in terms of time and money involved, are some of the forces that are presently driving people towards thinking about their wellness. There has been an increased global interest in traditional medicine. The study focuses on displaying information about various pharmaceutical preparations, along with its delivery to the public.

Student's Team
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Faculty Coordinators
Dr. Timsi, Dr. Vikas Sharma, Dr. Dibyabh, Dr. Yagyik, Dr. Neeraj

NUTRACEUTICS IN OBESITY

Obesity is one of the commonest life style disorders that is affecting the health of an individual in current scenario. Several other health issues like hypertension, CVA etc. have been shown to be linked with this Obesity precipitating these conditions thereby affecting the morbidity and mortality. This requires imminent attention in terms of dietary modifications. The field of Ayurveda provides with such nutraceutics which can directly affect this condition. But these formulations are obsolete in terms of method of preparation, administration, palatability etc. and hence are in need of modification. Therefore, the current endeavor aims at the modification of this nutraceutic formulation to better apply to the current times.

Student's Team
Shreyanshi, Lokesh, Anumeha,Shaurabh kumar, Ayushi Bhardwaj.

Faculty Coordinators
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Dr.Avinash Chaudhary,
Dr.Kavita Sharma,
Dr.Rekha,
Dr.Poonam Bamoola,
Dr.Vatsala Saharan.

PUNARNAVEE – THE NEW YOU

"Punarnavee" enables you to find the NEW YOU after the childbirth by complete transformation of your body to the pre-pregnant status.Pregnancy changes women's body in more ways than they might have guessed, and it doesn't stop when the baby is born. Until the birth, a healthy baby may be her top priority — but once the baby is born maintaining her fitness, beauty, and self-confidence counts, too. So, all the women of this hi-speed life require special care to be taken in short duration which will make them to feel younger and healthier. After conducting a pilot study at SGT hospital the services have been launched by making MOUs with leading maternity hospitals in and around Delhi NCR. Following issues will be solved by the study: Speedy recovery in the post-natal period, increases the stamina, reduces the pains after delivery, increases the lactation, reduces the abdominal girth, tones the whole body including the abdomen and perineum, reduces the post-partum blues (mild-moderate depression), brings feeling of wellbeing.

Student's Team
Manisha, Madhu, Parul, Shivangi, Dharmendar, Mohit, Mallika, Nagma, Debarun, Amit, Bhawna, Jai, Minakshi, Gaurav, Abhinav, Jomata.

Faculty Coordinators
Dr. Raunak, Dr. Jyoti Kumbar, Dr. Himani Gupta, Dr. Vidyavati.

SKIN CARE – THROUGH AYURVEDIC FORMULATION

In ancient time there has been awareness among people regarding the use of the plant for essential need of a healthy or beautiful skin and the cosmetics are the product used to clean, beautify and promote attractive appearance. Herbal ingredients purchased from market and were dried separately grinded and mix up. This dried powder of combined pack show good glow and anti-aging property which is suitable for all skin type. Skin ageing is a complex biological process influenced by a combination of endogenous or intrinsic and exogenous or extrinsic factors. Because of the fact that skin health and beauty is considered one of the principal factors representing overall "well-being" and the perception of "health" in humans, several anti-aging strategies have been developed during the last years. In this project , we are preparing Ayurvedic lepa useful in skin care specially for anti-ageing effect of skin. This Ayurvedic formulation have 7 ingredients namely Manjistha ,Lodhra, Priyala, Shalmali ,Multani mitti , Nimba patra and Daruharidra. This herbal formulation mixed with Gulab jala & and advised to apply twice daily for 15 days. Hence, the study focus on preparing a new dosage form for a health skin.

Student's Team
Renu,
Vijeta, Vishal.

Faculty Coordinators
Dr. Sachin Kumar,
Dr. Arvind Kumar,
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SMART E PANTS

Smart-e-Pants incorporate electrodes into specially designed underpant that delivers electrical stimulation to the underlying muscles. When the patient wear the e-pant, after activated, the electrodes deliver 10 seconds of stimulation every 10 minutes, causing the gluteal muscles to contract and redistribute seating pressure. This smart e pant has a great significance in hospitalized set up, especially for the nurses. These smart e-pants are designed for the patients who are bedridden.To prevent further anticipated risk acquired by bed sore. To maintain blood circulation and muscle tone in patients with immobility and longterm illness. To economize the time and manpower of nursing staff.

Student's Team
Pooja, Geeta,
Ajneesh, Manisha, Priya

Faculty Coordinators
Ms. Rekha Chaudhary
Ms. Shalu
Ms. Geetanjali

FIBRO-OPTIC PANT WITH JACKET (To Treat Neonatal Jaundice in Newborns)

Neonates born with jaundice have to spend a good deal of time in an illuminated incubator before they can metabolize bilirubin hepatically. Nobody likes this, as the child has to be taken away from the parents to spend time inside a glass box.

At the Swiss Federal Laboratories for Materials Science and Technology (Empa), a new illuminated fabric has been developed that can be used to make baby pajamas that literally blanket the child in light. There are technologies that resemble this, such as the Biliblanket, but this technology integrates optical fibers that are no wider than regular thread, right into traditional clothing fabrics.

This makes it easy to put on, feel comfortable like other baby clothing, and natural for the parents to hold their kids during therapy. Since low power LEDs are used as the light source, small batteries are enough to power the fabric, which means that the pajamas don't have to be tethered to wall power.

Student's Team
Raveena, Neha, Kavita, Manisha, Sonu, Nisha, Nidhi, Garima.

Faculty Coordinators
Mrs. Sarika Yadav,
Mrs. Ritu Yadav,
Mrs. Shweta Handa,
Mrs. Rashmi, Mrs. Khushbu.

DEPTT. OF COMMUNITY HEALTH NURSING MODIFIED VACCINE CARRIER

Vaccine carriers are insulated containers that, when lined with coolant packs, keep vaccines and diluents cold during transportation. The number of ice-packs required for a cold box or vaccine carrier varies. The project will be able to help maintain appropriate temperature in the cold chain and thus prevent vaccine damage in practice.

As an innovative approach to the maintenance of cold chain, vaccine carrier was fitted to refrigeration machinery which allowed controlled regulation of temperature inside the vaccine carrier and the use of ice pack was avoided. A temperature monitoring sensor was attached to the vaccine carrier which could monitor the temperature.

The Vaccine carrier was fitted to a battery and thus a battery backup for 5-6 hours was possible after charging the carrier for around 45 minutes

Student's Team
Nitu Yadav, Divya, Harsha, Ayushi, Jyotsena, Pankaj, Sakshi, Prita, Deepak, Himanhshu, Monika Shokeen Tarun

Faculty Coordinators
Mr. Sunil Kumar Dular
Mrs. Vandana Dagar
Ms. Manisha
Mr. Muzzafar A. Makrani

MEDIGEL MATTRESS

MediGel mattress is the type of mattress which can be used to reduce the amount of pressure the patient is exposed to along with reducing the need for frequent repositioning of the patient due to its pressure redistributing qualities. The mattress has the flexibility to reconfigure and re-inflate itself anytime the patient moves or is repositioned. This proven technology prevents and treats pressure ulcers. Patients with limited ambulation/mobility require the appropriate surface to help prevent pressure ulcer development. Deep tissue injuries can develop in as little as two hours but may not be recognized for two to seven days. This self-adjusting technology of mattress provides extremely low pressure support for your patients and can also be converted to an alternating system if required.

Student's Team
Poonima, Priyanka, Pinky, Priyanka Daniel, Rohit, Mohit

Faculty Coordinators
Mr. Anoop Sandhu,Ms Komal,
Ms Kamal preeet Kaur
Ms Sumyra

WIRELESS NURSE CALL SYSTEM

Wireless nurse call system, form is a new advancement in technology. An appropriate electronic solution for the modern day hospital. It holds the latest cutting edge wireless methods at its core. Since, the machines need neither any wiring nor any installation. It is very simple for hospital staff to develop within minutes. The wireless nurse call system is scalable from a few beds to many. No future maintenance needed. This enables patients to use, the nurse call system in mere minutes after receiving. Such a quick turnaround time is possible. The significance of the project is that it is wireless and there is no need of wiring. It improves the communication between nurse and patient and saves the time. It is very quick method to identify the needs of the patient as the it consist of remote which can perform the various functions like if the patient want to clear the bill then the patient can press button of bill and nurse can easily come to know that the patient wants to clear the bill.

Student's Team
Sakshi, Rohit,
Priyanka,Pinky

Faculty Coordinators
Mr. Anoop Sandhu,
Ms Komal,
Ms Kamal preeet Kaur,
Ms Sumyra

DOWNWARD SPIRAL (PUPPET SHOW ON EATING DISORDER I.E ANOREXIA NERVOSA)

Anorexia Nervosa is an eating disorder characterized by weight loss (or lack of appropriate weight gain in children); difficulties maintaining an appropriate body weight for height, age and stature and in many individuals distorted body image. Although the disorder most frequently begins during adolescents, an increasing number of children and older adults are being diagnosed with Anorexia Nervosa. We used puppets for spreading the awareness in the public about anorexia nervosa. This is going to help the students especially during their adolescent stage since in this stage adolescents get overconscious in regards to their weight.

Student's Team
Mohan, Aakash, Kirti, Priya, Mahesh, Hement, Tamana, Himanshu

Faculty Coordinators
Ms. Poonam
Ms. Shikha
Ms. Sonia

ECT SET UP

Electroconvulsive Therapy is the induction of a grand mal (generalized) seizure through the application of electrical current to the brain. Stimulus is applied through electrodes placed bilaterally in the frontotemporal region or unilaterally on the same side as the dominant hand. Dose of stimulation is based on the client's seizure threshold, which is highly variable among individual. The project will be a miniature layout of electroconvulsive therapy set up.

Student's Team
Shilpa, Anju, Vishakha

Faculty Coordinators
Ms. Joyti
Ms. Arti

ELECTRICAL BREAST PUMP WITH CONTAINER

A breast pump is a mechanical device that helps the nursing mother to extract milk if the normal physiology of lactation is not there. These devices can be manual or electrical which are powered by batteries or any electrical devices. This electrical breast pump with cooling container has a good significance in the lives of working women to grow and develop a healthy citizen for the nation. This electrical pump is going to help the working mothers who are having kids on breast feed.

Student's Team
Komal, Twinkle,
Nidhi

Faculty Coordinators
Ms. Rekha Chaudhary
Ms. Shalu
Ms. Geetanjali

ELECTRONIC SLEEP INDUCER

Sleeping difficulty called insomnia, can involve difficulty in falling asleep, waking up too early in the morning and waking up often during night. Magnetic field associated with the earth is called geo-magnetic fields. Our project is about type of geo-magnetic field. This has been designed in the form of a circuit which radiates an electromagnetic field of low frequency (1.5-5Hz) through a radiator coil so that the person can perceive them. In this manner our brain is surrounded by an ideal environment for a sound sleep.

Student's Team
Shweta, Deepankan,
Marbakor Shadap

Faculty Coordinators
Ms. Rashmi
Ms. Bhawana

EXPLORING THE NUTRIENT COMPOSITION OF FIBROUS TEA ENRICHED WITH INDIAN HERBS POWDER

In the present project, caffeine free fibrous herbal tea was developed using miracle herbs of ancient world. Use of five herbs namely betel leafs (Piper betle), china rose flower (Hibiscus rosa-sinensis), Cinnamon bark (Cinnamomum verum), Basil leafs (Ocimum basilicum) and Fennel seeds (Foeniculum vulgare) were used to develop fibrous rich herbal tea. Unlike most other forms of tea this does not contain caffeine. It is intended to bring about a healthy herbal beverage option for the consumers. It also tastes great and above all it is only tea which is a source of dietary fiber. The present project has a future research potential in concerned domain.

Student's Team
Pooja, Bharti, Zishan

Faculty Coordinators
Dr G.B.Bhatt

AN INNOVATION TO INVENT LOW COST QUALITY CONTROL X-RAY EQUIPMENT TOOLS

Quality Control (QC) & Quality Assurance (QA) test programme is an important factor to maintain the functioning and working of x-ray machine. This test programme is conducted annually & semi annually by a number of expensive devices with series of tests which is time consuming & costly, costing more than 1.5 lacs. It is difficult to manage heavy rushes during the quality assurance procedures in Radiology department due to pre-booked appointments by the patients or any emergency cases in the department. After this innovative idea, QA & QC test tool kit comprising of 5 tools has been developed by the department of Radio Imaging Technology at a much lower cost with a higher degree of accuracy and the tests can be performed in a very short span of time.

Student's Team
Mamta Panda, Prajina Khanal, Jyoti, Sweta, Kirti Sharma

Faculty Coordinators
Dr. B.B Sharma,
Mr. Nitish Virmani

AWARENESS ON ALTERNATIVES TO ANTIBIOTICS

The current project creates awareness on the mechanism of antibiotic action, its development and side effect of antibiotics on organ system and discusses at length the antibiotic resistance problem as also found out in a survey in patients with UTI coming for testing in SGT hospitals. The resistance to antibiotics was found to be as high as 57% percent in case of E.coli. Therefore it is need of the hour to determine antibiotic resistance pattern of pathogenic organisms. This project spreads awareness on irrational use of antibiotics to stop resistance development and to emphasise on development of combination therapies.
As per WHO, Antibiotic resistance is one of the biggest threats to global health, food security, and development today. In the project, we highlighted alternatives to antibiotics currently being researched worldwide. Some of them are use of phytochemicals, vaccines, bacteriophages and combination therapy of plant phytochemicals and drugs.

Student's Team
Vandana, Nayan, Deeksha, Aish

Faculty Coordinators
Dr. Manisha Sharma, Dr. Upasana Sarma, Dr. Vijya laxmi

HEART RATE MONITORING USING BLUETOOTH

Sleeping difficulty called Insomnia, can involve difficulty in falling asleep, waking up too early in the morning and waking up often during night. Magnetic field associated with the earth is called geo-magnetic fields. Our project is about type of geo-magnetic field. This has been designed in the form of a circuit which radiates an electromagnetic field of low frequency (1.5-5Hz) through a radiator coil so that the person can perceive them. In this manner our brain is surrounded by an ideal environment for a sound sleep.
Sleep inducer device has solved various types of problems related to insomnia in the elderly patients. This small frequency device can be used by the patient in the bed (below the pillow) or on a shelf nearby thus allowing its interaction with the brain which in turn helps the brain to initiate the state of sleep. This project can be further improved by increasing its efficiency and calibrating them for the use in the patients suffering from insomnia, simultaneously studying the adverse effects, if any.

Student's Team
Shweta, Deepankan, Marbakor Shadap

Faculty Coordinators
Miss. Rashmi & Miss. Bhawana

RAIN ALARM/ WATER SENSOR

This prototype is a simple but very useful device that detects Rain (Rain Water) and automatically triggers an alarm or buzzer. Water is a basic need in every one's life. Saving water and proper usage of water is very important. Here is an easy project which will buzz the alarm whenever there is a rain, so that we can make some actions for rain water harvesting and also save the rain water for using it later. This can also prevent damage of any commodity etc. placed in open. With the help of saving this rain water through rain water harvesting, we can increase the levels of underground water by using underwater recharge technique. This detector can be used in the irrigation field, home automation, communication, automobiles etc. Here is the simple and reliable circuit of rain water detector which can be constructed at low cost.

Student's Team
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Faculty Coordinators
Miss. Rashmi
Miss. Bhawana

TO CREATE AWARENESS OF MICRO NUTRIENT DEFICIENCY IN POPULAR DIET PLANS FOR WEIGHT LOSS.

Micronutrient deficiencies are higher in obese individuals and can also be associated with substantial nutrient deficiencies such as zinc, copper, selenium, folate, vitamin B12, vitamin A, D and vitamin E. Imbalances or deficiencies of essential micronutrients significantly influence day-to-day performance, behavior and emotional state, as well as intellectual and physical activity. The objective of the project is to enhance the knowledge of popular diet plans and make them aware about the micronutrient deficiencies in these diet plans for weight loss. The popular diet plans considered in the project were ATKINS DIET, MONO DIET and KETOGENIC DIET. These diet plans are helpful in specific situations only and they should not be universally used as weigh loss programmes as it could be detrimental to the health of the individual.

Student's Team
Priyanka, Simaran, Neha Jangra, Sneha, Ruchika.

Faculty Coordinators
Dr. Akanksha Yadav

IDENTIFICATION OF ADULTERATION OF DAIRY PRODUCTS

IDENTIFICATION O"Adulterant" means any material which is or could be employed for making the food unsafe or sub-standard or misbranded or containing extraneous matter. Food adulteration is a global concern and developing countries are at higher risk associated with it due to lack of monitoring and policies. However, this is one of the most common phenomena that has been overlooked in many countries. Unfortunately, in contrast to common belief, milk adulterants can pose serious health hazards leading to fatal diseases. Adulterants in milk mainly include addition of vegetable protein, milk from different species, addition of whey and watering which are known as economically motivated adulteration. Some of the major adulterants in milk having serious adverse health effect are urea, formalin, detergents, ammonium sulphate, boric acid, caustic soda, benzoic acid, salicylic acid, hydrogen peroxide, sugars and melamine. Common parameters that are checked to evaluate milk quality are - fat percentage, SNF (Solid-not-Fat) percentage, protein content and freezing point. Adulterants are added in milk to increase these parameters, thereby increasing the milk quality in dishonest way. For example, cane sugar, starch, sulfate salts, urea and common salts are added to increase solid-not-fat (SNF).

COMPARATIVE STUDY B/W GENERIC AND BRANDED DRUG

Generic drugs are those drugs which can be sold or marketed as per on their chemical salt name, there is no particular legal patenting right of any company over that product. The product/drug can be directly sold without the name of any brand of a specific company. Branded drugs are those medicines which have same salt (active pharmaceutical ingredient) as that of generic drugs. But they can be marketed by a "Brand name" which can be given by the manufacturing company to that particular product. No other company has the right to sell that product with that particular name or composition without the permission of manufacturer.
Branded drugs has been used for decades by doctors to confide the patients to limited brands and pars on the amount of big monetary benefits to their pockets and few pharmaceutical companies only. At present a clear picture regarding the branded and generic medicine is not present in the society. Certain misconception is prevailing among patients about the use of generic or branded drugs. In the present study we will project the facts available with us on the use of branded and generic drugs and also try to spread awareness among common man regarding the misconception prevailing in the society for the use of branded and generic medicine.

Student's Team
Goyal, Anjali Beri,
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Yogesh Vashist

Faculty Coordinators
Ms.Sonia Yadav
Ms.Sushma Maratha

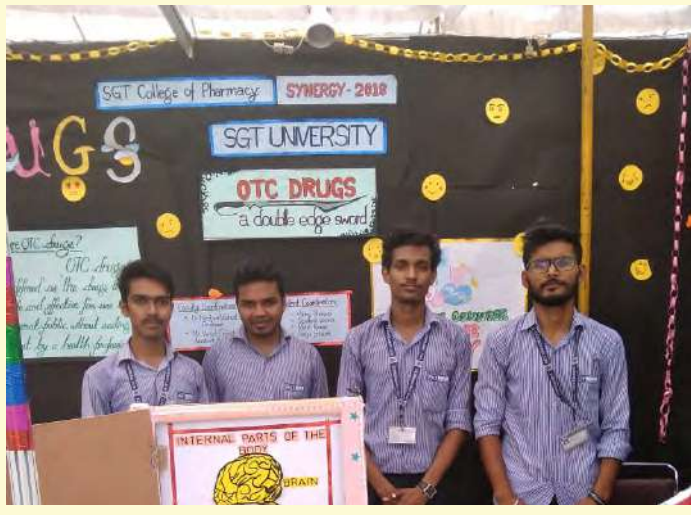
OVER-THE-COUNTER DRUGS: A DOUBLE EDGED SWORD

Over-the-counter (OTC) drugs are medicines sold directly to a consumer without a prescription from healthcare professional, as opossed to prescription drugs, which may be sold only to consumers possessing a valid prescription. OTC medicines play an increasingly vital role in our healthcare system and are the most prevalent means of treating the majority of common health problems in the throughout the world. OTC medicines can help in minor complications such as headache, arthritis pain, sprains and other minor joint and muscle problems. There are over 80 therapeutic categories of OTC drugs which can be grouped in 12 broad therapeutic classes. Some of them include analgesics, antipyretics, Cold remedy, anti-tussives, anti-allergy products, Gastrointestinal products, Dermatological products, Ophthalmic products, Oral health care products, Nicotine replacement products, Weight loss aids, Vaginal contraceptives and emergency contraceptives. The advantages of using OTC medicines include ease of self medication, self dependence on treatment of minor illnesses and the patient need not to rely upon other for medication but all these benefits of OTC drugs may also pose some risk factors to the patients such as side effects and chances of producing drug interaction with other medications.

Student's Team
Sandesh Verma,
Vinay Shokeen,
Mohit Kumar, Satyaprakash.

Faculty Coordinators
Neelam Vashist,
Vinod Gahlot

DRUG ADDICTION: ADVERSE IMPACT ON SOCIETY



The aim of present project is to study the harmful effects of drug substances that produce habits and addiction in the society. According to the National Crime Records Bureau, there were 3,647 suicide cases reported in India in 2014, of which Maharashtra reported the highest, at 1,372. This was followed by Tamil Nadu, with 552 cases and Kerala, with 475. The survey was conducted by the Society for Promotion of Youth & Masses (SPYM) and a team of researchers from the National Drug Dependence Treatment Centre (NDDTC), AIIMS, New Delhi, in association with the Department of Health and Family Welfare, Government of Punjab. Punjab reported 38 such cases of suicide. 10 districts were covered in the study: Bathinda, Ferozepur, Jalandhar, Kapurthala, Gurdaspur, Hoshiarpur, Patiala, Sangria, Moga, and Tarn Taran. Government is also taking efforts to tackle drug addiction by reducing the drug supply, by introducing Outpatient Opioid Assisted Treatment in order to improve the current conditions of the de-addiction centre's and building mass awareness on drug abuse to reduce demand for drugs. The main aim of the present project is to spread awareness against addiction with the help of various charts and models. A wide spread effect of substance abuse on society is shown and various ways are suggested to tackle this problem.

Student's Team
Jagmeet, Saurabh,
Anjali

Faculty Coordinators
Neelam Vashist,
Bhawna Sethi,
Pratibha Mehla

TOUCH DNA: A METEORIC FORENSIC TOOL FOR IDENTIFICATION

In the project submitted at SYNERGY- 2018, an attempt had been made for the extraction of touch DNA samples by means of commercially available kit (Annexure-I). The same can be further subjected to DNA profiling by means of commercially available kits specialized for amplification of human autosomal STR markers. This work could not be used for patent purpose but it can be promoted to explore its utility in the area of research exploring various undefined factors in forensic situations. The chances of generating an informative STR profile for the purpose of individualization are to be explored from various kinds of substrates. It may involve items touched for few seconds in different environmental and controlled conditions. Different parameters to increase sensitivity of this technique are needed to be further studied. The success rate of getting a full STR profile by analyzing touch DNA from simulating crime scene situations would be beneficial for forensic authorities of our Country.

Student's Team
Ashna Bhatia, Anagha, Vaishalli, Aastha, Angel

Faculty Coordinators
Dr. Kapil Verma

MOBILE FORENSIC VAN IN CRIME SCENE INVESTIGATION

Crime scene is the place where a criminal offence has occurred. The Mobile Forensic Van is unique. It is air conditioned equipped with modern amenities to undertake spot test in laboratory environment at the crime scene itself. For fingerprint development, the powders used to develop were of household powders, by mixing different powders in definite ratio, such as turmeric powder, charcoal, chalk powder. As the cost of commercial powders is very high, the household powders also give a significant development.

Student's Team
Prashant, Ishant, Reena, Shivani, Sonal, Nidhika, Supriya, Deepak, Varsha.

Faculty Coordinators
Mr. Baljeet Yadav

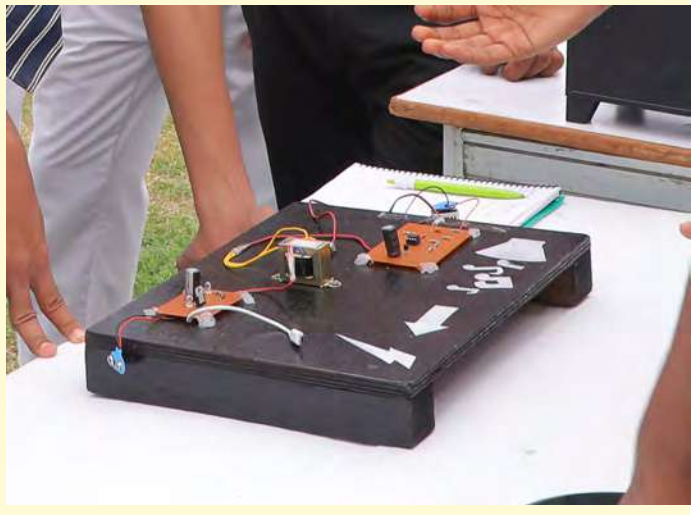
CHEAP BIOMETRIC SYSTEM

The idea is that we can easily lock and unlock door without having to carry a key or even go near it. But this is only a fraction of what we can do. From where we could add a sensor so we can unlock our door with a special knock. Biometrics represents the cutting edge of home security technology. As biometric security becomes more affordable, there's little doubt that homeowners will continue to embrace the protection and convenience it offers.

Student's Team
Jatin, Somveer, Rakesh, Sini, Lakshita, kiran

Faculty Coordinators
Mr. Vipin Yadav

MICROBIAL FINGERPRINTING



Microbes can be used as a physical evidence in forensics as based on principle of exchange or LOCARD'S PRINCIPLE. They can be found in cases such as RAPE,sexual harassment,sexual assaults, murder, homocides, etc. Integrating microbiome and metabolomic data have led to recent breakthroughs by the use of microbes in various fields .The metabolomic is the study of low molecular weight extracellular metabolites that are secreted by microbial cells into their environment namely culture media or under a given set of condition. The entire compliment of these metabolites is referred to as the extrametabolome.
INCIDENTLY DISCOVERED BY FORENSIC BIOLOGIST SILVANA TRIDICO while examining the pubic hair of sexual assualt case. She discovered that each hair sample have unique ix of bacteria.

Student's Team
Amit, Komal Yadav, Md Irshaad, Garima, Wakish Khan, Nikhil, Hritik Agarwal

Faculty Coordinators
Dr. Leena Bhardwaj

MARRIAGE PROBLEM

The stable marriage problem is the problem of finding a stable match between two equally sized set of elements given as ordering of preferences for each element.
A matching is a mapping from the elements of one set to the elements of the other set. A matching is not stable if:
• There is an element A of the first matched set which prefers same given element B of the second matched set over the element to which A is already matched.
• B also prefers A over the element to which B is already matched.
In other words, a matching is stable when there does not exist any match (A,B) by which both A and B would be individually better off than they are with the element to which they are currently matched.

Student's Team
Meenaz, Anju,Swati,
Rajat, Gourav, Suman

Faculty Coordinators
Dr. Vinti Dhaka

TOWER OF HANOI

Statement: There are 3 pegs 'from', 'using' and 'to'. Some disks of different sizes are given which can slide onto any peg. Initially all of those are in 'from' peg in order of size with largest disk at the bottom and smallest disk at the top. We have to move all the disks from 'from' peg to 'to' peg. At the end, 'to' peg will have disks in the same order of size. There are some rules:
• Only one disk can be moved from one peg to another peg at a time.
• A disk can be placed only on top of a larger one.
• A disk can be moved from top only.

Student's Team
Pooja, Anjali,
Monika, Rinku.

Faculty Coordinators
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ROOF-TOP PLANTATION

Project was made as the demonstration of planting small herbs, vegetables and other small root crops on the roof-top. With the increasing urbanization and congested population distribution, roof-top plantation can be a good idea to provide on source vegetables, environmental conditioning and urban ecological balance. It requires some basic techniques like use of HDPE (High Density Poly Ethylene) sheets, appropriate filtration system, soil, organic manure and a well designed drainage system.

Student's Team
Mr. Tarun,
Ms. RituVashishth

Faculty Coordinators
Dr. Manbir Singh

WET-SCRUBBER (AIR POLLUTION CONTROL DEVICE)

Wet scrubber is a simple method to clean the polluted air from industrial stacks with minimum use of water in form of fine droplets. Wet scrubbers are the only air pollution control device which can efficiently remove both types of pollutants (particulates and gases). It has advantages like minimum use of energy, can handle high temperature. The only drawback of this device is generation of waste water and slurry. We have used water treatment unit along this so that water can be reused and waste water generation can be minimized.

Student's Team
Ms. Nancy, Ms. Kajal,
Mr. NitinChauhan

Faculty Coordinators
Dr. Vikram Mor

ENERGY/ELECTRICITY PRODUCTION USING MAGNETS

Governments and concerned individuals are working to make the use of renewable resources a priority, and to lessen the irresponsible use of natural supplies through increased conservation. Most of the energy comes from non-renewable sources like coal, petroleum etc. It still remains the top choice to produce energy. A lot of this has to do with how we produce and use energy. If only there was a way to produce "clean energy" that does not emit harmful gasses and fumes in the process. So, in this model we are using magnets, nails, DC motor and connecting wiresfor generating energy/electricity in a cheaper way. The beauty of this model is that it is relatively cheap and cost-effective power generation capacity.

Student's Team
Ms. Annu,
Ms. Archana

Faculty Coordinators
Dr. Simranjeet Singh

NATURAL WATER FILTER

Water we use comes from lakes, rivers, and groundwater. Before we can use this water domestically, it must be cleaned. This process generally has 4 main steps, coagulation, sedimentation, filtration and disinfection. In this model Gravel, sand, activated charcoal / activated carbon, plastic container was used to make a natural water filterand it is composed of three separate layers of gravel, sand, and activated charcoal. The first layer, gravel, is there to remove large pieces of debris from the water. This would include things like small sticks, leaves, the odd tadpole and bugs. The water then moves on to the sand layer, which removes smaller particulate matter that managed to pass through the gravel. Finally, the water passes through a layer of activated charcoal to remove bacteria and some chemicals.

Student's Team
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Ms. Archana

Faculty Coordinators
Dr. Simranjeet Singh

ELECTRICITY FROM NOISE

This project based on the conversion techniques and methodologies of converting sound energy to its electrical energy. Commonly known sources of energy such as solar energy, biogas, and wind energy and so on, the prediction of the future development of sound or noise energy can be emphasized. Therefore, if we are able to convert sound energy into electricity then mobile phone can be charged while talking to your friends on mobile phone itself.

Student's Team
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Faculty Coordinators
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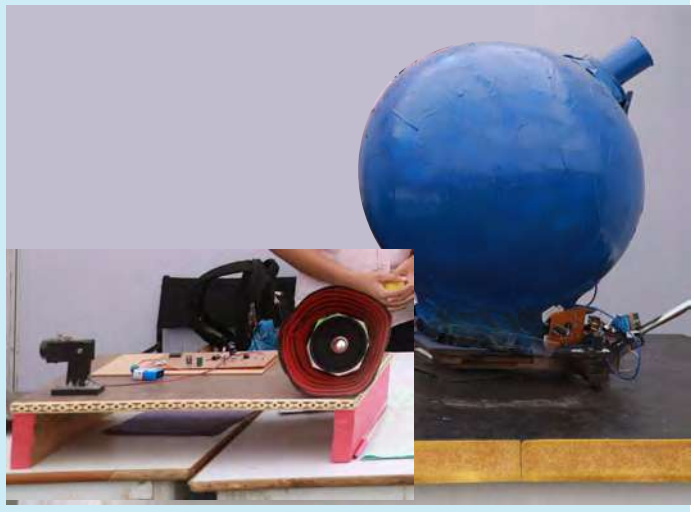
IOT BASED AIR POLLUTION MONITORING SYSTEM

It monitors the Air Quality over a web server using internet and triggers an alarm when the air quality goes down beyond a certain level, means when there are sufficient amount of harmful gases present in the air. It shows the air quality in PPM on the LCD and as well as on webpage so that we can monitor it very easily. In this IOT project, you can monitor the pollution level using your computer or mobile using wi-fi module.

Student's Team
Ms Pratigya,
Ms Somiya Gupta,
Mr Apeel Kaushik,
Mr Deepak Lakhera,
Mr Shantanu

Faculty Coordinators
Dr. Sunanda, Dr Pooja

SATELLITE COMMUNICATION SYSTEM

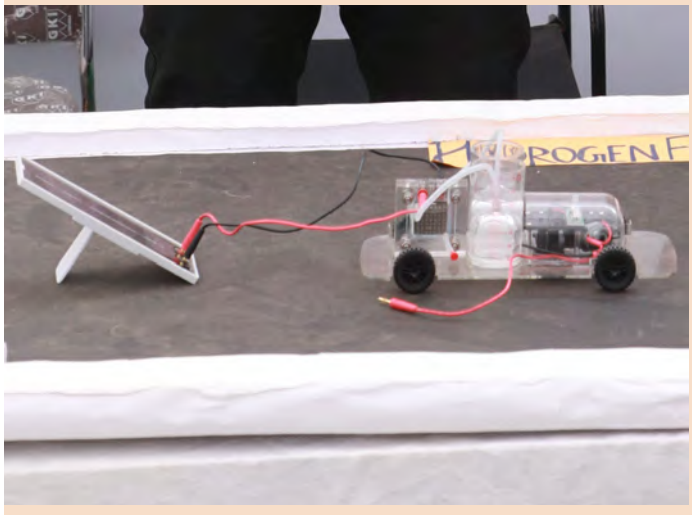


Effective communication is the need of 21st century. Various energy loses such as attenuation and Dispersion and time delay in existing communication systems decrease the signal strength and make the communication poor. The complicated circuit design for amplification of signal etc is not economical. Concentrated, coherent and highly Intense Laser light keep the information safe and make the communication more effective, timely and faster. Development of Laser revotionalized area of light source by providing highly monochromatic, intance, coherent, concentrated and highly directional beam of light. Capability of light to get modulated and demodulated make it effective in communication. The concepts involved are: satellites, solar energy for operation of devices, Radio communication,Light as carrier wave, process of modulation, free space as communication channel, process of demodulation etc

Student's Team
Tannu shree, Nitesh, Ankita Yadav, Ankita Gulia, Chinki

Faculty Coordinators
Dr. Ram Chhavi Sharma

GREEN ENERGY: HYDROGEN FUEL



There is an urgent need of the renewable energy as fossil fuels will become too rare and expensive to burn. The burning of fossil fuels triggered the global warming. We built a model car that runs on water! Solar energy is used to convert water into Hydrogen gas fuel. The only by-product is the clean water.

Student's Team
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Faculty Coordinators
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GREEN SYNTHESIS OF GOLD AND SILVER NANOPARTICLES USING FRUIT AND PLANT EXTRACTS.

In the present study, we have demonstrated that Silver and Gold nanoparticles (AgNPs) can be successfully obtained from bio-reduction of silver nitrate and auric chloride solution using natural and low cost biological reducing agent. This method was simple, economic, efficient and non -toxic. The synthesized nanoparticles were characterized using UV-VIS spectroscopy, TEM, XRD and FT-IR. The size dependent catalytic activity of the synthesized nanoparticles is established in the reduction of Rhodamine dye.

Student's Team
Saloni, Kalpana, Mohit, Rohit, Ruchi, Dikhsharth Dagar

Faculty Coordinators
Dr. Tanima Bajaj, Dr. Nutan Sharma

PRODUCTION OF BIODIESEL AND SOAP FROM USED COOKING OIL – GREEN APPROACH

Biodiesel is an oxygenated fuel produced by the transesterification of animal fats or vegetable oils with simple alcohols in the presence of a homogeneous or heterogeneous catalyst. In the transesterification of vegetable oils, most commonly used alcohols are methanol and ethanol. The process conducted in the presence of acidic, basic, or enzymatic catalysts. Biodiesel is environmentally friendly fuel and is made from renewable resources.

Student's Team
Shivam Tyagi, Keertika, Himani, Naina, Nancy, Aarushi

Faculty Coordinators
Anjaneyulu, Bendi, Ekramudden

FATE OF DISLODGED TOOTH

Tooth avulsion is a traumatic injury of dental tissue characterisied by complete displacement of tooth out of its socket. On this topic we made a working model which shows various types of injuries such as sports injuries, car accidents and fall from staircase due to which the tooth is avulsed out. After avulsion of tooth various storage mediums are used to carry the tooth to the nearby dentist. The storage media include saliva, milk, coconut water, saline, tap water, cotton and HBSS. After this we will show treatment modalities on the basis of open and closed apex and duration of avulsed tooth.

If duration is less than 60 minutes

a. if closed apex- the root will be rinsed with water or saline and reimplanted.

b. if open apex then it is soaked in doxycycline for 5min and rinsed with saline and reimplanted.

If duration is more than 60 min

a. if closed apex- then it will be placed in etching acid for 5min, soaked in fluoride then reimplanted.

b. if open apex then endodontic treatment should be performed outside the mouth and then finally reimplanted.

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Dr.S uruchi Agrawal
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Anchal John, Deepak Kumar

Faculty Coordinators
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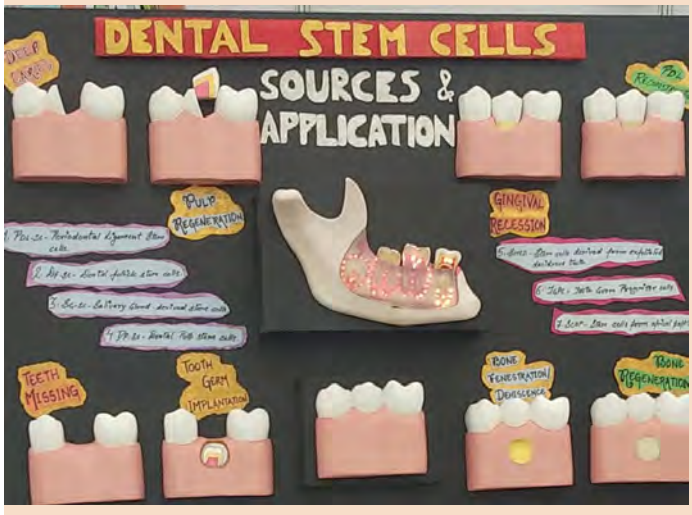
Dr. Ashtha Arya,
Dr. Gaurav Setya,
Dr. Gourav Thapak

DENTAL STEM CELLS



Stem cells are defined as a distinct subpopulation of undifferentiated cells with self renewal and differentiation potential. They have the capacity of becoming specialized cells and belong to all three germ layers. In this model, we will be showing different sources of the stem cells (particularly tooth stem cells), their cryopreservation and its future utilizations. Different sources of the tooth stem cells such as SHED (stem cells from human exfoliated deciduous teeth), SCAP (stem cells of the apical papilla), DFSCs (dental follicle stem cells), etc. will be shown through a 3-D model followed by the cryopreservation procedure (including cell culture followed by cell isolation). As the era is changing, so its time to utilize the preserved stem cells for our future. There is nothing better than using our own stem cells at the time of need.

Student's Team
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Dr. Sristi Sinha
Intern-Ankit Sharma,
Nancy Madaan,Srishti Kumar

Faculty Coordinators
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Dr. Mamta Singla,
Dr. (Capt) Anshul Arora,
Dr. Shilpa Arora

RECENT ADVANCES IN ESTHETIC DENTISTRY- 1. NO PREP VENEER CONCEPT 2. MINIMAL INVASIVE TREATMENT PROTOCOL FOR DISCOLORATION OF FLUOROSED TEETH- "ICON"

1. NO PREP VENEER CONCEPT
a) EDELWEISS CONCEPT
Edelweiss concept is a highly esthetic surface enhancement technique for holistic restoration of teeth. It comprises of pre-fabricated direct veneers, occlusion- VDs and nanohybrid composite with high filler. The highly filled Edelweiss nanohybrid composite material (83%) is moulded under high pressure and laser sintered into wafer thin prefabricated enamel shells. In contrast to ceramics enamel shells can be adjusted to the existing tooth and shape individually directly on the patient or model. This allows smile design in a single appointment. The wafer thin enamel shells allow minimally invasive application, very strong bonding and resistance to fracture. Improved and true to life shades are guaranteed by the enamel and composite shades included in the system based on Natural Layering Concept.
b) "NO PREP" CERAMIC VENEERS
It is a NO DRILL, NO PAIN concept. It is a viable alternative to traditional veneers. In this dentist do not need to cut, grind or file any tooth structure for proper placement. It includes IPS e.Max Press,Lithium disilicate veneer, Durathin veneer, Lumineer and Vivaneer.

Student's Team
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Dr. Ashtha Arya,
Dr.Gaurav Setya,
Dr.Gourav Thapak
Students- Dr.Poorvi Saxena,
Dr.Shikha Gautam
Interns- Mudasser

Faculty Coordinators
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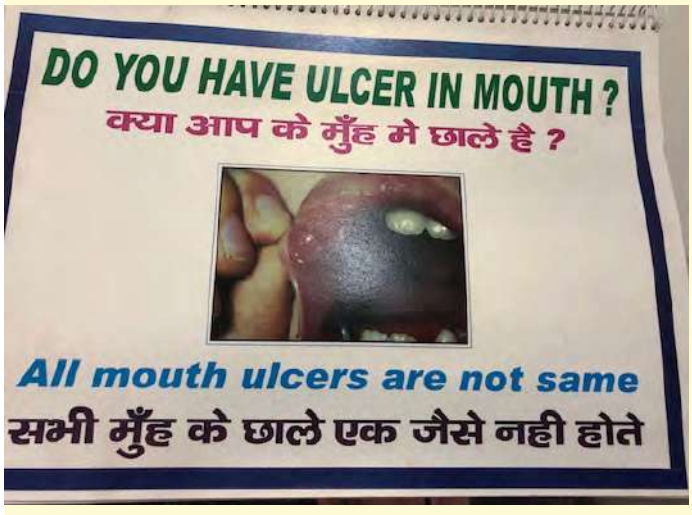
Dr.Mamta Singla,
Dr.(Capt) Anshul Arora,

"DO YOU HAVE ULCER IN MOUTH"



A table top triangular flip project is prepared with 15 flip pages containing various pictures and description of them. Project will help to educate students and people for the common and uncommon ulcers which occur in the mouth. It will increase awareness among health & non health professionals and other faculty staff and students that all oral ulcers are not the same. It will give them a brief idea about the type of ulcer, appearances with the help of photos and brief treatment for the same. We explain that all oral ulcers are not the same, ulcers occurs due to multiple reasons like Trauma (physical, chemical and thermal), Immunologic ulcers like recurrent apthous ulcers which are very much common and almost everyone encountered the same in their life. There are pictures of various systemic diseases causing ulcers like Anemia's, Leukaemia (Blood cancer), Skin disorders like Pemphigus etc.
Project also point outs at difference of oral ulcers due to various infections like Viral, Bacterial and Fungal infections explaining their difference in the appearance and primary treatment Oral cancer primarily starts in the form of an ulcer which is commonly neglected by an individual so we tried to explain about the oral ulcer with the help of pictures in the project and also explained them the methods of management of the same. The project is presented in both English & Hindi languages with pictures, the explanation is not restricted to the scientific terms only rather we tried to use layman words to deliver the knowledge to their level of perception, which was highly anticipated. The project will encourage people to get their evaluation done for detection of various non healing ulcers esp. Oral Cancer so that prompt treatment can be given & further prevent the spread of this disease.

Student's Team
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Interns- Rahul, Nisha,
Nishtha, Deepak

Faculty Coordinators
Dr. Munish Kumar,
Dr. Suma GN

"ORAL CANCER – LATEST THERAPIES"

The project is a 3–dimensional manually rotating educative model highlighting various latest and innovative approaches for the management of oral cancer. The various therapies explained in the project include Gene therapy, Immuno therapy, Stem cell therapy and Nano therapy. These therapies in addition to the conventional therapies may be useful in future for treating oral cancer patients more effectively.

The project was prepared within overall theme of Health sector (Oral Cancer and its latest management therapies). The project was a brain child of whole of the team involved. The interns and post graduate students from their routine clinical exposure of patients visiting OPD of Department of Oral Medicine and Radiology, Faculty of Dental Sciences, SGT University came to know about the huge prevalence of potentially malignant lesions and conditions and Oral cancer in these patients. The problem about these dreadful conditions was discussed with the faculty members and a project was planned to incorporate various latest management therapies of oral cancer.

A thorough literature search was done about various latest therapies for treatment of Oral cancer and four therapies including Gene therapy, Immunotherapy, Stem cell therapy and Nano therapy were finalized for the awareness of students and general public visiting Synergy – 2018.

Student's Team
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Interns- Shivangi, Priyanka, Parika, Shafia

Faculty Coordinators
Dr. Atul Kaushik,
Dr. Astha Chaudhry,
Dr. Suma GN

MANIFESTATIONS OF HIV/AIDS – A 3D MEDICAL KIOSK

The Project will enable to educate students and people for a major pandemic & life threatening disease in our society HIV/AIDS. It will increase awareness among health & non health professionals and other faculty staff and students. Patient education tool plus screening tool for motivating patients to get tested for HIV will encourage people to get the test done for detection of HIV/AIDS, so that prompt treatment can be given & further prevent the spread of this disease. We have a youth cream of our society which is more vulnerable to exposure of HIV/AIDS so educating them is very important. The medical kiosk was made following a multi disciplinary approach involving faculty of engineering computer and mechanical department. The app/ software for patient education was made which comprised of three main portals viz- information, questions and quiz.

Student's Team
Dr. Raveena, Dr.Garima, Anshika (FET)
Interns- Dr. Kirti, Dr. Divya, Dr. Nancy, Dr. Deeksha Kalia

Faculty Coordinators
Dr. Puneeta Vohra,
Dr. Suma GN

HERBAL DENTISTRY PROPOLIS (PATENT)

A novel obturating materials has been invented with desired and ideal properties of root canal filling material. The material was used in non-vital primary molars to check its efficacy clinically and radiographically.
The aim of our study is to calculate the Minimum Inhibitory Concentration of Propolis against E.faecalis and to see the results of pulpectomy done on non-vital primary molars using four different root canal filling materials.
Raw Propolis was harvested from the honey bee hive combs followed by extraction using ethanol. In vitro MIC of Propolis was calculated against E.feacalis. The extracted propolis(P) was mixed with ZnO and Ca(OH)2 to get a slurry formulation to fill the canals. Four groups were made ZnO-P (GP1), Ca(OH)2-P (GP2), ZnO-{Ca(OH)2}-P (GP3) and vitapex (GP4). Clinical and radiographic evaluation was made to see the success of the materials. And product of Group 1 showed successful results.
The product details are already sent in a TIIFAC organization, who one helping us filing patent and series of questionnaire have already been answered.
The Significance of project is to develop the herbal obturation material for primary teeth this will be easily available, cheap, free from allergy and side effects of allopathy medicine.

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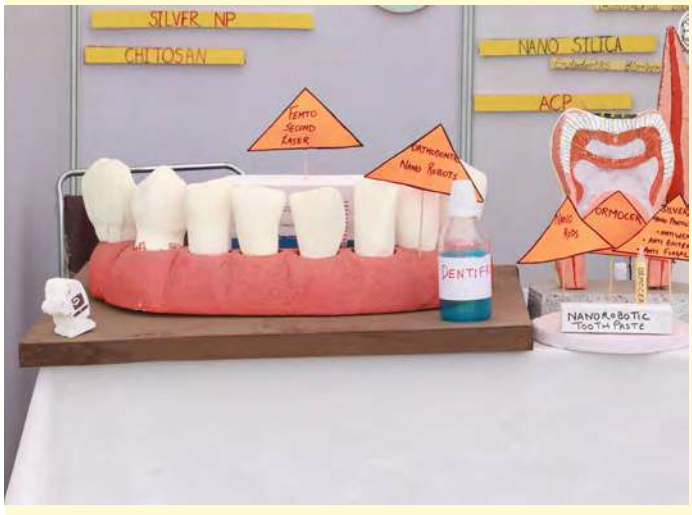
Dr. Jyotika, Dr. Vishal,
Dr. Adhishree,
Interns-
Vikrant, Suman, Sneh

Faculty Coordinators
Dr. Anil Gupta,
Dr. Ankit Srivastava,

NANODENTISTRY



It is a new transitional and transtructural development in the field of dentistry. Its potential impact on novel nanodentistry applications in field of diagnosis and prevention and treatment procedure carried out with much ease have changed prospective of dentist as well as patient in a more fundamental way.
Its relevant applications are seen in restorative dentistry, minimal invasive procedures in dentistry, cancer diagnosis and its treatment and implant dentistry.Many products are under clinical investigation while some are commercially available. The significance of this project is to develop accuracy, precision, painless dentistry.

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Dr. Jyotika,
Dr. Vishal, Dr. Adhishree,
Interns- Vikrant, Suman, Sneh

Faculty Coordinators
Dr. Anil Gupta,
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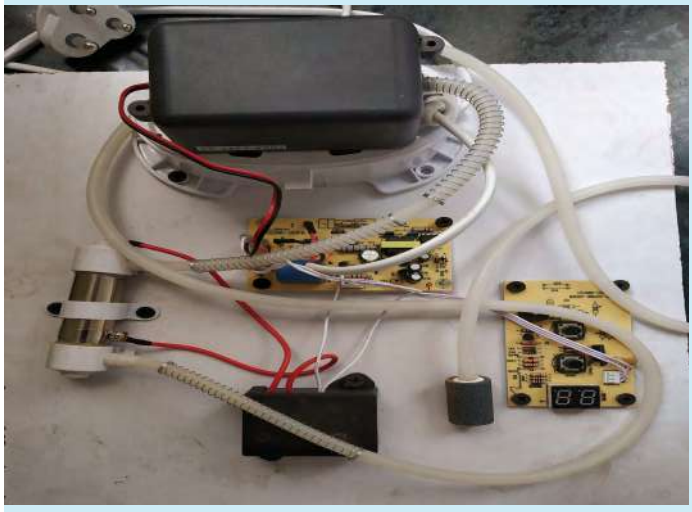
OZONE GENERATION: TO CLEAN AND TO HEAL



In this we will produce ozonated water using facilities available within the campus. Then, we will demonstrate its properties such as antibacterial effects on periodontal pathogens and other biofilms.
The use of ozone in dentistry is gaining its place in every day's dental practice and is used in almost all dental applications. The undisputed disinfection power of ozone over other antiseptics makes the use of ozone in dentistry a very good alternative and/or an additional disinfectant to standard antiseptics.
Only dissolved ozone in water and ozonated oils were and are still commonly used in different fields of dentistry. With the development of a foot pedal-activated dental handpiece with a suction feature, gas can now be used safely in situations where diffusion is an important factor, i.e. dental hard tissues.

Student's Team
Dr. Ajeet
Dr. Manish
Dr. Preeti

Faculty Coordinators
Dr. Priyanka Chopra,
Dr. Amit Bhardwaj

EDIBLE MOUTHWASH BALLS - CHANGE THE WAY YOU RINSE

Edible mouthwash will be a major breakthrough in the field of Dentistry. In our research project we prepared one gulp mouthwash. Single gulp mouthwash is what most of us need especially during travelling as it is very handy and u don't need to carry extra stuff. It is a boon for disabled people or mentally challenged people. Dipping Frozen balls of liquid (Water + Mouthwash) into an algae mixture that form a membrane around. The ice melts into liquid and membrane forms a watertight seal that is edible and biodegradable. To consume you can either bite or swish or engulf the entire ball. Above that the use of plastics is also reduced. We have formed chlorhex jellies, based on the principle of edible water bubble. We have used sodium alginate, calcium lactate, chlorhex 0.12% to form these jellies. These jellies are edible and because we keep jellies in mouth for long duration, its substantivity increases. These jellies are easy to carry and even its beneficial for medically compromised patients and patients of older age.

Student's Team
Dr. Neha
Dr. Arun Malik

Faculty Coordinators
Dr. Shalini Kapoor,
Dr. Vidushi Sheokand

TOOTH AS A SMART CARD

The use of passive Radio Frequency Identification (RFID) microchips implanted in humans is becoming popular with different medical and economic objectives, whose main function is identifying and providing some information about an individual. Literature is available regarding RF devices implanted in sub-dermal (generally in the back of the hand and on the forearm) and has been approved by the Department of Health and Human Services of the United States Food and Drug Administration, and regulated by ISO norms. Nevertheless, little has been researched on the implanting of these microchips in the teeth, which would afford greater protection to the mechanism by virtue of the great resistance offered by the teeth against high temperatures, acid attacks, and humid and saline environments; similarly, this would be of great use in the case of inhumation of several cadavers from the same grave, or the dismemberment of several individuals; such methods are employed by perpetrators to hinder the identification process. Microchips implanted in the teeth would remain in place after latent cadaveric phenomena and would reduce the possibility for confusion among several microchips and their loss on the field. For this purpose, this research evaluates the efficacy/functioning of a passive RFID microchip implanted in human molars/dentures.

Student's Team
Dr. Tarun
Dr. Kanika
Dr. Neha Munjal (P.G)

Faculty Coordinators
Dr. Priyanka Chopra,
Dr. Sujata Masamatti

MAXILLOFACIAL PROSTHESIS

Patients who have suffered maxillofacial disfigurement exhibit a compromised appearance making them incapable of leading a normal life. Such patients experience a change in societal acceptance that greatly affects their psyche, and often their expectation to return to a normal life collapses. With advancements in plastic surgery, aesthetic corrections of such defects is possible, but, if surgery is contraindicated or the defect is so extensive that full closure is not possible or if the patient is unwilling to expose him/herself to surgery, maxillofacial prosthetics appear to be a viable option. With recent advancements in prosthetic materials, coloring techniques and retentive mechanisms, a life like prosthesis can be given. The biggest impact of such prostheses is not only on the appearance but majorly on the psyche of the patient. The main objective is not only rehabilitation of the defect but also restoring confidence and improving quality of life of the patient.

Student's Team
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Dr. Priyanka Gupta,
Dr. Sapna

Faculty Coordinators
Dr. Nupur Dabas,
Dr. Reshu Madan,
Dr. Shefali Phogat,
Dr. Bharti Raina

RECENT ADVANCEMENTS IN IMPLANT SUPPORTED PROSTHESIS

The prosthesis is a simple artificial crown that is mounted on an abutment which is itself screwed into the implant. Implant supported overdenture-have practical advantages over conventional complete dentures and removable partial dentures. This included decreased bone resorption reduced or eliminated prosthesis movement, better esthetics improved, occlusion improved, occlusion load, direction increased occlusion function and maintenance of occlusal vertical dimension.
Dental implant to rehabilitate the loss of teeth has increased in the last 30 years. Before dental implants, denture and bridges were used, but dental implants have become a very popular solution due to the high success rate.

Student's Team
Dr. Tajender, Dr. Vikas,
Dr. Sakshi, Dr. Mansi,
Dr. Nisha

Faculty Coordinators
Dr. Puja Malhotra,
Dr. Sumit Singh,
Dr. Manoti, Dr. Shagun

SMART DENTURE

This project shows the role of Prosthodontics in Forensic Dentistry. Prosthodontics can also play a great role in forensic dentistry by giving prosthesis by which patients can be identified in situations like mass disasters, criminal cases etc. This project shows fabrication of smart dentures. There are various methods by which patient information can be incorporated into the patient's complete dentures. Various methods suggested for denture identification are putting patients' photograph in denture, by putting barcodes on denture which are readable by computers and which will contain patients' information. Our project shows a new innovation which includes incorporating RFID tag in dentures and microchips with GPS which besides carrying all the information of the patient (regarding the geriatric patients medical history, history of the prosthesis especially if it an implant patient) will also be able to locate the patient by connecting the chip of the denture with a mobile through an app. The denture is connected to the mobile phone. Patient can find the denture though their mobile phones and vive-versa. This is especially useful for patients suffering from Alzeihmers disease. RFID tags incorporated in the denture contains all the information related to the patient like patient name, age/sex, mobile no., adhar card no etc. All the information can be read by electronic reader when the denture is placed on it. SIGNIFICANCE OF THE PROJECT: So, forensic identification based on assessment of prosthodontics appliances is assuming greater significance, as labelling of dentures and other prosthetic appliances could provide vital clues for patient identification.

Student's Team
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Dr. Ravi, Dr. Diksha,
Dr. Lovleen, Dr. Anamika

Faculty Coordinators
Dr. Puja Malhotra,
Dr. Sumit Singh Phukela,
Dr. Bhupender Yadav,
Dr. Jaiveer Yadav

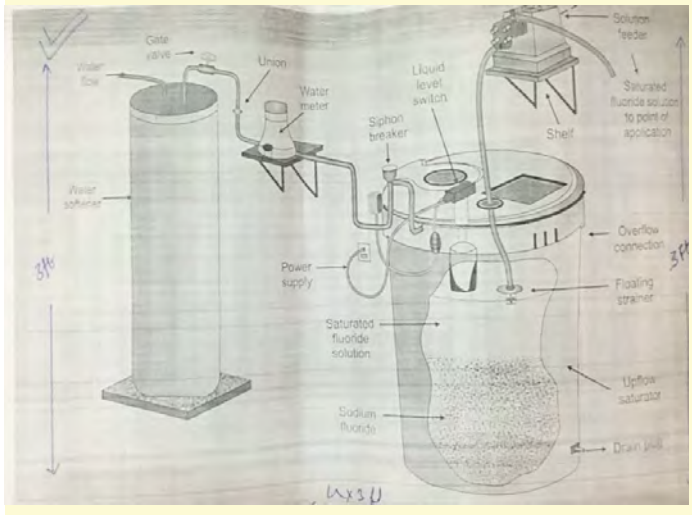
ORAL HYGIENE ROBOTIC TUTOR

In the present project, a new electronic model ROBOTIC TUTOR was designed to demonstrate toothbrushing techniques and also to evaluate its efficacy with different modes of dental health education in patient understanding.
Circuit electronic chip controlled by micro-controlled program (software); the chip further manages the working of stepper motors attached to a robotic arm to which the tooth brush is attached. One audio tape in a regional language with speaker is connected to the main unit Electronic model "ROBOTIC TUTOR" will be more attractive and a better mode compared with projected aids (Laptop) and it has got significant implications for private as well as community motivation. Large number of population can be educated with correct method toothbrushing. The time required for demonstration of a toothbrushing technique is about 1 minute. Other than a major advantage of mass education, human error in technique demonstration could also be avoided.

Student's Team
Anshika, Rahul,
Harshpreet Kaur

Faculty Coordinators
Dr. Shourya Tandon,
Dr. Ankit Kalra

FLUORIDES – THE DOUBLE EDGED SWORD, PART A - WATER FLUORIDATION

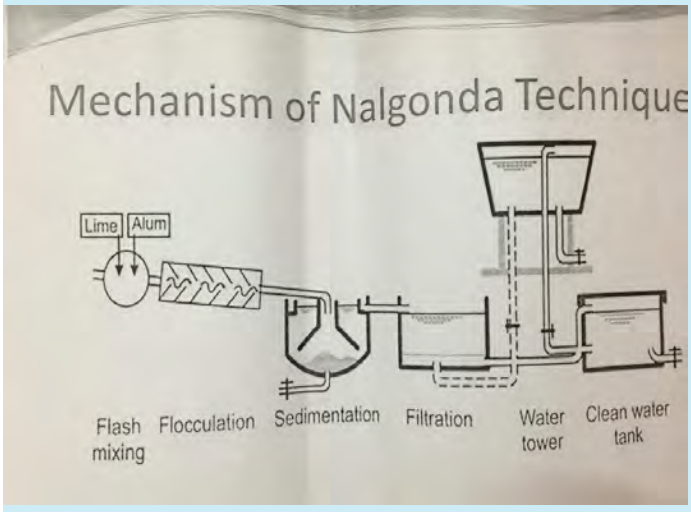


Water fluoridation builds a foundation for healthy new teeth. Fluoride was first time discovered by Chemist Scheele in 1771 isolated by Moissan in 1886. Increase of fluorides causes DENTAL FLUOROSIS and Decrease of fluorides causes CARIES. Normal fluoride content -0.7-1.2 mg/Liter. Fluoride is 13th most abundant naturally occurring element in earth's crust and is the lightest member of halogens and water is referred as natural solvent which dissolves almost all substance. Some elements are essential in trace amounts for humans but while higher concentration of the same can be harmful. Fluoride is one of them.
Water fluoridation is controlled adjustment of fluoride to a public water supply to reduce the decay. (1 part per million or 1 mg/liter). Fluoridated water has fluoride at a level that is effective for preventing cavities (this can occur naturally or by adding fluoride.). Water fluoridation prevents cavities in both children and adults which is single most common chronic childhood disease.
Before fluoridation, the following factors should be taken into account- Daily fluoride concentration of the water supply, baseline dental caries prevalence and index of enamel fluorosis and post fluoridation data of the same population.

Student's Team
Dr. Priyanka Kundu,
Dr. Aanchal Mishra
Interns- Apoorva Singh,
Arti, Ashu Kataria, Chanchal

Faculty Coordinators
Dr. Ankita

FLUORIDES – THE DOUBLE EDGED SWORD, PART B – NALGONDA TECHNIQUE



National Environmental Engineering Research Institute (NEERI), Nagpur has evolved an economical and simple method for removal of fluoride which is referred to as "Nalgonda Technique" (Nawlakhe et al 1974). The process comprises addition in sequence of sodium aluminate (filter alum), lime and bleaching powder to the fluoride water followed by flocculation, sedimentation and filtration. This technique is extremely useful for both domestic as well as for community water supply.

Mechanism : The unit holds 22 litres of water, which is filled into the upper chamber. Rapid mix: Rapid mixing is an operation by which the coagulant is rapidly and uniformly dispersed through out a single or multiple phase system. It is rapidly mixed for a period of 30 to 60 sec with speed of 10 to 20 rpm so that the coagulant is rapidly and uniformly dispersed. This helps in the formation of micro flocs and results in proper utilization of chemical coagulant. Flocculation: It is the 2nd stage of the formation of suitable particles(flocs) from destabilized colloidal size particles. It is achieved by gentle and prolonged mixing for a period of 10 to 15 minutes with the speed of 2 to 4 rpm.

Student's Team
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Interns- Apoorva Singh, Arti, Ashu Kataria, Chanchal

Faculty Coordinators
Dr. Ankita

DELIVERY OF DENTAL CARE- THE GREEN WAY

Ayurveda a holistic ethnic medical care system evolved in India 3000-5000 years ago. It is in practice in Indian subcontinent since preblical era, now practiced in other parts of the world as a form of complementary medicine. The earliest literature on the practice of Indian system of medicine, appeared during the Vedic period in India. The Sushruta samhita and charak samhita are its earliest authoritative text. The traditional system advocates predominantly lifestyle approach to good health and disease prevention. When treating a disease, herbal mineral preparations are added to the latter approach after assessing an individual's constitution traits called as Prakriti in Ayurveda. With the passage of time, ayurvedic practitioners developed large numbers of medicinal preparations and surgical procedures for the treatment of various ailments and diseases. Dentistry was included in the Shalya-chikitsa section of Ayurveda. Herbal medicines include herbs, herbal materials, herbal preparations, and finished herbal products that contain parts of plants or other plant materials as active ingredients. Scientific validations of the Ayurveda dental health practices could justify their incorporation into modern Oro dental care. Publicity of these techniques using appropriate media would benefit the general population by giving more confidence in the ancient practices, thus preventing various oro dental problems.

Student's Team
Dr. Sonia Raina
Interns- Chanda Kumari, Charu Singh

Faculty Coordinators
Dr. Abhinav Bhargava

WATER - JOURNEY TO POTABILITY

India accounts for 2.45% of land area and 4% of water resources of the world but represents 16% of the world population. With the present population growth-rate (1.9 per cent per year), the population is expected to cross the 1.5 billion mark by 2050. Contaminated water as well as sewage treatment, or domestic wastewater treatment, is the process of removing contaminants from household sewage and wastewater, both domestic and runoff (effluents). It includes physical, chemical, and biological processes to remove physical, chemical and biological contaminants. The management of waste water may be done using either conventional centralized systems or decentralized systems. As per CPCB, the following process has been followed by these plants for treating waste water:

(i) Aeration : It involves bringing air or other gases in contact with water to - a.)convert volatile substances from liquid to gaseous state and b. dissolve beneficial gases into the water.

(ii) Coagulation and Flocculation : The process of coagulation and flocculation may be broadly described as a chemical/physical process of blending or mixing a coagulating chemical into a stream and then gently stirring the blended mixture.

Student's Team
Dr. Tanvi Bhardwaj
Interns- Chetna,
Deeksha Allawadhi

Faculty Coordinators
Dr. Sachin Chand

BIOMEDICAL WASTE DISPOSAL

Biomedical waste includes the waste generated from biological and medical sources and activities, such as the diagnosis, prevention, or treatment of diseases. Common generators (or producers) of biomedical waste include hospitals, medical research laboratories, offices of physicians, dentists, and veterinarians, home health care, and morgues or funeral homes.

Disposal of biomedical waste is an environmental concern, as many medical wastes are classified as infectious or biohazardous and could potentially lead to the spread of infectious disease.

The purpose of the project is to create awareness among students, auxillary staff, nurses, paramedics, doctors as well as general public about the proper disposal of this waste.

Student's Team
Dr. Aakriti Khemka
Dr. Sachin Dev

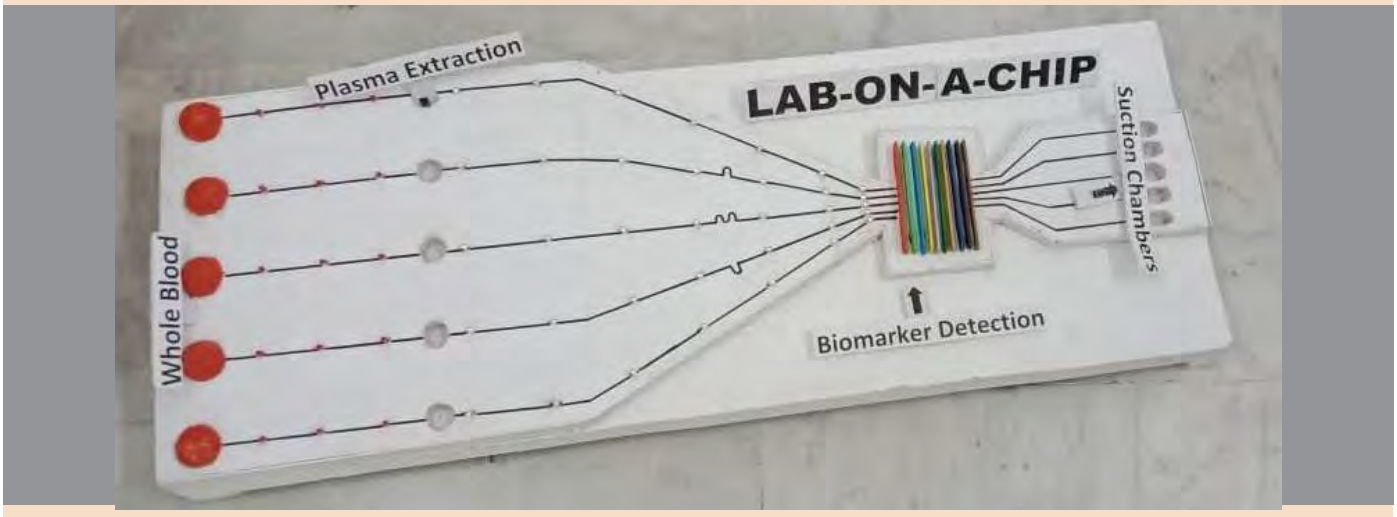
EFFECTS OF SMOKING ON ORAL AND SYSTEMIC HEALTH

Tobacco is taken in many forms, smoking being one of the most common. It is a known fact that smoking causes many health problems including cancer, respiratory problems etc. Besides the commonly known effects of smoking, there are many more changes and diseases caused by it which are often ignored because of lack of awareness.
The purpose of the project is to create awareness about the various ill effects of smoking in the oral cavity and body.

- Adaptable to domestic use.
- Economical
- Simplicity of design ,construction,operation and maintainence

Dr. Aparna Dave,
Dr. Manpreet Arora,
Dr. Pulin Saluja,
Dr. Radhika

LAB-ON-A-CHIP



A lab-on-a-chip (LOC) is a device that integrates one or several laboratory functions on a single integrated circuit (commonly called a "chip") of only millimeters to a few square centimeters to achieve automation and high-throughput screening. LOCs can handle extremely small fluid volumes down to less than pico-liters. It actually refers to technologies which allow operations which normally require a laboratory - synthesis and analysis of chemicals - on a very miniaturized scale, within a portable or handheld device. The advantage of this device are many including analysis of samples can take place in situ, exactly where the samples are generated, rather than being transported around to a large laboratory facility.

Significance of the Project:

To create the awareness about advantages of this technology.

Faculty Coordinators
Dr. Manpreet Arora
Dr. Pulin Saluja
Dr. Radhika
Dr. Aparna Dave

ORAL SUBMUCOUS FIBROSIS

Oral submucous fibrosis (OSF) is a premalignant condition mainly associated with the practice of chewing betel quid containing areca nut. It is characterized by inflammation, increased deposition of submucosal collagen, and formation of fibrotic bands in the oral and paraoral tissues, which increasingly limit mouth opening. This project describes different stages of the disease to help people understand about the disease and associated symptoms.

Significance of the Project:

To create awareness about ill-effects of pan-masala and other products on oral mucosa and to make them aware about oral submucous fibrosis.

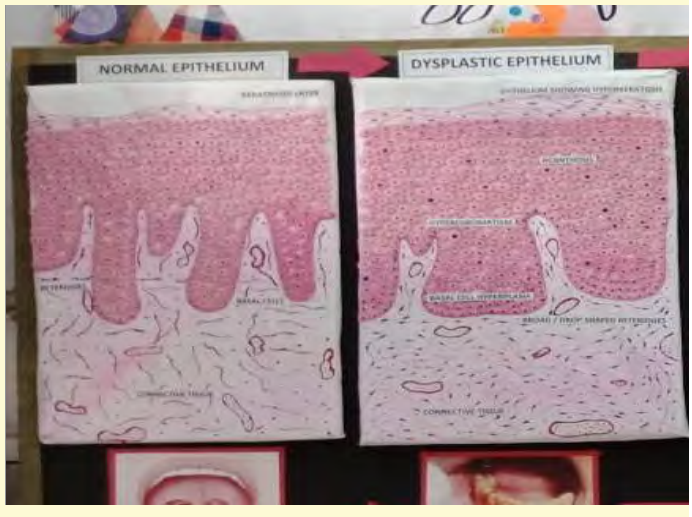
Student's Team

Simran Bora (III Year),
Simpy Kumari (III Year),
Gurmeet Ahuja (III Year),
Tanmay Kaushik (III Year),
Techi Akey (III Year)

Faculty Coordinators

Dr. Aparna Dave,
Dr. Manpreet Arora,
Dr. Pulin Saluja,
Dr. Radhika

BIOLOGY OF PREMALIGNANCY



Among oral lesions, we encounter a series of malignant epithelial lesions that go through clinical and histopathologic processes in order to be diagnosed. Identifying these processes along with the etiology knowledge of these lesions is very important in prevention and early treatments. Dysplasia is the step preceding the formation of squamous cell carcinoma in lesions which have the potential to undergo dysplasia. The Project intends to describe the histopathological changes occurring in the mucosa when it undergoes a malignant transformation.

Purpose of the Project:

To introduce and explain the histological changes occurring in the oral mucosa during conversion of the normal mucosa into pre-malignancy and malignancy.

Student's Team

Manya Gupta, Udita Choudhry,
Malika Rawat, Pooja Pal,
Gunjan Agarwal

Faculty Coordinators

Dr. Manpreet Arora
Dr. Pulin Saluja
Dr. Radhika
Dr. Aparna Dave

VELSCOPE

Oral cancer is a bigger concern for both patients and doctor. An early diagnosis holds promising results. Velscope being an excellent diagnostic aid is extremely effective for discovering and defining the extent of a wide range of mucosal abnormalities, including oral cancer. Importantly, Velscope helps in discovering problems before they can be seen under ordinary white-light conditions. The project describes the principle and the mechanism of the working of Velscope.

Purpose of the Project:

To create awareness about chair-side technique to identify and decide the site of high risk area of malignancy so as to decide to right site to take biopsy.

Student's Team

Arzoo Bhardwaj (II Year),
Ekta Mittal (II Year),
Neha Thakur (II Year),
Divya Grover (II Year)

Faculty Coordinators

Dr. Aparna Dave,
Dr. Manpreet Arora,
Dr. Pulin Saluja, Dr. Radhika

INDIGENOUS ALTERNATIVE TO COLARADO MICRODISSECTION TIP

Commercially available microdissection needles are a boon in performing complex surgeries in the maxillofacial region. But these patented tips are costly due to monopoly of the manufacturer, thereby keeping the advantage that these tips offer out of reach for most of the less affluent patients. With a modification to lesser expensive disposable electrocautery units already in routine use in maxillofacial surgical procedures, the advantage of precise microdissection can be carried to the economic advantage of disposable electrocautery tips.

Purpose of the Project:

To marry the advantages of precise but expensive surgical instrument with the advantages of a cheaper instrument already in routine use.

All the decoration and working models/ purchase of the equipments for the same were contributed by our students.

Student's Team

Dr. Rudra, Dr.Vatsala,
Sneh, Paridhi,
Aarzoo, Akshat

Faculty Coordinators

Dr. Alok Bhatnagar,
Dr. Rahul Kashyap,
Dr. Varun Arya,
Dr. Jitender Kumar

INDIGENOUS LIP TAPING KIT FOR CLEFT PATIENTS

Severe cleft deformities present with highly mal-aligned arches which lead to a difficult surgical correction ending up in compromised esthetic and functional results. To address this various nasoalveolar moulding appliances are availableHowever they require frequent visits to the clinic, are costly and techniques sensitive.
Our project aimed at simplifying cleft surgical procedure by improving the arch alignment in severe cleft deformities by utilizing a cost effective lip taping procedure.
We put together an indigenous modularLip Taping Kit. This kit simplified the lip taping procedure making it easy for the patient's parents to carry out the taping at home on their own.
An indigenous lip taping kit was devised by utilising a combination of skin friendly tegaderm and traction through steri strips to align misaligned arches in severe cleft deformities and thus simplify cleft surgical procedures. Nasoalveolar moulding devices, though effective, are expensive and time consuming. Our product will provide a cost effective alternative.
The project also helped spread awareness about cleft deformities and about our cleft care initiative – Nav Muskaan Cleft Center. A lot of students and faculty took interest in the project and had various queries regarding the treatment being carried out at our center

Student's Team
Dr. Minerva, Dr. Mahashweta, Lakshmi, Anika, Damini, Ashish, Yogesh

Faculty Coordinators
Dr. Kriti Jain,
Dr. Dayashankara Rao J K,
Dr. Sheena Mariya

SOLAR TRACKING SYSTEM

The biggest benefit of a solar tracking system is that it offers a boost in electricity production. Generally, a solar panel system with a single-axis solar tracker installed sees a performance gain of 25 to 35 percent. A dual-axis tracker bumps performance up by another five to 10 percent. Solar trackers offer the greatest value proposition in high latitude locations due to the yearly movements of the sun. Solar tracking systems are also often used in large commercial projects.
Residential- More power means bigger saving. Find energy independence for households with solar trackers. Agriculture- Farm the sun and get more energy out of land in day timing from reliable solar system.

Student's Team
Rahul Kumar Prajapati
Chirag Arya
Himanshu Chaudhary
Pranjal Pant
Parth Kappal
Anurag Narang

FOLDING BRIDGE

Ten Fold's family of counter-balanced folding linkages is designed to bring mobility, speed, ease and reliability to the structure and services.
Ten fold's lever-based joint is simple, but it underpins an amazing variety of extremely useful mechanical movements that confer advantage on the structure that use it. Green levers go down, blue levers go up, and when they balance they move easily, however heavy they are.

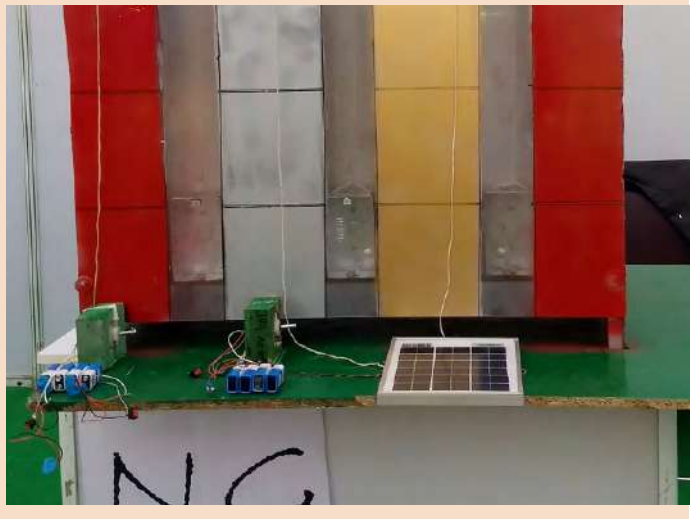
Significance:-

1. To provide pathway at the time of disaster
2. Can be used for rescue operations
3. Can be used by army during warfare.

Project Coordinator
.Dinker ,Taranpreet, Shubham, Piyush, Krishnan, Mudang, Sahil

Project Incharge
Ms. Ravpreet kaur

FIRE EXIT LIFT



In the present scenario, as fire breaks out in a high rise, only way out to exit is through the Staircase. The major problem encountered in that different age group people find difficulty in exit pathways due to heavy flow out. Perpetual Lift System at each floor comes out as effective alternative to reduce the load on exit ways. Specially, senior people and ladies will be the one who will be preferred and reduce the number of tragedies.

Principle: It uses principle of conservation of momentum and also uses pulley system principle. Under which momentum of one lift going down under the effect of gravity is used to uplift its counterpart by using some efficient pulley system.

Student's Team
Mohit , Nitin , Ushender, Chetan

Project Incharge
Ms. Preeti Kuhar

SMART POND

The term artificial recharge refers to transfer of surface water to the aquifer by human interference. The natural process of recharging the aquifers is accelerated through percolation of stored or flowing surface water, which otherwise does not percolate into the aquifers. Artificial recharge is also defined as the process by which ground water is augmented at a rate exceeding that under natural condition of replenishment. Therefore, any man-made facility that adds water to an aquifer may be considered as artificial recharge. Flow below the land surface takes place due to the process of infiltration. The soil will not get completely saturated with water unless water supply is maintained for prolonged periods. If water is applied only intermittently, there may be no recharge during the first infiltration or even between two subsequent infiltrations. The evolution of water in the soil during the period between two instances of infiltration is referred to as redistribution. Recharge may take place even when no hydraulic connection is established between the ground surface and the underlying aquifer.

Team of Project
Vishant, Vinit, Jagveer , Nikhil, Parveen

Project Incharge
Mr. Kaushal Sharma

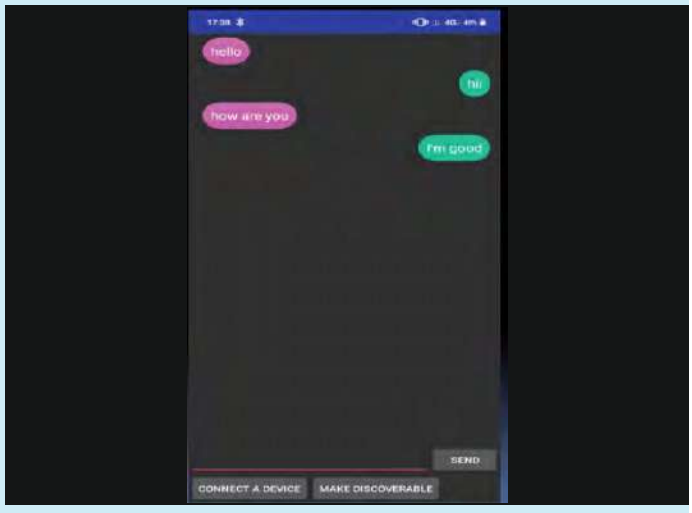
WIRELESS KETTLE

Wireless kettle works on the principle of heating water to ambient temperature in a closed system with the help rechargeable battery. DC current was employed in the heating of the 12 V, 30 W filaments. Filament being in direct contact with the water, results in the energy efficient system. Water compatible temperature sensor was incorporated in the bottle to outline the exact temperature as per requirement. Two sealed rechargeable battery of 12 V , 1.3 AH was attached in series to get an output of 12 V as per filament. An adaptor with an input of 100-240 V, 1.6 A was incorporated to recharge the battery. Wireless kettle was designed to pertain its portability and thermo steel outer covering help in attaining and maintaining the temperature for a longer duration.

Team of Project
Abudin, Gurdeep, Aman, Manthan

Project Incharge
Dr. Neeraj Saini

BLUETOOTH CHAT APPLICATION



Bluetooth chat application is a wireless technology for chatting over short distances from mobile devices and building personal area networks (PANs). It does not require internet connectivity. If we have to send some important messages over a short distance and we are not connected to Internet or the networks are unavailable, we can use this application for texting in organization, colleges, building etc. This is a zero cost, easy to use, and a low battery consumption application.

Student's Team
Mohit Sharma,
Garima Pathak

Faculty Associated
Mrs.preeti ,
Mrs. Shweta

IoT based Smart car

The car powered by IoT is mainly based on the use of micro controller which is the brain of the whole device and a piece of software. Micro controller is the core module in which the coding part is installed which let all the other components to perform various functions.
The main intention of this project is to control features of car by using a mobile phone. It provides a large working range and robust control. Wi-Fi module is installed in a car which helps in controlling the movements of vehicle and makes the working possible. HC-05 Bluetooth module allows performing other innovative functions.

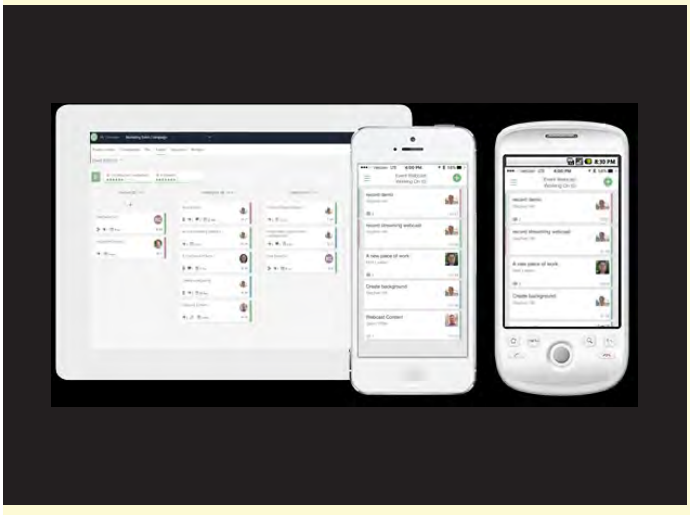
Student's Team
Priyanka Kansal
Vikram Sharma
Raman
Praveen Kumar
Faculty Advisor
Mr. Saurabh Gupta
Ms. Sangeeta Rani
Ms. Kalpana Batra

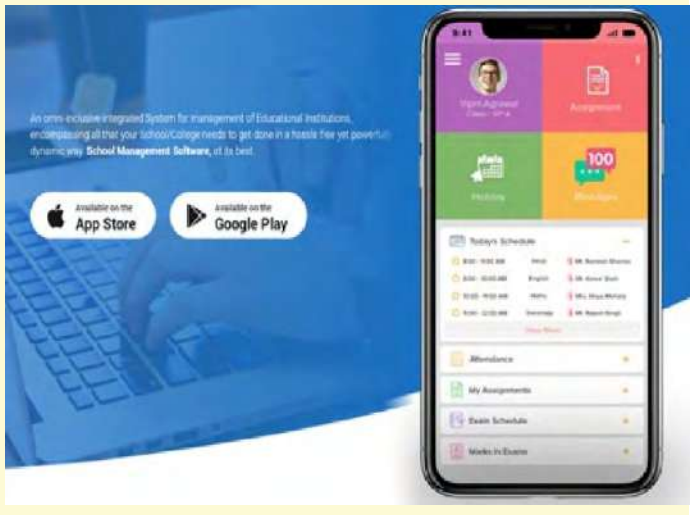
REPORT ON GAS DETECTION

This type of device is important because there are many gases that can be harmful to organic life, such as humans or animals. Gas detectors can be used to detect combustible, flammable and toxic gases, and oxygen depletion. Gas leak detection is the process of identifying potentially hazardous gas leaks by sensors.
It is a kind of device which is used to sense the presence of a hazardous LPG gas leak in service station, cars, storage tanks and homes. This sensor is attached to an alarm circuit to give an alert to the operators through a buzzer sound in the area where the gas leak is occurring.

Team of The Project
Saurav Mehto,
Saurabh Singh Negi,
Sumit Yadav

INSTITUTIONAL MANAGEMENT APP





The main idea behind this project is to get feedback from the student on the basis of each lecture attended by the student. Every Saturday the feedback collected is evaluated at the end of the month and the report is generated and provided to HOD of the respective branch to which the faculty is associated.
The report of every teacher can be compared and the evaluation of teacher is an easy process. The feedback is sent anonymously, at the present stage this project is sufficient to evaluate the performance of every teacher of the respective Faculty and also manage an institution without any ambiguity

Team of the project
Gagandeep Singh,
Ashwini Kashyap,
Vakul Vadhera

Faculty Advisor
Mr. Gaurav
Ms. Preeti

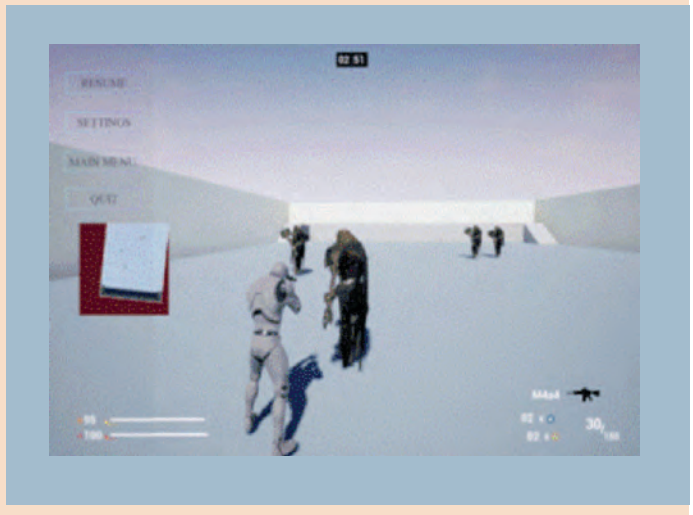
INTELLIGENT HOME FOR SENIOR CITIZENS

This home automation system is beneficial for everyone as it is just like a smart home which does its work on their own by using smart technology and devices and also smart enough to tell their owner about what is happening in the house in his/her (owner's) absence. The owner keeps an eye on the house with the help of the app using internet and also controls the devices from anywhere.

Participant Name
Natasha Dahiya
Prachi Gupta
Deepak Rajput
Ishu Maurya
Harish kaushik

Mentor Name
Dr. Chitra Kaul

HoriZon-A New Dawn

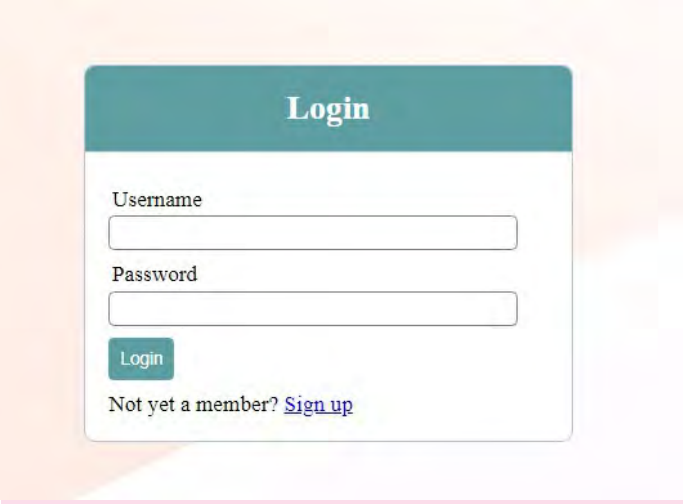


The project is being developed on Unreal Engine for providing a lot of flexibility to the developer as compared to its previous version i.e., Unreal development kit. The Engine can be used to create a artificial imaginary environment or an existing environment from real world and the physics could be added to it. Other softwares used for project design are google's sketch up, blender and MAYA where they were used for architecture and object design like buildings, assets etc. A 3D game type that has grown to prominence in recent years, especially on console. IT combines the shooting elements of the first person shooter with the jumping and climbing puzzles of a 3D platformer and a simple melee fighting system from a brawler. Third-person shooter games almost always incorporates an aim-assist feature, since aiming from a third-person camera is difficult. Most also have a first-person view, which allows precise shooting and looking around at environment features that are otherwise hidden from the default cameras. In most cases, the player must stand still to use first-person view, but newer the player to play like a FPS, indeed, odd world. Strangers Wrath requires the player to shoot from first person, only allowing melee attacks in the chase camera views.

Student's Team
Sagar, Prashant
Rishabh, Shuhas
Shashank

Faculty Coordinator
Ms. Yashika
Ms. Reenu

LECTURE MANAGEMENT APP

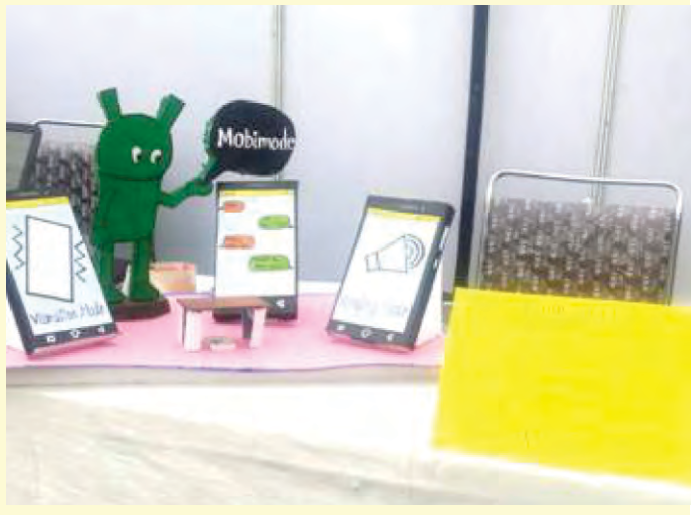


This application is the solution for managing lecture allotment for classes and teachers on the basis of classes and subjects. In addition to lecture management for theory and lab classes, the main focus has been given on to remove collisions. We have tested this app on numerous data for classes and subjects and it's working properly in all cases. We have used PHP, MySQL, HTML5, JavaScript, CSS, Ajax etc. in this application.

Student's Team
Ruman Nisar,
Akshay Kumar,
Mitesh

Faculty Coordinator
Mr. Gaurav Asstt. Prof., CSE

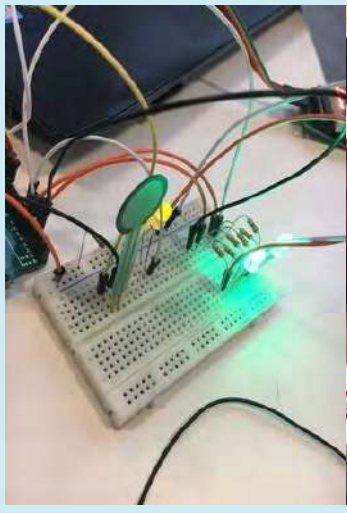
Report On MobiModes



This application has the ability to make everyday life a lot easier for its users with just a simple message. This can be explained via. the following scenario; Suppose User1 has lost their phone while it was on silent mode, somewhere in their bedroom and is running late for work. User2 can help User1 locate it with the help of MobiModes (which they both use to chat). User2 types the following command "Ringing Mode On" into the chat window. Since remote access exists between both the phones, User1's cell phone changes modes from Silent to Ringing. Then User2 calls User1's phone and they are able to locate it! It doesn't take long and User1 is able to leave for work.
Such simple scenarios as the one mentioned above arise everyday and can easily be dealt with, with the help of MobiModes. The user is also able to leave feedback about the application, get to know more about it as well as logout from the application when they no longer wish to use it.

Student's Team
Yogita Sharma,
Sonam Bazzad,
Ruhi Sharma,
Manisha Mittal
and Sahil Sheoran
Faculty Coordinator
Mrs. Preeti and
Mrs. Shweta
Department of FET

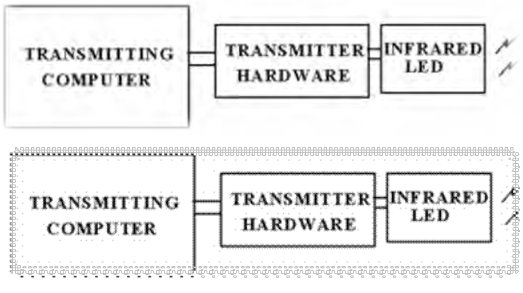
TRAIN SEAT VACANCY SYSTEM

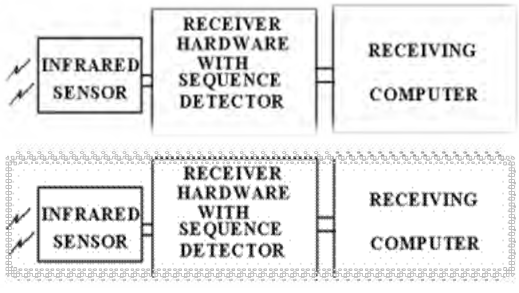


We applied the sensor in a cart of metro to indicate number of remaining seat. We can do the same in case of public transport like bus etc. we can also apply the same in a large concert hall . It would really be an ease for lot of people to locate empty seats to sit in the large hall because everyone books a pass for the concert without thinking about the crowd at the fore front . They just don't think about the place to sit calmly. If they come to know the hall is full , so why he/she would spend thousands to attend the concert. Same in case of bus the people, if people know beforehand that there is no seat in bus, why would they board the bus and buy a ticket for standing . Similarly our project is applicable in many ways .

Project Coordinator
Jastej Singh Makkar
Manisha Singh
Prashant Chauhan
Dinki Chitkara
Amanjot Singh

SECURE COMMUNICATION USING WIRELESS MEDIA





The project is a wireless message communication system that enables communication between two computers by making use of trans-receiver units. The project can be used in border areas or urban areas for communication between Defence forces. The primary reason for selecting steganography among the list of possible project topics was due to the unfamiliarity of the word that twigged an interest in the subject.
Another motivation for researching the topic was after reading an online article in the USA Today titled "Terror groups hide behind Web encryption" that claims terrorists and, in particular, Osama bin Laden and the al-Qaida network, may be using steganography to communicate with each other in planning terrorist attacks.

Students Team
Parminder Kaur
Gaurav Goyal
Abhishankar

SGT 3D WALK

Blender is a professional, free and open-source 3D computer graphics software tool set used for creating animated films, visual effects, art, 3D printed models, interactive 3D applications and video games. Unreal Engine 4 is a complete suite of development tools made for anyone working with real-time technology. From enterprise applications and cinematic experiences to high-quality games across PC, console, mobile, VR and AR, Unreal Engine 4 gives you everything you need to start, ship, grow and stand out from the crowd.

Student's Team
Manish Kumar
Nakshatra
Parth Gera
Suhail Saifi

SMART DUSTBIN

Smart dustbin consist of Arduino, Ultrasonic sensor and jumper wires. The Ultrasonic Sensor detects any object like a hand for example, Arduino calculates its distance and if it less than a certain predefined value, Arduino will activate the Servo Motor and with the support of the extended arm, it will list the lid open. After certain time, the lid is automatically closed.

Student's Team
Vikram Sharma
Priyanka Kansal
Raman

Project Coordinator
Mr. Saurabh Gupta
Ms. Sangeeta Rani
Ms. Kalpana Batra

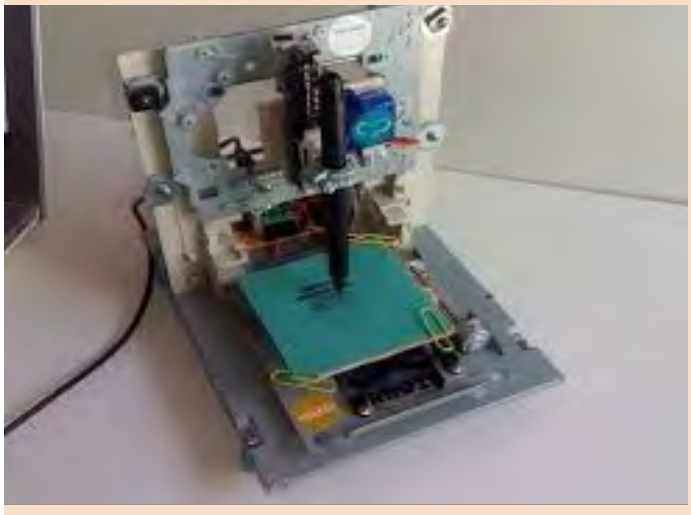
THE SMART MIRROR

The idea is to change the way we look at ourselves in the mirror and bring many applications at our fingertips exactly when they are most inaccessible. Magic Mirror is a smart mirror that brings time, the weather condition outside and many other notifications right to the bathroom mirrors. Most functions are easily accessible via voice command. Smart Mirror is based on the principle of a two way mirror. It is a reciprocal mirror that is partially reflective and partially transparent. This allows the mirror to act as a normal mirror and make the texts appearing behind tobe visible at the same time. The behind of the mirror contains a LCD screen powered by a Raspberry Pi 3.

Project Coordinator
Suraj Katyayan
Nidhi Kaushik
Deepshi Agarwal

Faculty Advisor
Mr. ZunaidAlam
(Asst. Professor)

SMART WRITING MACHINE

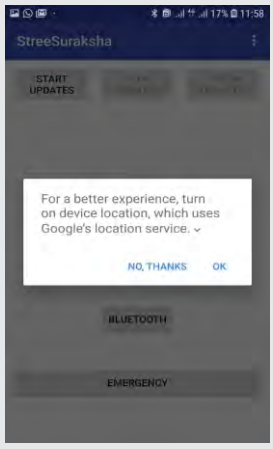


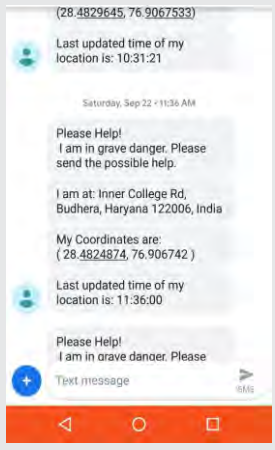
A CNC plotter machine is a 3D controlled 2D plotting machines which uses a pento draw text or image on any given solid surface. It can be used for the purposes such as PCB Design, logo design, etc. This project is based on CNC plottermachine.
It will present an affordable model of a CNC plotter machine which is able to draw a circuit layout on PCB or any other solid surface using simple algorithm and available components. At first the user needs to convert any image file or text file into G code using Inkspace software and then feed it to the machine using Processing software. Arduino uno with an ATmega328P microcontroller is used as the control device for this project. The microcontroller converts G-code into a set of machine language instruction to be sent to the motor driver of the CNC plotter.

Students Team
Saurav mehto,
Saurabh singh negi,
Deepak bohra,
Sumit yadav

Faculty Coordinator
Mrs. Preeti
Mrs. Shweta

STREE SURAKSHA PROJECT



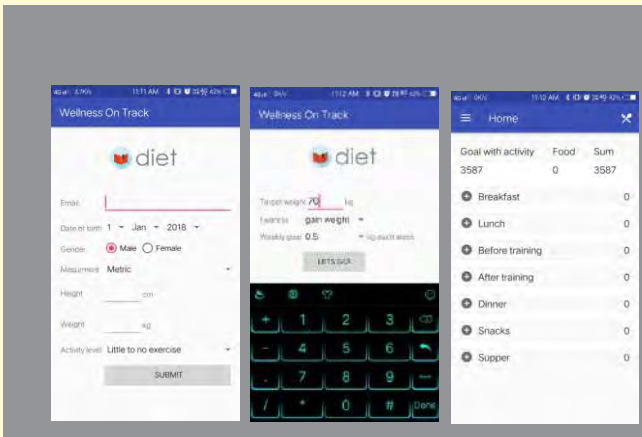


It is an IoT and android based project. It is basically designed for safety purpose especially for women . It has a device which is hidden in a women's purse so that she can carry the purse anywhere easily and no one will have an eye on it and a locket (button) wore by women and these both are connected by a mobile application. This whole setup can work offline also as it is connected by Bluetooth and it can send latitude and longitude via message if there is no mobile data available at that time and if there is no balance in the mobile then it can send messages to SOS numbers. As this is a real world project and as per the current scenario of India regarding women safety, this can provide a great help to all the women or girls to protect themselves.

Student's Team
Akshaya
Shivam
Deepali
Shweta
Rubal

Faculty Coordinator
Ms. Yashika Tuli

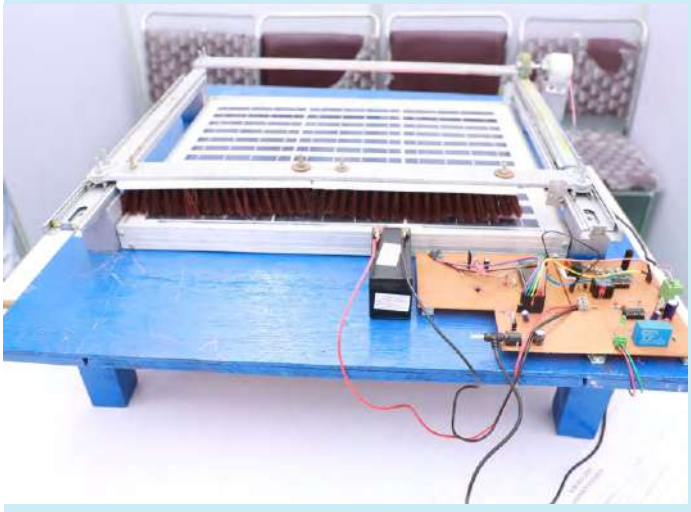
WELLNESS ON TRACK



This app started when all our team members had different issues regarding their weight loss, gain or maintaining their current weight and discussing about these issues, we came to know that the calories play major role in weight control and that is neglected by most of us. Even people who have knowledge about calories find difficulties in tracking their day-to-day calories. From here we got an idea and collaborated to make an app to track their calories and achieve their weight goal. "Wellness On Track" is our app that focuses on physical health. This app gives nutrition plans based on calories counted by the app by feeding some personal basic details such as height, weight, age etc. After inserting all these information, we insert our weekly goals on the basis of that we will get the amount of calories we need to cut or add in our diet to maintain our weight and fitness.

Student's Team
Yashdeep Rathi
Kasturi Vats
Vinay Verma
Siddharth Sharma

ARTIFICIAL INTELLIGENCE BASED SOLAR PANEL CLEANING SYSTEM



Energy is one of the major issues that the world is facing nowadays. About 60% to 70% of the energy demand of the country is met by fuel, wood and agriculture residues. Solar energy is a renewable source of energy, which has a great potential. Renewable energy is important to replace the using of electric energy generated by petroleum. The solar PV modules are generally employed in dusty environments which are the case tropical countries like India. The dust gets accumulated on the front surface of the module and blocks the incident light from the sun. It reduces the power generation capacity of the module. The power output reduces as much as by 50% if the module is not cleaned for a month. Solar panel cleaning system consists of brush driven by DC motors and actions of brushes is controlled by signal generated by microcontroller. The frame carrying this cleaning brush is moved along the length of the solar panel in vertical direction and vice-versa, which results in mopping action on the solar panel cleaning the panels. This frame also consists of DC motors which is stable and rotate the brush with the help of gear system. This action is also controlled by signal generated by microcontroller.

Student's Team
Deepak
Rohit
Gaurav Kumar
Revanth
Chirag Arya
Manav
Gaurav

Faculty Coordinator
Mr. Shakir
Ms. Jyoti Ahlawat

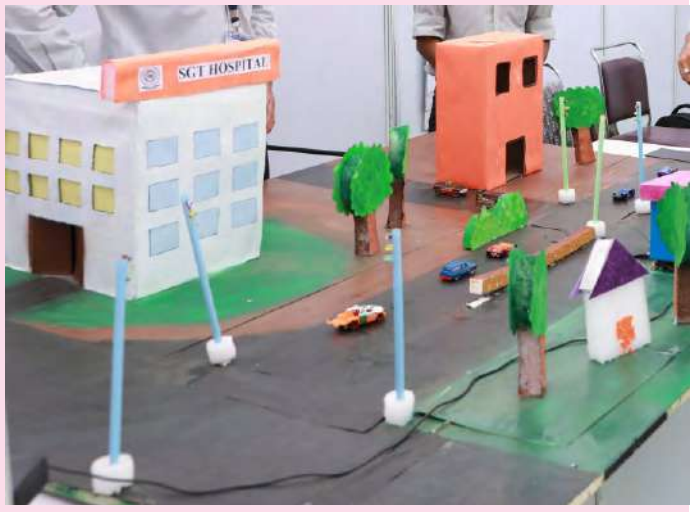
DISEASE DETECTION WITH SMART IRRIGATION SYSTEM

Nowadays many of the farmers and agro help center use different new technology to enhance the agriculture production. There are several diseases that affect plants with the potential to cause economic and social losses. If the disease are not detected at first stage then it is more harmfull to production. In the field of agriculture, use of proper method of irrigation is also important. So, with the help of this project, problem of over- irrigation and under-irrigation will be solved completely, and detection of diseases will be a boon to Agriculture Sector. Plant disease detection system will allow us to take preventive steps before the disease spreads. To save water and reduce human intervention in agriculture field, continuously monitoring the moisture of soil so that we can automatically provide water to the plants as per requirements is importance.

Student's Team
Piyush Vasuja
Rahul K Raj
Nidhi
Sachi
Anurag Singh
Sandeep Parida
Anurag

Faculty Coordinator
Mr. Rambir Joon
Mr. Naresh Kumar

SMART SIGNAL TRAFFIC LIGHT CONTROL FOR AMBULANCE

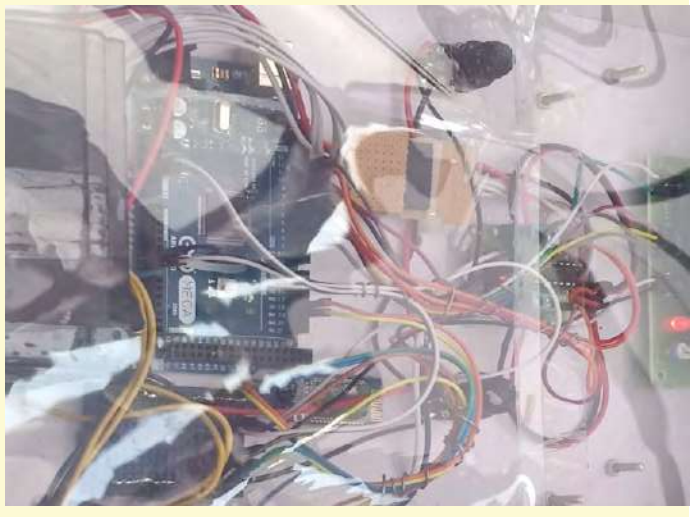


The main application of this project is to ensure that an ambulance carrying severely injured/critically ill patients are not delayed and the patients are not denied essential and timely medical care due to the ambulance being stuck in the traffic. The same principle may be used for other emergency services like fire brigade, as well.

Student's Team
Lalit
Prashant
Sidharth
Mohit
Vikram
Sahil

Faculty Coordinator
Anita Sharma
Devender Pal

AUTOMATIC GUIDED ROBOT



An automatic guided robot or automatic guided vehicle (AGV) is a portable robot that follows wires, tapes laid on the floor, or uses vision, magnets, or lasers for navigation. Target acquisition, Obstacle sensing and path following are the main components of navigation. In this project tape following mechanism is used.

Student's Team
Akhilesh Singh Grewal
Anurag Sharma

Faculty Coordinator
Asad Habeeb

ELECTRIC GO-KART

Acceleration is usually better than thermic model and the speed is sufficient for use on most kart circuits. Torque in electric motors are greater than that of the gas engine. They are ideal for quick take offs and off-road climbing. Electric go-karts are low maintenance, requiring only the lead-acid batteries of the cars be plugged into an array of chargers after each run. Since they are pollution-free and emit no smoke, the race tracks can be indoors in controlled environments. Electric go karts are generally lightweight, open, and single chair cars with 4 small wheels which can be typically located in kart auto racing activities for leisure as well as serious tournament. Go karts can vary largely if this includes acceleration and energy, some receiving the power to accomplish beyond 260 kilometers an hour or so. Go karts are usually well-known in parks, however are typically constrained in rate and are generally run by electric energy.

Student's Team
Mehul Pathak, Rahul Sharma
Ankit Dahiya, Nakul Yadav
Preet Samrat, , Gaurav Patiyal
Sumit Pal, Sachin Kumar
Abhishek Baliyan

Faculty Coordinator
Mr. Arun Kumar,
Mr. Dinesh Deshwal,

ELECTRIC SHUTTLE

To use a vehicle which can operate on green energy like battery with increased stability, so that the number of accident due to lesser stable vehicles should decrease. The main purpose of making this project is to improvise the e-rickshaws which are use the legally on street sides in our country as they are 3-wheeeled vehicles and are lesser stable as compared to the electric shuttle. Also, the suspension system is improved to give a comfortable ride to the passengers. Electric shuttle is a battery-operated vehicle which gives a maximum speed of 50 Kmph, and the battery is a green source of energy which can be charged whenever is needed. The stability of the vehicle is also increased as compared to the legal e –rickshaws operated on the streets of India. Suspension system is also refined to give smooth and jerk free experience to the passengers while riding on street sides.

Student's Team
Amardeep Singh,
Ashutosh Bhardwaj
Mehul Pathak

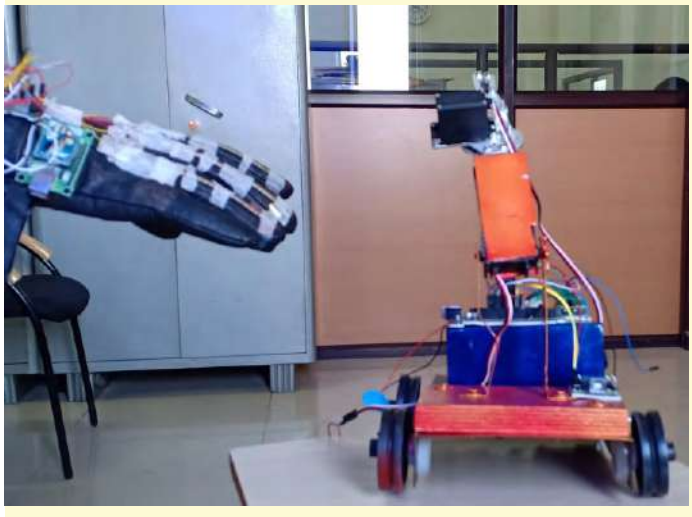
Faculty Coordinator
Mr. Dinesh Deshwal,
Mr. Arun Kumar,

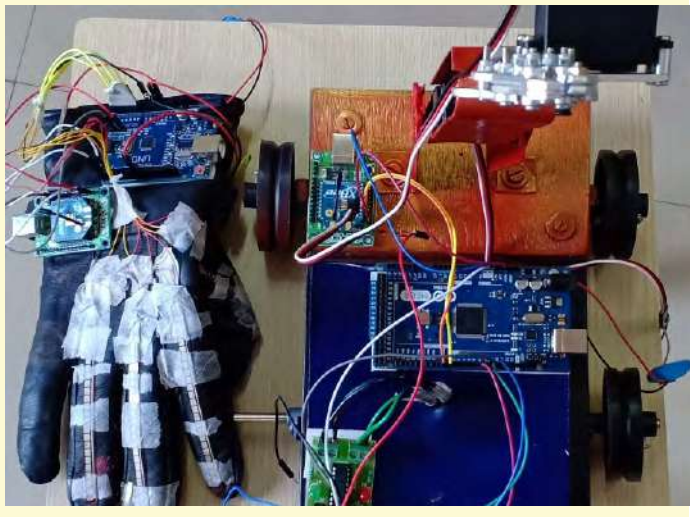
ENERGY EFFICIENT BICYCLE

Combining Electric Bikes with bicycle sharing systems could have a number of benefits. E-bikes reduces the human force needed for propulsion, which facilitates longer and hillier rides relative regular bikes. A bicycle which is running on the green energy (solar energy) in unlimited amount, used to save our planet from the harmful gases burnt by petrol or diesel engine, it's the first step to save the earth or make it green. A method of upgrades a conventional electric powered bicycle over to Solar-Powered Electrical Bicycle that is powered by an electric motor which gets its supply from photovoltaic (PV) panels.

Students Team
Lalit Abhishek Dixit,
Keshant Sharma,
Tarjinder Singh,
Arsh Arya,
Deepak Sharma,
Laksh Yadav,
Faculty Coordinator
Mr. Dinesh Deshwal,
Mr. Arun Kumar,

GESTURE CONTROLLED ROBOT





In MILITIARY: For performing different kinds of dangerous activities like diffusing bombs, handling heavy weapons. In Field of Bio-Medical Industries: especially in critical operations that need high amount of accuracy and proper balance of force and pressure. In Field of Agriculture For the specially abled citizens In hazardous, dangerous and critical research and experiment which can be fatal to any scientist.

Student's Team
Marut Kumar Mishra
Tanuj Satti
Praveen Kumar
Kaushal Kishor
Saransh
Hemant Yadav

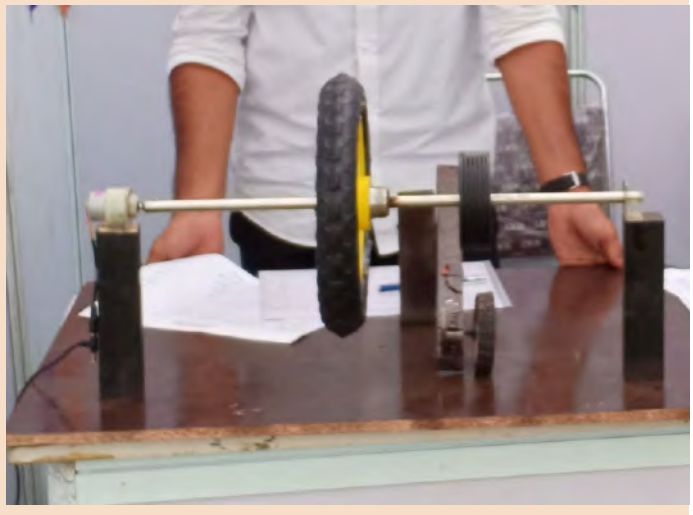
HYBRID PNEUMATIC VEHICLE

Project purpose: Idea is to increase the efficiency of vehicles by use of the regenerative technology use to charge the battery by the means of air and then the energy is used to drive the vehicles. Identified need addressed by product: Increasing pollution day by day and increasing the fuel rates is major headache. Product compelling: This hybrid vehicle will be able to decrease the pollution and also decrease the fuel consumption by increasing the efficiency up to 40-45%.

Student's Team
Ankit Dahiya
Nakul Yadav
Sanu
Arjun Kumar

Faculty Coordinator
Mr. Arun Kumar,
Assistant Professor
Mr. Dinesh Deshwal,
Assistant Professor

REGENERATIVE BRAKING



Modern hybrid and electric cars both utilize an electric engine to power the car which makes applying regenerative braking very simple and efficient. In the vast majority of these cars, the transmission of the car is set up such that when the driver applies the brakes, the electric motor reverses itself and applies a resistance to the wheels rather than power. The resistance applied to the wheels is then put through the electric motor where it is used to recharge the batteries. In high performance electric cars, improving the feel of the car is very important to car manufacturers. Many customers support electric super-cars but are against purchasing them because of the lack of high performance feel. One important aspect of this feel is engine braking. In a standard internal combustion engine, once power is not being applied to the engine, the natural friction inside the engine works to slow the vehicle down. In electric cars, this friction force does not apply; however, car companies such as Mercedes and Porsche have begun to use regenerative braking systems to give the driver the same feel of a gas-powered car while recovering energy for the batteries.

Student's Team
Vineet Rathi
Rohit Jakhar
Saransh Ghanghas
Maanavjit Singh

Faculty Advisor
Mr. Shivendra Singh
(Asst. Prof. – ME Dept.)

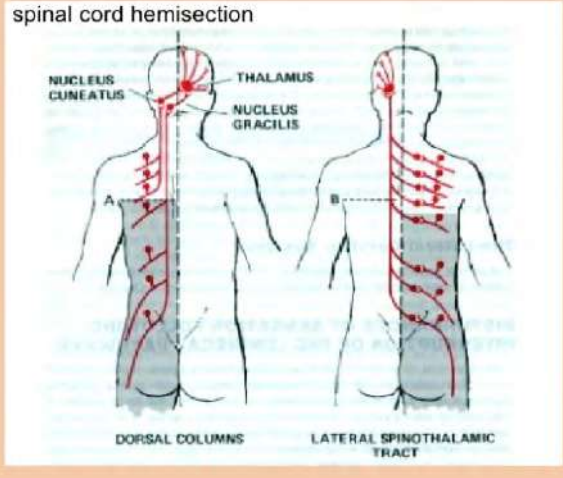
WORKING MODEL OF FETAL CIRCULATION

Significance: Awareness & knowledge of circulatory changes in intrauterine life to the medical students for better awareness and prevention of congenital heart diseases

The fetal circulatory system uses three shunts, which are small passages that direct blood that needs to be oxygenated. The enriched blood flows through the umbilical cord to the liver and splits into three branches. The blood then reaches the inferior vena cava, a major vein connected to the heart.

Incharge
Dr Amit Kumar Saxena
Coordinator
Dr Susmita Saha
Participant
Dr Vikram & Dr Diksha (Post graduate students, Department of Anatomy), Deepansh Varshney & Deeksha Godwal (1st year MBBS students)

ASCENDING & DESCENDING TRACTS OF SPINAL CORD

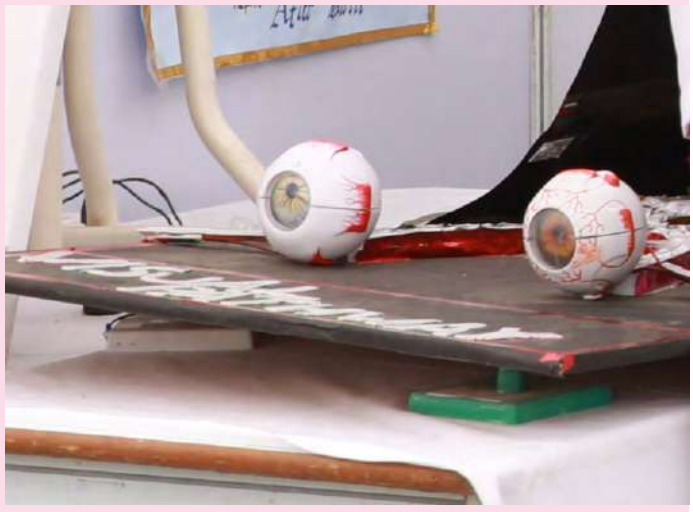


This will lead the awareness & knowledge of sensory & motor loss & assessment of these condition in patients with stroke/ brain heamorrhage / spinal injuries / road traffic accidents

The spinal nerves carry electrical signals from the brain to the skeletal muscles and internal organs through the spinal cord. They also carry sensory information like touch, pressure, cold, warmth, pain and other sensations from the skin, muscles, joints and internal organs to the brain via the spinal cord.

Team Incharge
Dr Amit Kumar Saxena
Coordinator
Dr Shavi Garg
Participant
Dr Vikram & Dr Diksha (Post graduate students, Departmentof Anatomy), Kushboo & Vatsal (1st year MBBS students)

ELECTRIC MODEL OF VISUAL PATHWAY



This model is to create the awareness & knowledge regarding problems in the vision or blindness which is termed as a major physical disability in India.
The visual pathway describes the anatomical pathway by which electrical signals generated by the retina are sent to the brain (Fig. ... At the end of each optic tract, the retinal nerve fibers connect with other visual pathway nerves in a structure called the lateral geniculate nucleus (LGN) located in the midbrain.

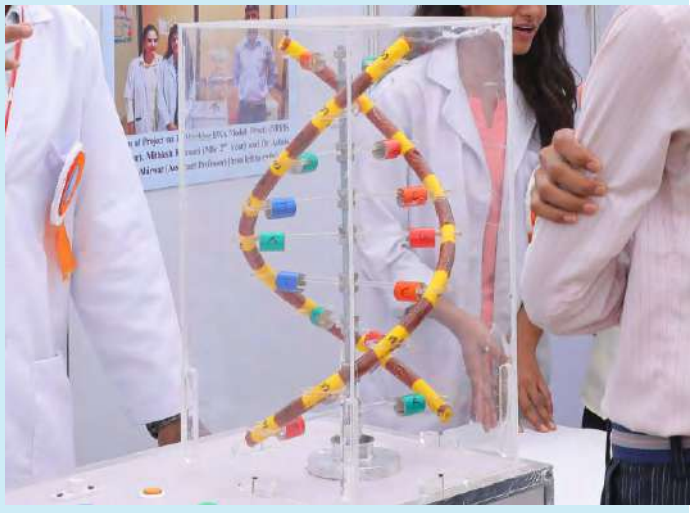
Team In charge
Dr Amit Kumar Saxena
Coordinator
Dr Shilpi Garg
Participant
Dr Vikram & Dr Diksha
(Post graduate students, Departmentof Anatomy),
Ananya, Gangandeep & Sheetal
(1st year MBBS students)

EFFECT OF YOGIC BREATHING TECHNIQUE ON HEART RATE

Department of Physiology conducted above project to motivate general people of the society particularly young students to do yoga (Anulom Vilom Pranayam), by showing immediate effects of yoga on heart rate by recording live ECG.
The heart rate variability (HRV) is an indicator of the cardiac autonomic control. Two spectral components are usually recorded, viz. high frequency (0.15-0.50 Hz), which is due to vagal efferent activity and a low frequency component (0.05-0.15 Hz), due to sympathetic activity. The present study was conducted to study the HRV in two yoga practices which have been previously reported to have opposite effects, viz, sympathetic stimulation (kapalabhati, breathing at high frequency, i.e., 2.0 Hz) and reduced sympathetic activity (nadisuddhi, alternate nostril breathing).

Team of The Project
Co-ordinator:
Dr. Asha Gandhi
(Professor and Head, Deptt. of Physiology)
Faculty's Name
Dr.vijay Kumar Roy,
Dr.ritu Soni,
Dr.nimarpreet Kaur
Students Name
Siddharth, Shubham Sharma
Pankaj Verma, Kanika, Astha

WORKING DNA MODEL :



It showed the order of nucleotides in nucleic acids which carry the genetic code of the cell and control the cell's synthesis of proteins.
Deoxyribonucleic acid is a molecule composed of two chains that coil around each other to form a double helix carrying the genetic instructions used in the growth, development, functioning, and reproduction of all known living organisms and many viruses.

Students
Mithilesh Kumari,
Preeti Yadav

Faculty Co-ordinator
Dr.ashok Kumar Ahirwar
(assistant Professor)

CHEMISTRY ANALYZER

Chemistry analyzers are used to determine the concentration of certain metabolites, electrolytes, proteins, and enzymes in the samples of serum, plasma, urine, cerebrospinal fluid and other body fluids. Biochemical tests can be used for screening of disease, for confirmation of a diagnosis made on clinical examination, for monitoring the progression of a disease and outcome of the treatment.

Students
Deepti Yadav,
Varsha Sharma)

Faculty Co-ordinator
Dr.Arpita Suri
(Assistant Professor)

MENACE OF GROWING AIR POLLUTION: AN INNOVATIVE APPROACH OF PREVENTION

Significance: to reduce the mortality and morbidity due to lung infections. These masks are required throughout the year as pollution levels are high but during the winter season air pollution increases. Studies suggests uses of these mask reduce lung infections in population.

Students Name
Kiran, Joshna
Department: Department of Microbiology, Faculty of Medical & health science

Name of Faculty
Dr. Mukesh Sharma

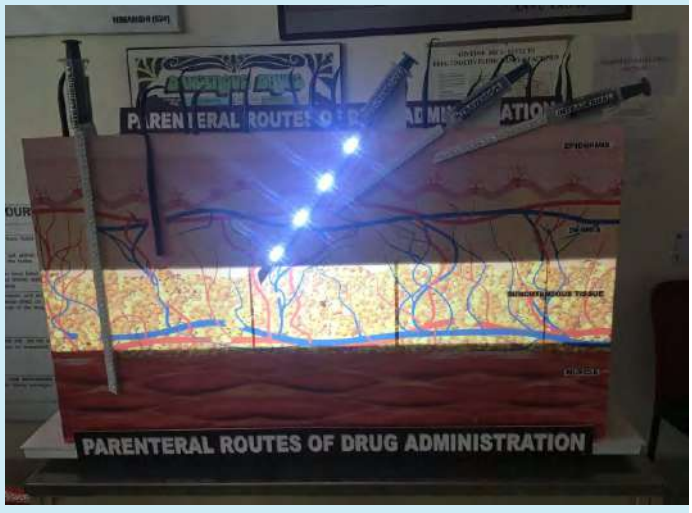
AWARENESS OF HAND HYGIENE (VISUAL AND HANDS ON DEMONSTRATION)

Department- Department of Microbiology, Faculty of Medical & Health Science.
Objectives- Reduction in acquisition and spread of infectious organisms transmitted through feco-oral route, such as diseases like vomiting, loose motion and infestation by worms.

Students Name
Kiran, Joshna,
Alisha, Madhuri

Name of Faculty
Dr. Anita Chakravorty &
Dr. Mukesh Sharma

PARENTERAL ROUTE OF DRUG ADMINISTRATION/TRANSDERMAL THERAPEUTIC SYSTEM



Significance: This model will develop interest in school students and lay-men in context with the usefulness and importance of injection techniques, by using a working model for easy visualization and understanding even by non- medical personals and school students.

Student's Team
Shubham Kumar, Palkin Bhatia, Bhumika Singhal, Simran Suri, ShauryaPathania, Arushi Mittal, Rashi Batra, LakshayDagar, Shubham Sharma & Sidharth Naresh

Team Supervisors
Dr. Kapil Hazarika,
Dr. Meghna Pandey,
Dr. Shweta Sharma
Co-ordinators
Dr. Dinesh Yadav,
Dr. Vikas Arya

TRANSDERMAL THERAPEUTIC SYSTEM

Significance: This will raise awareness about newer forms of dosage forms available in the market but which are still not so popular with the general masses.
Transdermal patches or transdermal therapeutic systems (TTS) are drug delivery systems that are applied directly to the skin. The active substance is absorbed by the skin and distributed through the body via the bloodstream. ... The active substance enters the bloodstream transdermally, i.e. through the skin.

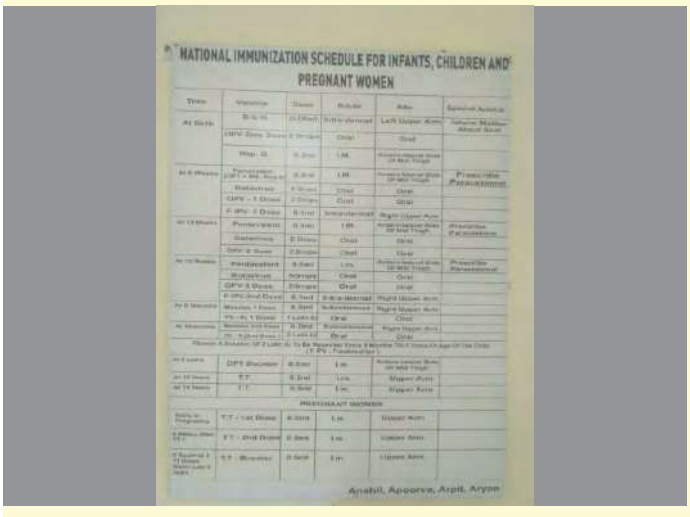
Student's Team
Diksha Gupta, Diksha Shanwal, Disha Yadav, DoyelKataria, Hitesh Hooda, Gautam Kumar, Harleen Oberoi
Team: Supervisors
Dr. Kapil Hazarika,
Dr. Meghna Pandey,
Dr. Shweta Sharma
Co-ordinators
Dr. Dinesh Yadav,
Dr. Vikas Arya

NUTRITIONAL DEFICIENCY DISORDERS

AIM- To make the people aware about the various disorders associated with nutritional deficiency so that they can be prevented from the occurrence of the same and also to mention in their knowledge sources of respective vitamins so that they can consume them regularly.

Project Co-ordinators
Dr.Shambhavi,
Dr.Jaya,
Dr. Chhaya,
Dr. Gurleen

IMMUNIZATION



AIM: The goal of public health is to prevent disease. It's much easier and more cost-effective to prevent a disease than to treat it. That's exactly what immunization aims to do. Immunizations protect us from serious diseases and also prevent the spread of those diseases to others.
Immunization is the process whereby a person is made immune or resistant to an infectious disease, typically by the administration of a vaccine. Vaccines stimulate the body's own immune system to protect the person against subsequent infection or disease.

Project Co-ordinator
Dr. Shambhavi,
Dr. Jaya,
Dr. Meenakshi,
Dr. Mansi

RURAL HEALTH: A HOLISTIC MODEL

The rural health, holistic model showcased the various services provided by SGT Medical College which are in line with the national health programs introduced by the Government of India.

BETI BACHAO BETI PADHAO ABHIYAN:
REVISED NATIONAL TUBERCULOSIS CONTROL PROGRAMME-
NATIONAL WATER SUPPLY AND SANITATION PROGRAMME
SWACCH BHARAT SUMMER INTERNSHIP PROGRAMME:
THE SCHOOL HEALTH PROJECT (UNDER RASHTRIYA BAL SWASTHYA KARYAKRAM)
ADARSH GRAM YOJANA:
OUTREACH CAMPS IN REMOTE AREAS:
SATELLITE CAMPS
AWARENESS ACTIVITIES ON NATIONAL/INTERNATIONAL HEALTH DAYS

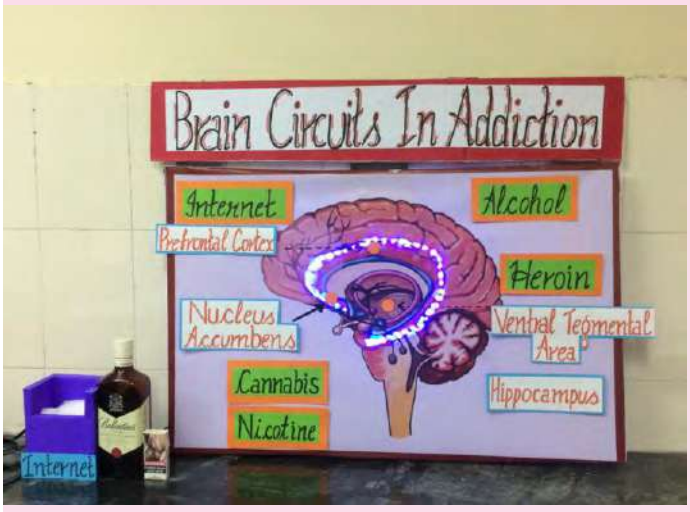
Name of the Co Ordinators
Dr. Shambhavi,
Dr. Jaya,
Dr. Indu,
Dr. Tasneem,
Dr. Jagriti.

AWARENESS ABOUT ECT

To address the misconceptions, myths and stigma related to ECT as a treatment modality in field of Psychiatry. ECT (Electroconvulsive Therapy) is a treatment that involves sending an electric current through the brain to trigger an epileptic seizure to relieve the symptoms of some mental health problem. Students made a project to address the misconceptions, myths and stigma related to ECT as a treatment modality in the field of Psychiatry. ECT has a 75-83% success rate in battling depression (however without continued treatment such as medication or Maintenance ECT, many patients may relapse).

Team of Project
Dr. Pooja Yadav,
Dr Niyati Sheokand,
Dr. Ved Pal Mahla,
Dr. Abhishek Kapoor,
Dr. Nimmi A Jose

BRAIN CIRCUITS INVOLVED IN ADDICTION



Department: Department of Psychiatry, Faculty of Medical and Health Science to sensitized people about the neurobiology of addiction.
Information that is processed by a number of different regions in the brain that are connected by circuts
Transcript: Brain circuts are really important for the brain, simply because neurons don't work in isolation.

Team of Project
Dr. Pooja Yadav,
Dr Niyati Sheokand,
Dr. Ved Pal Mahla,
Dr. Abhishek Kapoor,
Dr. Nimmi A Jose

IONTOPHORESIS – AN INNOVATION FOR AXILLARY HYPERHIDROSIS (EXCESS SWEATING)

It is an innovative approach for axillary sweating using Lontophoresis. Dr. MPS Sawhney (HOD Dermatology) , brought up an idea to improvise this device for the use of axillary hyperhidrosis. He proposed to make sponge underarm pads through which current can be passed after soaking them with water.

Team of the project
Dr. MPS Sawhney
(Professor and HOD),
Dr. Shikhar Ganjoo
(Assistant Prof.),
Dr. Preet Kaur (JR),
Dr. Nikita Gupta (JR)

PROJECT REPORT ON POLYTRAUM

SIGNIFICANCE – To educate the masses in creating an awareness regarding Polytrauma and how to take care of these patients during the crucial life saving phase with special emphasis to First aid and transfer of patient to the nearest hospital. The SGT Medical College & Research Institute, a tertiary care centre hospital, has been receiving RTA cases with Polytrauma which are on increase every year. Polytrauma involves life threatening injuries to more than one system. The importance of polytrauma lies in the fact that 50% deaths occur before patients reach hospital. PROJECT-The Department of General Surgery showcased two stalls to display various aspects of Polytrauma. First stall: - In the first stall we displayed the various modalities of patient transfer from the scene of the accident. Second Stall: - Here we had placed a series of advanced simulators and a multi trauma whole body simulator mannequin wherein different life saving procedures could be demonstrated. The whole team of Department of General Surgery participated enthusiastically in this venture.

Team of the Project
Department of Surgery
Coordinator
Dr Taluk Dar, Dr Abu,
Dr Aditiya

COMPUTER VISION SYNDROME

Also referred to as Digital Eye Strain for our project we made 7 posters showing diagrammatically about the computer vision syndrome, causes, its signs and symptoms, and preventive measures. Computer vision syndrome (CVS) is a condition resulting from focusing the eyes on a computer or other display device for protracted, uninterrupted periods of time and the eye muscles being unable to recover from the strain due to a lack of adequate sleep.

Project In Charge
Dr Sonali Singh
Coordinator
Mr Surender Singh
Faculty:
Dr Ashwani Ghai
(consultant)
Dr Sonali Singh (SR)
Dr Saumya Sharma (PG)
Dr Sonakshi Sehrawat (PG)
Optometry Interns
Alisha, Rashmi,rahiya,harsh

BREATHE EASY

Significance of the Project : Asthma awareness and education, by performing PFT, a test for assessment of lung function parameters. Another test, PEFR (Peak expiratory flow rate), which is a screening method for monitoring of lung function was performed. Also Breathe Snider Match Blowing Test, Greene, Berowitz Cough Test, De Bono Test, and Exercise Induced Bronchoconstriction, 6 MWT (6 minute walk test) among children & Adult were done. Cardiopulmonary fitness was evaluated.

Team of the Project
Dr. D.P.S. Sudan,
Prof. & Head
Dr. Avinash Jain Asst. Prof.
Dr. Sheena Taneja, JR
Dr. Sonali Saini, PG, JR
Dr. Dishank Kapoor, PG, JR
Monika Sharma,
TB Health Visitor
Sanna Ula Azmi, Technician
Ashish sati, Clerk

THE IDEAL X-RAY ROOM

The importance of useful radiation in diagnosis as well as protection against the hazardous radiation is emphasized. Also explained, were the Radiation Hazards, signs for warning of radiation & radiation zones, the signanges for warning for radiation zones, effective & maximum permissible doses in adults, Radiation Protective Devices through mannequins and radiation protective devices

The Team
Dr. Manav Sethi,
Dr. Meghna Varma,
Dr. Nalin Chugh,
Dr. Puneet Gupta,
Dr. Ritu Dhaka,
Dr. Vinod Benda
Team Leader
Dr. Neeru Kapur
Under Guidance of
Hod: Dr. B.B. Sharma

CELIAC DISEASE

SIGNIFICANCE OF THE PROJECT Our main aim was to create awareness among the general public regarding suspicion on the basis of symptomatology of the disease and get it diagnosed as early as possible so that the necessary action can be taken at the earliest. The basic treatment of this disease is consumption of a gluten free diet.
CELIAC DISEASE (GLUTEN ENTEROPATHY)- It is an immune mediated systemic disorder elicited by gluten and related prolamines in genetically susceptible individuals.

Team Of The Project
Dr. Shashi Sharma,
Dr. Richa,
Dr. Priyanka,
Dr. Aman,
Dr. Shaina,
Dr. Sakshi

SYNERGY 2018
The Annual Technofest

PARTICIPATED
SCHOOL

C.C.S. SR. SEC. SCHOOL, FARUKHNAGAR

MAKE IN INDIA

The main aim of "Make in India" is to encourage multinational as well as domestic companies to manufacture their product in India and create top and skill enhancement but it is developing in only some sectors. In India there is requirement to develop skill of children to star vocational courses at school level and also improvement in facility of public transport to discourage private transport as well as petrol

Student's Team
Pushpa
Jatin
Himanshi

School Coordinators
Jyoti benewal

LORD JESUS PUBLIC SCHOOL, GURGAON

WASTE MANAGEMENT

This project shows various methods of utilizing temple waste for one or the other useful product like vericompost, incense sticks, Havansamagri, oils, biogas etc suggest that the temple waste can not only be disposed safely in an environmental friendly manner but can also be utilized for making diversified products. This project will propose an alternative approach to waste management, since the waste will neither be land filled not burnt but would be used as a resource that will be recycled. This project will throw light on reducing volume of temple waste which would eventually generate additional economy for temple. Floral waste utilization would eventually be beneficial to the society as people would get to live in a cleaner and healthier environment.

Student's Team
SOURABH-XI
ADITI-XI

School Coordinators
Bharti

AAKASH PUBLIC SCHOOL, GURGAON

HYDRAULIC CITY

In this project we moved a bridge, chair, door, crane and lift a car by applying hydraulic pressure. The hydraulic city project uses the transfer of pressure through an enclosed static liquid medium to lift or move heavy objects.
The mean of hydraulic
Hydraulic. A descriptive term for a system operated or moved by a fluid. The hydraulic jack in which force is transmitted from a handle by means of a heavy oil is probably the most familiar hydraulic device.

Student's Team
AAKANSHA-XII
BHAVNA SINGH- XII
BHAWNA-XII

School Coordinators
Pallavi(Phy),
Deepak Kumar(Lab asst)

VIVEKANAND GLOBAL SCHOOL, GURGAON

MOVING ROBOT

A machine that resembles a living creature in being capable of moving independently (as by walking or rolling on wheels) and performing complex actions (such as grasping and moving objects) When the next space launch heads for Mars, on board will be dozens of tiny mobile robots that will fan out across the Martian
In our stressful life our school is introducing a walking robot with new technology and innovative idea. A robot with different locomotion principle have been developed to carry wire detecting sensor with many different aspects including mechanical control and the things which a robot can do.

Student's Team
NAMRATA MAITY- XII
VINAY SAINI-XII
SOURABH VERMA-XI

School Coordinators
Manisha(bio),
Pratibha(Chem)

BLUE BELLS PUBLIC SCHOOL, SEC-10, GURGAON

WATER CHANGES EVERYTHING...!

Global Water Crisis Facts : Clean water changes absolutely everything , "so why not use something whose potential has never been taped into" air. So we decided to create a product that can convert air into water which is fully pathogens,germs ,virus and Impurity Free. This prototype would be a fully functional unit but on a small scale and lesser efficiency .
Seven ways to water show that changes everything
Water is health
Water is livelihoods
Water is time
Water is education
Water is transformation
Water is dignity
Water is life

Student's Team
Dhruv
Arjun

School Coordinators
Dr. Anisha Gupta

BAL BHARTI PUBLIC SCHOOL, MANESAR GURGAON

HEMISPHERICAL TRANSPARENT DUSTBIN

This project is an amalgamation of scitenific innovation and environmental friendly idea of a unique dustbin which signals to the garbage trolly when its about to fill up. Very intrestingly, it is linked to aadhar number of the citizen and using it gives them bonus many points to encourage their participation in "Swachh Bharat Abhiyan"

Student's Team
Sourav Verma
Prakhar Sharma
Punya Kakkar

School Coordinators
Rashmi Jain(Eco.),
Romika Chadha(Bio.)

GURUGRAM PUBLIC SCHOOL, GURGAON

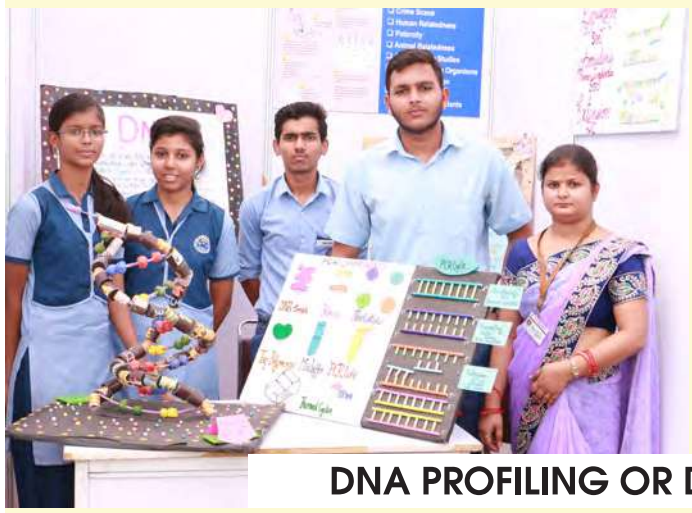
ULTRASONIC DEVICE WHICH CAN MINIMIZE THE ROAD ACCIDENT

It is an Ultrasonic device used in a system to minimize the road accidents.
Vehicle technology has increased rapidly in recent years. Road accidents often happen when vehicles come very close and the drivers sleep and not aware of the vehicles coming close. This may happen while in traffic or when driving with high speed on one road. This presents a method using Ultrasonic Sound Sensor Technology that will recognize and display messages about the vehicles that approach the vehicle on all four sides within two meters range and alert the driver. Thus, while the driver is being alerted about the vehicles that come very close in his vicinity, accidents can be better avoided. The stereo multi-purpose camera provides spatial intelligence of up to 50 metres in front of the vehicle and there is environment recognition of 500 metres. Cars can automatically put brakes due to obstacles or any hindrance when the sensor senses the obstacles.

Student's Team
Mayank Yadav
Nishant
Rubina

School Coordinators
Sonu Gupta

AVR PUBLIC SCHOOL, GURGAON



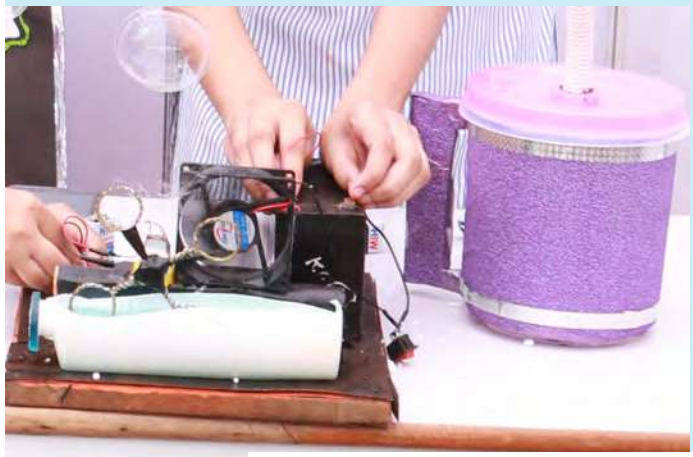
DNA PROFILING OR DNA FINGERPRINTING

It is the process of determining an individuals DNA characterstics, which are as unique as finger prints. DNA analysis intended to identify a species rather than an individual is called DNA barcoding. It is commonly used as a forensic technique in criminal investigations, parentage testing and ingenealogical and medical research. Our project included a 3D model of DNA, PCR, Process flowchart and scope of the project.
How does DNA fingerprinting work?
The root from a single strand of hair is enough for researchers to work with. This sample contains white blood cells which are broke open using detergent and all the useable DNA is separated from the extra cellular material. Next the restriction enzymes are used to cut the DNA into smaller pieces.

Student's Team
Vishal
Sandhya
Sapna

School Coordinators
Ruchi Srivastav(Bio)

S.D. MEMORIAL SR. SEC. SCHOOL, GURGAON



LDR MODEL

It will display output according to the input given(Light reflection).
A LDR is a component that has a (variable) resistance that changes with the light intensity that falls upon it. This allows them to be used in light sensing circuits. A typical LDR.
How does a LDR work?
Working Principle of LDR. These devices depend on the light, when light falls on the LDR then the resistance decreases, and increases in the dark. When a LDR is kept in the dark place, its resistance is high and, when the LDR is kept in the light its resistance decreases.

Student's Team
Kailash Kumar Jha
Hritik Mathur
Oral Yadav

School Coordinators
Manisha Tyagi(Phy.),
Parul Kapoor(Phy.)

ROSE LAND PUBLIC SCHOOL, GURGAON

APPLICATION OF BIOTECHNOLOGY IN HUMAN WELFARE

Biotechnology is the new wonder of science. A branch of science that utilizes and manipulates microorganism for the welfare of mankind. In this model, we utilize the technique called Genetic engineering and Nanobiotechnology. Firefly have a feature, they glow at night because of a protein called Luciferin. We introduce this protein into the plant with help of biotechnology which develop the same character and plant glows in dark. Using these plants, we can save electricity. Nano biotechnology will revolutionize agriculture and food by innovating new techniques. Some attempts have been made in the art to provide a mulch paper having a fertilizing material, where the paper will function not only to mulch the soil, but will also release fertilizers and plant nutrients into the soil. Plastic produces pollution that adversely affects wildlife habitat and humans. Here we have shown how plastic is degraded by bacteria by secreting an enzyme known as PETase which convert polyethylene terephathalate (PET) into ethylene glycol and terephathalic acid that catabolize it and used for its growth and thus reducing the pollution. So,all these biotechnological approaches help in betterment of future.

Student's Team
Deeshika
Sonam
Rashmi

School Coordinators
Veena(Co-ord.),
Deepti(Bio)

SHANTI NIKETAN PUBLIC SCHOOL, GURGAON

AUTOMATIC STREET LIGHT CONTROL SYSTEM

Automatic street light control is a simple and powerful concept, which uses transistor as a switch to switch ON and OFF the streetlight automaticlly. By using this manual works are removed. This is done by a sensor LDR

Student's Team
Shivani Tiwari
Diksha
Vrasha

School Coordinators
Kavita(Chem.),
Pradeep(Phy.)

D.A.V SR. SEC. SCHOOL, KHANDSA GURGAON

DEVELOPING INDIA

We are going to support the project "Make in India 2020" as a dream project of our PM Mr. Narender Modi by explaining how can we improve our economy in different areas like hilly, rural and urban areas to develop our infrastructure like roads, electricity.

Student's Team
Jai Chandela
Rupesh
Naveen Bhati

School Coordinators
Asha Tanwar(comm.),
Neeraj Sheoran(VP)

COLONEL'S PUBLIC SCHOOL, GURGAON

TECHNO CITY

An automated irrigation system refers in the operation of the system with no or just a minimum of manual intervention beside the surveillance.
Our automatic traffic counters come with the longest warranties in the industry to show how much we stand behind our product.
Annual average daily traffic, abbreviated AADT, is a measure used primarily in transportation planning and transportation engineering. Traditionally, it is the total volume of vehicle traffic of a high or road for a year divided by 365 days.
Automatic street light controller circuit using relay and LDR. You have seen street light which automatically gets turned on in the night and get turned off in the morning or day time. There are sensor who senses the light and control the light accordingly.

Student's Team
Shivam
Dimple
Mukul

School Coordinators
Poonam Tanwar(co-ord.),
Anju Yadav(Eng.)

G.A.V PUBLIC SCHOOL, SEC-5, GURGAON

HYDROELECTRIC POWER PLANT

This project aims at producing electricity from the flowing of water at very high speed from certain height. It converts mechanical energy into electrical energy. It is environment friendly and pollution free and can be used for domestic as well as industrial purpose.

Student's Team
Khushi
Mohit
Jyoti Tanwar

School Coordinators
Dinker(Phy.),
Shivi(Science)

MARIGOLD SR. SEC. SCHOOL, GURGAON

AUTONOMOUS SOCIETY

Autonomous society that are totally independent and eco friendly.
The term "autonomous body" denotes a self governing body, independent, or subject to its own laws. If autonomous body or institution is a company, it is regulated by the company law. If it is a society, it is governed by the law on registration of societies.

Student's Team
Sapna
Priyanka
Tannu

School Coordinators
Sarita Pandey

DUJANA PUBLIC SCHOOL (DPS), DUJANA

WIRELESS DIGITAL ELECTRONIC NOTICE BOARD

This is a Digital Electronics notice board which replace the usual paper notice boards. It is a remote controlled device. It has a huge advantage regarding the concept of saving paper. It will help in conservation of non-renewable natural resources such as forests. Also, there is an additional feature of a wireless based security systems

Student's Team
Deepak
Varnika
Mannu

School Coordinators
Deepanshu(Phys),
Preeti(Bio)

INTERNATIONAL BHARTI SCHOOL, ROHTAK

HUMAN BRAIN

In this project working of Brain is explained with response towards environmental factors. This model compares the properties of brain across the entire range of homo sopiens through evolution across 7 mya.

Student's Team
Hanshika
Surbhi
Muskan

School Coordinators
Deepshikha (Bio)

HARKISHAN MEMORIAL PUBLIC SCHOOL, ROHTAK

GENERATION OF ELECTRICITY FROM WATER FLOW

Generation of electricity from water flow (Hydroulic plastic spoons are used to make exhaust type fans) . A small motor is arranged with the fan and LED lights. A constant flow of water on the fan generates electricity in the LED's

Student's Team
Ritika
Ashi
Aryan

School Coordinators
Komal(Phy),
Jyoti(Chem)

MODEL SCHOOL, AMBEDKAR CHOWK ROHTAK

CLEAN INDIA DRIVE

A line path follower vehical is used which stops automatically at a specified spot to collect garbage. A vaccum cleaner is also fitted below the vehical to clean the road simultaneously. A Smart dustbin will be placed which automatically sends message to muncipal corperation when it is completely filled.

Student's Team
Mudit
Udit
Tanisha

School Coordinators
Dr. Sunil Bhardwaj,
Mrs. Deepika Bhutani

PATHANIA PUBLIC SCHOOL, ROHTAK

IMPROVED AND IMPROVISIED METHODS OF FOOD PROCESSING AND FOOD PRESERVATION

One third of the food produced is lost world wide. More than 840 million people in the world do not have adequate food to meet their daily food and nutritional requirements.
So, to avoid the wastage of food, there are two improvised and innovative methods based on novel non-thermals process.
1. Pulsed Electric field: Based on the principle of the short pulses of high electric fields with the duration of microseconds to milliseconds in the order of 10-80KV/cm.
Result: causes temporary or permanent premeabilization of cell membrane.
2. HPP(High Pressure Preservation): Already sealed food in a pressure bearable package is introduced into vessel and subjected to high level of isostatic pressure.
Result: Pressure induced causes the dismantlement of the DNA structure if the microorganisms.
Drawbacks Of Traditional Method :
Drying food changes the physical properties of food such as roughage content, water etc.

Student's Team
Amit Dahiya
Deepak Yadav
Dhruv Dutt

School Coordinators
Arti Yadav(Bio),
Kulbir(Phy)

DAV CENTENARY PUBLIC SCHOOL, ROHTAK

MATHEMATICS USED IN BREAST CANCER

The project deals with the high cost of treatment of a rapidly spreading disease "Breast Cancer". It includes what are its causes, the process of implantation of new breast, why it is quite costly, how it's cost can be reduced, Old process vs new process of implantation and why it must be taken as urgent.

Student's Team
Anurag
Aayush Rana

School Coordinators
Kuldeep(Chem.),
Surender(Phy.)

MODEL SCHOOL, SEC-4 ROHTAK

MODERNISATION BLENDED WITH CULTURAL HERITAGE

This model inculcates the ground breaking and enthusiastic approach towards" new India" in which we are trying to unlock the code of amalgmation of serenly beautiful country with diverse aspects. We believe in the fact- " As there is internet, there is also internet". This model reflects that traditions and customs chattel to us. Theidea of bullet train added with basic skills ofhandicrafts makes this model conducive.

Student's Team
Manuja
Pulkita
Vidhi

School Coordinators
Lalita Bhardwaj,
Jyotsana Malhotra

KENDRIYA VIDYALAYA , ROHTAK

ELECTRICITY PRODUCING ROLLER SKATES

The skates that can produce electricity by converting mechanical energy into electrical energy. That energy can be stored and later on can be used for multipurpose.
An electric power generating device for a roller skate comprises a base with a plurality of wheels mounted on the bottom of the skate. One of the wheels is equipped with an axle sleeve, a magnetic ring, a barrel sleeve and a coil base at one side, and all of which are secured to the base of the skate with a wheel axle.

Student's Team
Paramjeet
Akash
Aryan

School Coordinators
Rohitash Ghintala(Chem),
Manoj Kumar(WE)

C.M.M. PUBLIC SCHOOL, DUJANA

SCHOOL BASED MODEL BASED ON BRAIN EXCELLENCE LAB

To improve the school students skills using Brain Excellence Lab.
Brain Excellence Lab Overview. ... Brain excellence lab committed to help students to excel in their educational performance and personal life. It helps students to identifying and tailoring their hidden potential and develops their skills to perform better.

Student's Team
Anshu
Pooja
Sahil

School Coordinators
H. C. Gupta(Academic Head),
Nitesh Kambot(Phy)

CHOTTU RAM MEMORIAL PUBLIC SCHOOL, ROHTAK

GLOBAL WARMING AND GREEN HOUSE EFFECT

The Phenomeon of increasing average earth temperature near the surface of earth is Global warming. This depends maily on concentration of certain gases which are called Green House Gases (Methane, water Vapours).
A gradual increase in the overall temperature of the earth's atmosphere generally attributed to the greenhouse effect caused by increased levels of carbon dioxide, CFCs, and other pollutants.

Student's Team
Mansi
Anjali
Vijeta

School Coordinators
Monika Verma(Chem.),
Jyoti Hooda(Bio)

SARASWATI INTERNATIONAL SCHOOL, GURGAON

FLOOD CONTROL AND DISASTER MANAGEMENT

According to Synergy 2018, our project is dedicated to the different process of solid innovation during flood disaster- we are approaching on collabrative and sustainable approach to solve challenged faced by community during floods.

Student's Team
Gaurav
Sapna
Anup

School Coordinators
Bhartijha
Bhagyanidhi

GAV PUBLIC SCHOOL, SEC-10 GURGAON

SAFETY: A SMALL INVESTMENT FOR RICH FURTURE

A small investment for rich future. Our vision behind this project is to prevent train accidents. It is a device which gives information about the broken railways tracks and stops the train before that particular print.

Student's Team
Anirudh
Isha
Dhananjay

School Coordinators
Indu Sharma
Suryakant

ROYAL PUBLIC SR. SEC. SCHOOL, GURGAON

FUTURISTIC HIGHWAY

The project will be a model of "Futuristic Highway". This model will be the resolution of traffic problems, accidental cases and alternative sources of energy.
Despite many technological advances made to vehicles, mobile devices, and cars, we see little change to asphalt roads. There are many things we can do to roads that can help innovate and improve the driving experience, particularly when it comes to road safety. There are also ideas to use roads to store solar energy from the sun and to transfer that energy into electricity for homes.

Student's Team
Yashika
shweta
Bhawna Sharma

School Coordinators
Rita Yadav(Bio)
Rakesh Saini(Phy.)

LAXMI INTERNATIONAL SCHOOL, MANESAR GURGAON

WATER MANAGEMENT

As we all know the level of ground water is going down day by day and shortage of water is a universal problem. Nowdays the demand of water is increasing exponentially with growing population. Water resources are limited, if we do not manage the water either we will have water security or floods. So, we have to control the flow of water and channelize it by creating the network of canals and rivers.

Student's Team
Ishika
Vidhi Dagar
Rishav Raj

School Coordinators
Mamta
Meenu Sharma

HAPPY MODEL SR. SEC SCHOOL, GURGAON

SEWAGE DRAIN CLEANING SYSTEM

It is basically a drain cleaning system. We are suffering from water logging problem on the rainy days so for removing drain blockage problem, we can separate the garbage from the waste water for smooth flow of water.

Student's Team
Tanuj
Jhalkesh
Aman

School Coordinators
Neelam,
Mamta

DRONA PUBLIC SCHOOL, GURGAON

FUTURE GADGETS

There are four different parts in which we just want to explore the concept of our technology in a better way:
1. Tesla (Wireless electricity): Among his numerous innovations Nikola Tesla dreamed of creating a way to supply power to the work without stringing wires across the globe. The inventor came close to accomplish this when his experiments with electricity led to his creation of the Tesla coil. The resulting high frequency voltage can illuminate florescent bulbs several feet away with no electrical wire connection.
2. Li-Fi (Light Federlity): Li-Fi is the transmission of data through illumination by taking the fiber out from fiber optics and by sending data to an LED light bulb with intensity faster than the human eye can flow.

Student's Team
Atul
Harsh Mishra
Anjali Sharma

School Coordinators
Shaline
Preeti

RANBIR SINGH MODEL SCHOOL, BADLI

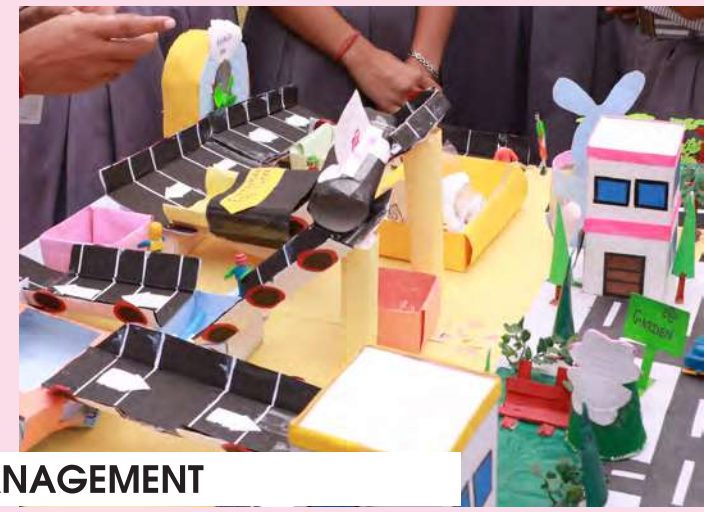
THE HYDRAULIC BRIDGE WORK BASED ON PASCAL'S LAW

Increase in pressure at any point in a confined fluid, there is an equal increase at every other point in the container. Applied to a more complex system below, such as a hydraulic car lift, Pascal's law allows forces to be multiplied.

Student's Team
Anjali
Amisha
Shiwani

School Coordinators
Ms. Mukesh Rani

DRONACHARYA SR. SEC. SCHOOL, FARUKHNAGAR



WASTE MANAGEMENT

Improve environmenrtal quality by reducing water pollution and improve" waste management". Soil Pollution has a major impact on the entire planet and it will play large role in well being of future generations. The best we can do now is implement measures to slow down pollution and clean up the polluted area.

Student's Team
Bhawna
Preeti
Nikita

School Coordinators
Jyoti
Kapil Yadav

K.V. , JHAJJAR

HEALTH, HYGEINE AND SANITATION

Health is the level of functional and metabolic efficiency of a living organism.
Sanitation refers to public health conditions related to clean drinking water and adequate treatment and disposal of human excreta and sewage. Sanitation systems aim to protect human health by providing a clean environment that will stop the transmission of disease, especially through the fecal–oral route.

Student's Team
Sahil
Anshul

School Coordinators
Dr. Sanjay Kumar

M. M. PUBLIC SCHOOL, SEC- 4 GURGAON

SMART CITY USING PIEZOELECTRIC EFFECT

Our project is based on smart city using Piezo Electric Effect, its weak on the principle of pressure-change, vibrations. We also change the energy and electricity generation by temperature difference.

Student's Team
Bijender Kumar
Kartik Garg
Anshul

School Coordinators
Satender(Phy)
Preeti Gupta(Chem)

BASANT VALLEY PUBLIC SCHOOL, GURGAON

ELECTRICITY GENERATION FROM GARBAGE

From garbage dumping zone, we can obtain landfill gases by the anaenobic action of bacteria. These gases include methane gas along withCO_2 which can be used for heating boilers burning them in a furnance which can be used to produce steam. This steam can be used to rotate turbins which can generate electricity.

Student's Team
Himanshi
Pranjal
Kusum

School Coordinators
Meena Raj,
Shivani Pataniya

SEHWAG INTERNATIONAL SCHOOL, JHAJJAR

SMART CITY

Model is on smart city, involving different facilities like metro, park, residential areas, surveillance through drone.
Definition - What does Smart City mean?
A smart city is a designation given to a city that incorporates information and communication technologies (ICT) to enhance the quality and performance of urban services such as energy, transportation and utilities in order to reduce resource consumption, wastage and overall costs. The overarching aim of a smart city is to enhance the quality of living for its citizens through smart technology.

Student's Team
Sakshi Tiwari
Vikrant Lamba
Harshvardhan

School Coordinators
Mahesh Bhardwaj(Phy)
Sanjay Kumar(Chem)

D.A.V CONVENT PUBLIC SCHOOL, BAHADURGARH

MODERN SECURITY SYSTEM

Now a days, we all are expending more and more on our border, home, school, parking, cattle security. For all above, mostly we use humans. Now on our project replace humans by cheap, modern, easily available technology.

Student's Team
Suhil
Sonu
Vishal

School Coordinators
D.K. Srivestera(Phy)

R.N. TAGORE SR. SEC. SCHOOL, JAMALPUR GURGAON

DIGITAL INDIA

"Digital India" is a programme of central government of India to transform India into a global digitalized hub and to prepare India for a knowledge future. The "Digital India" progamme targets to make government services available to citizen digitally by reducing paper work with the help of improving digital connectivity. The motive behind the concept is to build participative, transparent and responsive system.

Digital India consists of three core components: the development of secure and stable digital infrastructure, delivering government services digitally, and universal digital literacy. Some of the facilities which will be provided through this initiative are Bharat net, digital locker, e-education, e-health, e-sign, e-shopping and national scholarship portal.

Student's Team
Anchal
Himanshi
Siddhi

School Coordinators
Sangeeta Dahiya(Phy)
Sunita Sharma(Commerce)

RAJMALA SR. SEC. SCHOOL, FARUKHNAGAR

CONSERVATION OF ELECTRICITY AND ITS APPLICATION

To generate electricity by speed breaker and to overcome accident on banking road.

The principle that the total electric charge of a system remains constant despite changes inside the system. Synonyms: conservation of charge Type of conservation (physics) the maintenance of a certain quantities unchanged during chemical reactions or physical transformations.

Student's Team
Neha
Garima
Payal

School Coordinators
Ahmed Faizi

MODERN SR. SEC. SCHOOL, REWARI

THE AUTOMATIC RAILWAY GATE CONTROL SYSTEM

The Automatic railway gate control system projects makes use of an arduino nano to control the whole circuit. To servo motors are used to open and close the railway gates. Four IR sensors are used for sensing and arivals or departures of train. The main objective is to close the railway gates when the train approaches so as to block vehicles from going across the track.
The automatic railway gate control system - This model was made by the students to ensure that there is less or no railway accidents.

Student's Team
Himanshu
Aradhana
Priyanka

School Coordinators
Amita Devi(Vice-Principal)
Sheetal Yadav(PRO)

SCHOLARS GLOBAL SCHOOL, BAHADURGARH

LAND REFORMATION

Land reform, a purpose to change the way in which Agricultural land is held or owned, the method of cultivation that are employed or the relation of agriculture to the rest of the economy. As the per capita land are declined, the relative values of land rises, and land becomes increasingly a source of conflict among economic and social groups with in the community.

Student's Team
Harsh Dahiya
Vidhi
Shivam

School Coordinators
Monika Bansal(Comm.)
Sharvan Dubey(Phy.)

G.A.V. PUBLIC SCHOOL, PATAUDA

USE OF WASTE MATERIAL FROM SCHOOL, HOUSEHOLD AND PUBLIC PLACES

In this model we use the waste material from our social environment and conserve our biotic and abiotic components of the global ecosystem(natural ecosystem).
Use of Waste Material from school, household and public places. In this project, students made a small project describing the use of all kinds of wastes that are generated on a daily basis.

Student's Team
Tamanna
Kumari Jyoti

School Coordinators
Ramesh

D.R.A. SR. SEC. SCHOOL, BAHADURGARH

HOME AUTOMATION SYSTEM

It is an automatic home automation system or home assistant which can do our all work on our voice command with help of Internal software, like turning ON/OFF fans, lights etc.

Student's Team
Tarun
Tannu
Aastha

School Coordinators
Vineet Gupta
Preeti

UNIVERSAL PUBLIC SCHOOL, GHOSHGARH GURGAON

IDEAL SOCIETY

"It is a type of systematic society in which we improve living standards of people by using some scientific and social ideas to solve various types of problems like, Water shortage, Sewage problems,Lack of electricity, Water Cleaning and Orphan, Widow and old people loneliness problem."

Student's Team
Anshika
Sakshi
Shaily

School Coordinators
Dharambir(Phy)
Jaideep(Chem)

K.G. SR. SEC. SCHOOL, GURGAON

HYDRO JCB

This project is designing a JCB model based on the principle of hydraulic systems. In this project JCB model is hydraulically operated and controlled by the movement filled with some fluid. It consists of various parts connected to each other in a pre-designed manner which are guided in a constrained way to obtain required output. The principle of the working of the hydraulic JCB is PASCAL's LAW. This law states that when a pressure is applied at one point of a fluid contained in a constrained volume, then the pressure due to that force is equally transmitted to all the points of the fluid, which are acted upon by the same pressure. Using the same principle, we applied pressure to fluid in syringe which is transmitted to other end of tube which is connected to a syringe. The operation of the JCB arm is controlled by the pressure of the fluid. Hence, this project is useful from both the perspectives that are theoretical as well as practical.

Student's Team
Vandana Bhardwaj
Preeti Sharma

School Coordinators
Jyoti benewal

NEW VISION SR. SEC. SCHOOL, GURGAON

MODERN VILLAGE

"Our project shows about digital transformation of our old village to new digital modern village in which we use various technology like : digital information for villagers, digital means of payments and other technology how they are transforming our daily life in villages. It shows various technologies are changing and touching our daily life in various field like education, banking, farming, weather prediction, social networking etc."

Student's Team
Amit Tiwari
Laxmi Narayan
Anchal

School Coordinators
Amit Pal Singh
Savita Yadav

BRIGHT MISSION SR. SEC. SCHOOL, JHAJJAR

DNA FINGERPRINTING

It is used in dispute cases. DNA Fingerprinting involves identifying differences in some specific regions in DNA sequences called as repitetive DNA. It is used in many crime cases, dispute cases, and used for making criminal profiling.

Student's Team
Poonam
Ekta
Sarita

School Coordinators
Santosh(Bio)
Sharda(Pol Sci.)

JAWAHAR NAVODAYA VIDYALAYA, JHAJJAR

EICHHORNIA CRASSIPUS

Eichhornia crassipes is a free-floating aquatic macrophyte growing generally to 0.5 m in height but to nearly 1 m in height in some southeast Asian locations.[1] Eichhornia crassipes forms dense, floating mats. As a free-floating plant, all its nutrients come from the water column.[2] Leaves are thick, waxy, rounded, and glossy and rise well above the water surface on stalks. The leaves are broadly ovate to circular, 10-20 cm in diameter, with gently incurved, often undulate sides. Leaf veins are dense, numerous, fine and longitudinal. Leaf stalks are bulbous and spongy. The stalk is erect, to 50 cm long, and carries at the top a single spike of 8-15 showy flowers. The flowers have six petals, purplish blue or lavender to pinkish, the uppermost petal with a yellow, blue-bordered central splotch. Water hyacinth reproduces vegetatively by short runner stems (stolons) that radiate from the base of the plant to form daughter plants, and also reproduces by seed. Its roots are purplish black and feathery.

Student's Team
Akanksha Deb Roy
Shipra
Nootun

School Coordinators
Momi Paul(Bio)

RAO PAHALAD SINGH PUBLIC SCHOOL, REWARI

WORKING MODEL OF PORTABLE RESCUE BRIDGE

It is based on hydraulic pressure/ vaccum pump. To construct a novel bridge structure having light weight, versatile joints that includes bolts, welding and adhersives for easy manufacture rapid assembly. It is used to save the life of thousands of people in typhoon, earthquake and flood affected areas.

Student's Team
Bijender
Kamal
Vikas

School Coordinators
Khshma(Bio)

NEW SHISHU KALYAN HIGH SCHOOL, GURGAON

INNOVATION IN CIVIL ENGINEERING

To make the model of Hydrolic crane, working on the concept of converting electric energy into mechanical energy/power. It will help civil Engineers to reduce pollution and dependancy on natural reasons i.e. Fossil fuel. Further it is eco- friendly and economical. It is as to use and maintain.

Student's Team
Pooja
Monu

School Coordinators
Pooja Yadav(Sci)
Charu Vasishtha(Sci)

SANTOSH ACADEMY, BADLI

ORGANIC FARMING

Organic agriculture can be defined as: an integrated farming system that strives for sustainability, the enhancement of soil fertility and biological diversity whilst, with rare exceptions, prohibiting synthetic pesticides, antibiotics, synthetic fertilizers, genetically modified organisms, and growth hormones.

Student's Team
Muskan
Shivani
Usha

School Coordinators
Ashik Kumar
Anil Sharma

S.S.C. ACADEMY SR. SEC. SCHOOL, PATAUDI

WORKING CANNON

The main objective of the cannon is improving defense system of the country and to destroy the target with proper aim . It can be used to salute or welcome some great personality. There is an another use of it to welcome and give respect and honour by the fairing of cases on special occasions.

Student's Team
Gagan Bhardwaj
Priya Yadav
Chirag Soni

School Coordinators
Abhijeet Mohanty(Science)

PACE INSTITUTE, JAMALPUR GURGAON

WASTE MATERIAL MANAGEMENT

The project is about waste material management. In this we specially selected the waste produced by polythene bags and the electronic waste . The treatment and management is described.

Student's Team
Kirti Verma
Lakshit Singh Rao
Ritu

School Coordinators
Chhavi(Bio)

T.R.H. PUBLIC SCHOOL, BADLI

HYDRAULICS CRANE

work with water power.
A hydraulic crane is a type of heavy-duty equipment used for lifting and hoisting. Unlike smaller cranes, which rely on electric or diesel-powered motors, hydraulic cranes include an internal hydraulic system that allows the crane to lift heavier loads.

Student's Team
Mandeep
Manav
Switi

School Coordinators
Poonam Gulia

S. D. SR. SEC. SCHOOL, JHAJJAR

HYDRAULICS MACHINE

The lift we use in building now a days are run of electricity but we have made a lift that we run on air pressure. We have made Automatic street lights that will glow after dark only. We have made a robotic hand that can be used industries as a worker.

Student's Team
Rahul
Chirag
Vikas

School Coordinators
Ashok Gulia
Anil Sharma

RAO NIHAL SINGH PUBLIC SCHOOL, REWARI

AIR PURIFICATION

How to purify the environmental polluted air, free of polllution with the help of an instrument called air freshner. The details about the contruction and working model are presented and explained by our students on the day of presentation.

Student's Team
Deepender Yadav
Prasant Yadav
Vasu Yadav

School Coordinators
Sarvesh Yadav(Phy)
Vinod Yadav(Chem)

RRJS DAV SCHOOL, PATAUDI

SOCIAL INNOVATION- PROJECT AMILIE

The project is about helping visually impaired people to navigate and explore the world without any assistance. Visually impaired people suffer with many challengges in navigation, education. This project will provide assistance to them using piezoelectric chips and an AI system.

Student's Team
Nikita
Sakshi
Vrinda

School Coordinators
Mamta

DRONACHARYA SR. SEC. SCHOOL, MUBARIKPUR JHAJJAR

WASTE MANAGEMENT

Working model on Science of clenliness. Waste Management, hydropond lake rain water harvesting reduction of global warming.
Waste management are the activities and actions required to manage waste from its inception to its final disposal. This includes the collection, transport, treatment and disposal of waste, together with monitoring and regulation of the waste management process.

Student's Team
Seema
Muskan
Gaurav

School Coordinators
Abdul Kadir(Phy)
Gumet Garg(Chem)

VISHWAKARMA SR. SEC. SCHOOL, REWARI

SMART CITY

A smart city is a complex and long term vision of a better urban area. We are showing in our model a frame work of digital future facilities as: Transportation- It should be pollution free, Sensing street light- save electricity, Rain Harvesting system- It is used to save the rain water, CCTV Cameras- It is used to defect the accident and incident at any place.

Student's Team
Abhishek
Sahil
Karan Jalotra

School Coordinators
Yatish Kumar
Yogesh Kumar

BAL BHAVAN INTERNATIONAL SCHOOL, DWARKA DELHI

ECO AC / PLASTIC BOTTLE ROPE MAKER

Eco Ac / Plastic Bottle Rope maker .
The new ECO AC System. Comprised of air conditioning lines and an internal heat exchange unit, the redesigned ECO AC product range ups the efficiency of air conditioning units. It also reduces the weight o the unit and the amount of refrigerant used.

Student's Team
Pratham Tiwari
Yuvam Sharma
Sameeksha
Tanmay Sharma

School Coordinators
Mrs Banya Ghose
Mr Rajesh

M.D. SR. SEC. SCHOOL, MUMTAJPUR GURGAON

WASTE MANAGEMENT

To collect memoral processing and disposing of material considered waste. Waste can be put into incinterted and recycled or composted. The most sustainable way to manage waste is to re-cycle and compose.

Student's Team
Gaurav
Komal
Manju

School Coordinators
Sandeep
Chaman

ST. MATTHEW'S PUBLIC SCHOOL, WEST DELHI

SUSTAINABLE DEVELOPMENT USING RENEWABLE SOURSES OF ENERGY

Sustainable Development using renewable sourses of energy .
Sustainable development using renewable sources of energy. Here, students made an effort to explain the advantages of sustainable development. Renewable energy refers to the provision of energy via renewable resources which are naturally replenished fast enough as being used. It includes e.g. sunlight, wind,biomass, rain, tides, waves and geothermal heat.

Student's Team
Kishanshu Kumar
Vipin Nawal
Vishal Mehta
Dhroov Sharma

School Coordinators
Mr. Krishan Kumar

DIVINE HAPPY SCHOOL, WEST DELHI

OBJECT DETECTOR

Object Detector.
The effort of students in making the object detector was really appreciated by the judging members.

Student's Team
Alisha
Aashish
Parv Sharma
Siddharth

School Coordinators
Ms. Priya

HAPPY MODEL SCHOOL , WEST DELHI

GREEN CAR

Green Car.
Green car - Also known as environmental friendly car, Green car are very useful in saving energy and at the same time keeping the environment pollution free. The students made a working model on Green car and explained the uses of the same to save our environment from pollution.

Student's Team
Shubham Shah
Pratham Khurana

School Coordinators
Ms. Simmi Yadav

DHRUVA PUBLIC SR. SEC. SCHOOL, NAJAFGARH

PEIZO WALK

Peizo Walk.
Piezo motors that produce linear motion were made by the students which included linear ultrasonic piezo motors, linear stepper piezo motors, and piezo inertia motors. Although their construction and principles of operation are different, all three designs harness the inverse piezoelectric effect — in which a piezo material expands or contracts when electrical energy is applied — to produce linear movement in a longitudinal rod.

Student's Team
Sonu
Aniket
vinay Verma

School Coordinators
Raveena Kalra

ST. MARK'S SR. SEC. PUBLIC SCHOOL , PASCHIM VIHAR DELHI

ELECTRONIC CHALLAN SYSTEM

Electronic Challan System.
It is a way of crediting the money to one's bank account through a form, generally used in India and Pakistan as a receipt for payment or delivery. An e-challan can also be defined as a specific format used for depositing or remitting the contribution or statutory payment at a bank or treasury. The students were appreciated for their effort.

Student's Team
Kanishk Chabra
Kushaagra Jain

School Coordinators
Mr. Naveen Gupta
Mr. Sachin Arora

ST. MARK'S SR. SEC. PUBLIC SCHOOL , PASCHIM VIHAR DELHI

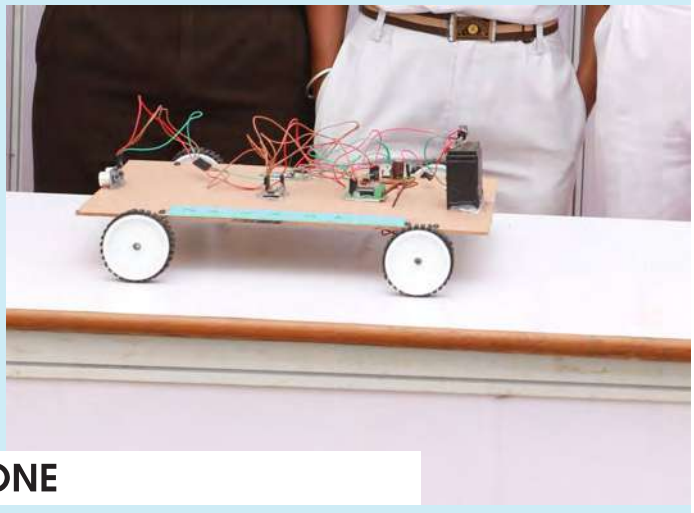
LIFI - DATA TRANSFER

LIFI - Data Transfer.
LiFi is a data transfer technology between devices using light to transmit data and position. In its present state only LED lamps can be used for the transmission of visible light. The concept was beautifully explained by the students.

Student's Team
Manmeet Singh Tuteja
Chaitnya Arora

School Coordinators
Mr. Naveen Gupta
Mr. Sachin Arora

HEERA PUBLIC SCHOOL,DWARKA DELHI



DRONE

Drone was an effort made by the school students where the concept was to remote sensing for various activities like disaster management, Commercial aerial surveillance and many other.
An unmanned aerial vehicle (UAV), commonly known as a drone, is an aircraft without a human pilot aboard. Compared to manned aircraft, UAVs were originally used for missions too "dull, dirty or dangerous" for humans.

Student's Team
Ms. Anjali
Ms. Yogita
Ms. Kirti I

School Coordinators
Ms. Aarti

K. V. HASTSAL , DELHI

TESLA COIL

Tesla Coil.
Students introduced Tesla Coil which they defined as the an electrical resonant transformer circuit designed by inventor Nikola Tesla in 1891. It is used to produce high-voltage, low-current, high frequency alternating-current electricity. Tesla experimented with a number of different configurations consisting of two, or sometimes three, coupled resonant electric circuits.

Student's Team
Ashwini Kumar
Shivanshu Pandey

School Coordinators
Gaurav Goyal

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