स्वच्छ भारत

एक कदम स्वच्छता की ओर

Report on Initiatives taken under

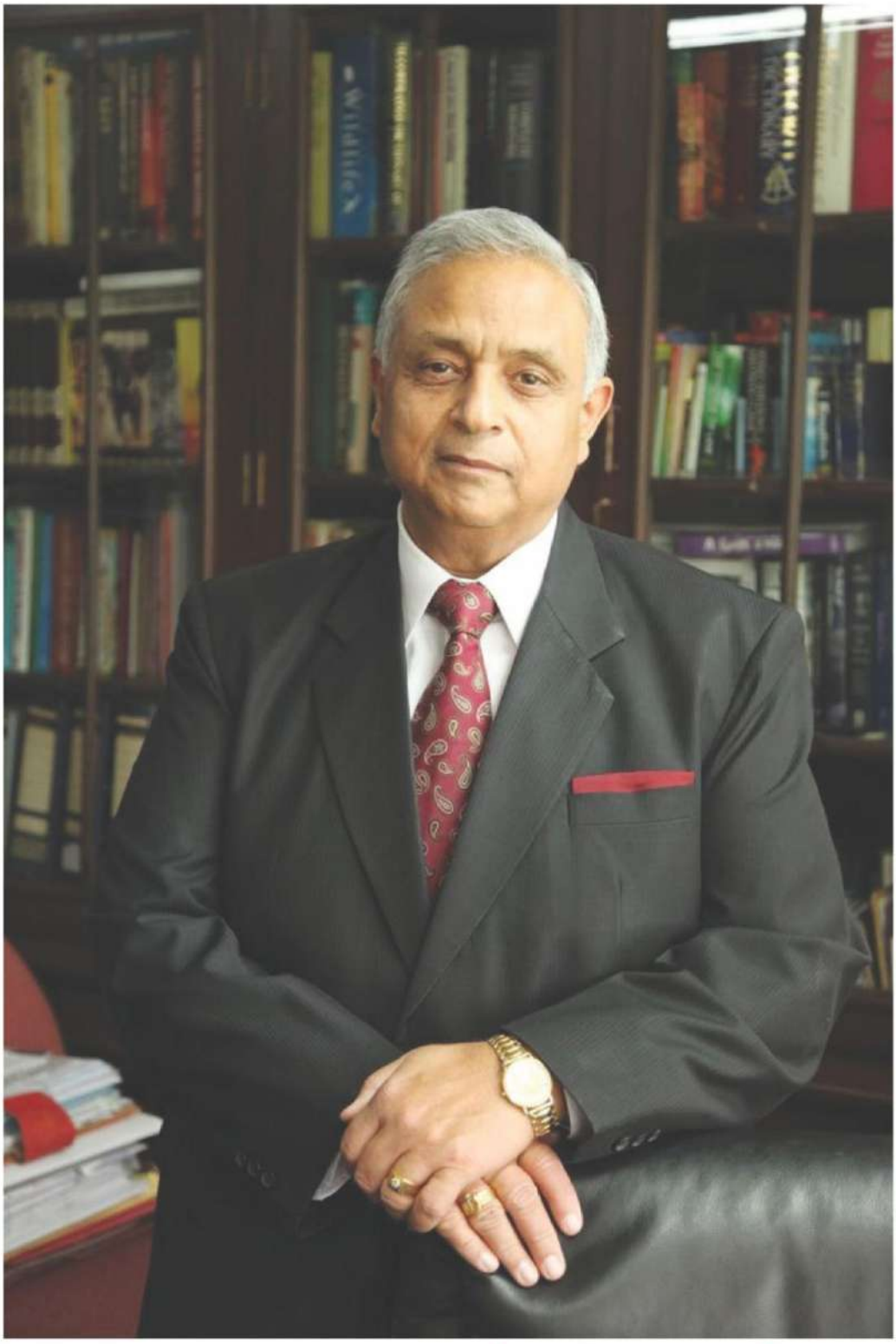
Swachh Bharat Abhiyan

Submitted by

Mehr Chand Mahajan DAV College for Women

Sector 36-A, Chandigarh (U.T.) www.mcmdavcw-chd.edu

Our Guide and Mentor



Dr. Punam Suri Ji, Padma Shree Awardee

Hon'ble President

DAV College Managing Committee

New Delhi

FOREWORD

It gives us an immense pleasure to present the detailed action-taken report of Swachhata 2017-18. At this moment it is vital to extend our sincerest thanks to all those people who have contributed in this phenomenal journey and have worked tirelessly to make this initiative highly successful and fruitful.

Principal Dr Nisha Bhargava's dedicated and focused leadership has given cleanliness projects, drives and community outreach programmes, a new dimension at MCM. Under her flagship, the college has scaled new heights in execution and implementation of various projects related to the benefit of society and environment. Owing to its state of the art infrastructure and futuristic vision of the Principal, the college has been awarded Grade A by NAAC and a grant of Rupees 80 lakhs under STAR College Scheme of Ministry of Science and Technology, Department of Bio-Technology, Government of India. The main thrust of worthy Principal is on the inculcation of behavioral changes in the youngsters through example and training. In this direction, the initiatives like installation of Solar Panels, Biogas Plant, Rainwater Harvesting System, Waste Segregation, Plantation of Spice Garden and Artificial Forest have been successfully carried out by team MCM.

The action plan of session 2017-18 gave us an insight, sensitivity and close understanding of the problems that arise at the grass root level. The initiatives that have been undertaken during 2017-18 are in tune with the Swachh Bharat Mission and contribute towards a cleaner India. It has strengthened the Swachhata committee as a team and we look forward to grow through such initiatives in future.

Swachhata Committee
Mehr Chand Mahajan DAV College for Women
Sector 36-A, Chandigarh

MESSAGE FROM THE PRINCIPAL

Education completes its full circle when it gives its due back to the society. Today, India stands tall on the world map yet many grave problems engulf the country. Insensitivity towards the filthy surroundings is one of these. The ambitious project of Government of India of making Swachh Bharat, gives hope and courage to the youngsters that they can change the course of the country and make it green and clean. I appreciate this endeavour from the core of my heart.

MCM DAV College has always had a strong vision and commitment towards the service of the society especially the weaker sections. We believe in taking knowledge from lab to land. Combined with traditional ethos and modern methods, the college is committed to contribute towards making the environment safe and clean. The Swachh Bharat Abhiyan projects are hence

not limited to the allocated hours or days of service, but it is just the ignition of a lifelong inculcation of values in the youth of the country. The insemination of these values, I believe will go a long way in dispersing the seeds of clean, healthy and green surroundings throughout the world through our members of the teaching staff, students, NSS volunteers and support staff. With a deep sense of gratification, I take pride in the successful completion of different projects undertaken by our Swachhata Team of MCM.

This pursuit of cleanliness and waste management is not any ordinary enterprise but a pilgrimage towards the social service and commitment towards realization of the dream of a clean India characterized by achievement of sustainable development. The Swachhata Committee of the college has put its heart and soul into the venture and all the members have worked laboriously to make this attempt purposeful and useful. I am pleased to see the tireless efforts of the team in successfully achieving the targets fixed for the massive cleanliness drives during the session 2017-18. I congratulate the entire team for their earnest efforts and wish them all the best in their future endeavours of noble service to the mother land.

Our efforts in the direction of Swachhata have served as catalysts in fostering social responsibility and nationalism among the students who are the torchbearers of the nation's future and I am confident that they, under the able guidance of their teachers and mentors, will work as harbingers of change. I am sure that this year again the strategic target fixed under Swachhata Abhiyan will significantly contribute to the magnificence of the city and nation.

I take this opportunity to express my gratitude to our Worthy President, Dr. Punam Suri, Padma Shri Awardee for his motivation and guidance to carry forward our rich legacy.

Best Wishes !

Dr. Nisha Bhargava
[Principal]

Professor Raj Kumar

Vice-Chancellor
Panjab University
Chandigarh, India

Message

It is heartening to know that extent to which MCM DAV College for Women has worked for furthering the cause of Swachh Bharat Abhiyan of the Government of India. Going by the clarion call given by our worthy Prime Minister, the college, through various endeavours like biogas production, harnessing of solar energy, rain water harvesting, has tried to contribute to the realization of Gandhiji's vision of a Clean India.

I congratulate MCM for their environment consciousness and wish them good luck for future endeavour.

(Raj Kumar)

B.L. SHARMA
IAS

सत्यमेव जयते

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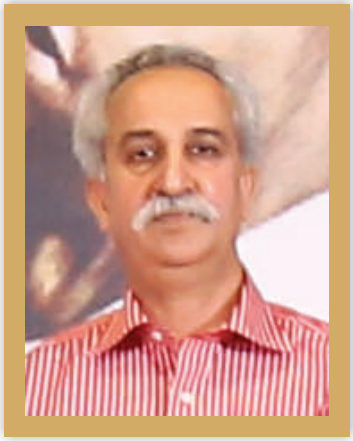
D.O. NO. 161
DATED: 12/09/2018



Dear Dr. Bhargava,

The rapid strides made in the direction of Swachh Bharat Abhiyaan by MCM DAV College for Women, Sector 36-A, Chandigarh deserve to be duly acknowledged and appreciated. I am informed of the activities carried out by the college in connection with Swachh Bharat Abhiyan. I wish to congratulate the college authorities for carrying forward the mission in letter and spirit.

The list of activities organised by the college under the aegis of Swachh Bharat Abhiyaan is impressive and goes on to reflect the earnest efforts of the college to make the Abhiyan successful. I take this opportunity to extend my best wishes to the college for their future endeavours in this direction.

With regards,

Yours sincerely,

(B.L. Sharma)

Dr. Nisha Bhargava,
Principal,
Mehr Chand Mahajan
D.A.V. College for Women,
Sector 36-A, Chandigarh.

Kamal Kishor Yadav
IAS

Commissioner
Municipal Corporation
Chandigarh

Message

It gives me immense pleasure to know that Mehr Chand Mahajan DAV College for Women has decided to bring out a special issue on Initiatives taken under Swachh Bharat Abhiyan.

As a befitting tribute to Mahatma Gandhi, the government has set itself to achieve this stupendous task by 2019, the 150th anniversary of Mahatma Gandhi. I am grateful to the College and its students for demonstrating their help, support and strong commitment to this noble mission.

I wish Mehr Chand Mahajan DAV College for Women, Sec 36, Chandigarh to continue to flourish and prosper in the years to come and the students who emerge from the august portals will hold their heads high.

(**Kamal Kishor Yadav**)

Rubinderjit Singh Brar
PCS

Director Higher Education
Chandigarh Administration

Message

The endeavours and initiatives of Swachhata that were undertaken by MCM DAV are commendable. Catering to the need of the moment, the initiatives of Swachhata Mission is in its fourth year and the college seems really enthusiastic. I congratulate the college authorities for making this mission a great success. The ventures and pursuits of cleanliness organised by the college under the patronage of Swachhata would definitely create a difference in our society.

I would once again like to take this opportunity to congratulate the college and everyone who is a part of this endeavour and have put energy into building something everlasting that today we can claim "Swachh Bharat".

(Rubinderjit Singh Brar, PCS)

Davesh Moudgil

Mayor
Chandigarh
Municipal Corporation

Message

It gives me immense pleasure to note that MCM DAV College for Women, Chandigarh is publishing a report on initiatives taken under Swachhata Bharat Abhiyan to illustrate the contributions made by the college.

The Municipal Corporation, Chandigarh has always encouraged institutions to work towards the realization of Gandhiji's vision of 'Swachh Bharat'. The mammoth list of activities organized by the college is commendable and contributes highly to the National Mission of Swachhta.

I congratulate MCM DAV College for Women for their endeavours and wish them luck for their future.

(Davesh Moudgil)

Professor Shankarji Jha

Dean of University Instruction
Panjab University
Chandigarh

Message

I am pleased to know that the Mehr Chand Mahajan DAV College for Women, Sector 36, Chandigarh has entered into Golden Jubilee Year in 2018. On this occasion, the college is bringing out a Catalogue containing the major activities organised by the college under the aegis of Swachh Bharat Abhiyaan.

The tradition of bringing out Catalogue "MCM Swacchata Initiatives" on the occasion Golden Jubilee Year in 2018 is to provide a forum for giving expression to the creative ideas.

I send my best wishes to the Authors and Editors for the success of this Catalogue.

(Prof. Shankarji Jha)

Prof. Parvinder Singh

Dean, College Development Council
and Controller of Examinations
Panjab University, Chandigarh

Message

It is indeed a matter of great pleasure that the MCM DAV College for Women, Chandigarh has organized various activities under the aegis of Swachh Bharat Abhiyan started by the Hon'ble Prime Minister of India, Shri Narendra Modi in 2014 on the Gandhi Jayanti (145th birthday anniversary). It is implemented to fulfill the vision and mission of clean India.

Cleanliness is important in our life as well as for the nation. It is not only the responsibility of the local government but also each and every citizen of the country. Cleanliness drive is the best start of eliminating social issues from the society as well as promoting the growth of country with its citizen's individual growth. It is also a best way to protect the world from global warming.

I, congratulate the Management, Principal, Faculty members and students of the College for Swachhata Initiatives.

(Parvinder Singh)

Col. G.S. Chadha (Retd.)

Registrar
Panjab University
Chandigarh

Message

It gives me great pleasure to note that MCM DAV College for Women, Chandigarh, is publishing a Special Report on Initiatives taken under Swachh Bharat Abhiyan to document and highlight the contributions made by the college in this regard.

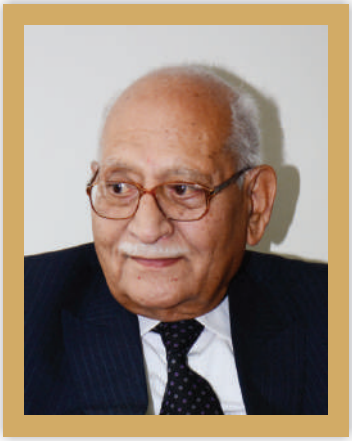
It is indeed very heartening to note that MCM DAV College for Women, Chandigarh, is pursuing the national mission of Clean India and contributing immensely towards success of the mission defined by the Hon'ble Prime Minister of our nation.

I extend my heartiest congratulations to the Management, Principal, Staff Members and Students of the College, for their relentless efforts for bringing more synergy in transforming our county towards a clean and green one.

(Col. G.S. Chadha (Retd.))

R. S. Sharma

General Secretary
DAV College Managing Committee
New Delhi



Message

It is heartening to note that Mehr Chand Mahajan DAV College for Women is bringing out a special issue on Initiatives taken under Swachh Bharat Abhiyaan.

The college thrives on a unique blend of tradition and technology as well as creating a consciousness about duties towards the nation and stands fully prepared to meet the challenges of the changing times.

My heartiest congratulations to everyone associated with this great temple of learning and I wish the college all the very best for future endeavors.

H. R. Gandhar

Sr. Governing Body Member
DAV College Managing Committee
New Delhi

Message

I am pleased to learn that the Mehr Chand Mahajan DAV College for Women is bringing out a special Report on Initiatives taken under Swachh Bharat Abhiyan.

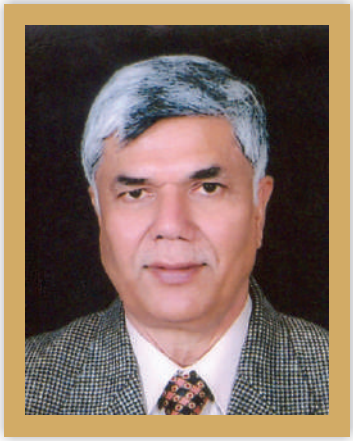
Swachh Bharat Abiyan is a noble initiative of Govt of India to fulfill Mahatma Gandhi's vision of a clean India. People from all sections of society should come forward and join this national mission in order to make it a Grand Success.

I compliment the Principal, staff members and students of the college for making dedicated efforts to take the Swachh Bharat Mission forward.

(H. R. Gandhar)

Dr. Satish K. Sharma

Director (Colleges)
DAV College Managing Committee
New Delhi



Message

It gives me immense pleasure to note that Mehr Chand Mahajan DAV College for Women is publishing a special issue on Initiatives taken under Swachh Bharat Abhiyaan.

Swachh Bharat Abiyaan launched by Govt of India has become a true Mass movement. I am happy to learn that the college is actively participating in the movement to create a clean India.

I extend my good wishes to the entire MCM family for their efforts aimed at bringing Swachh Bharat Mission to new heights.

(Dr. Satish K. Sharma)

Mehr Chand Mahajan DAV College for Women
Sector 36-A, Chandigarh (U.T.)

Index

Swachhata Action Taken Report

[Quarter I : July - September 2017]

Mehr Chand Mahajan DAV College for Women

Sector 36- A, Chandigarh (U.T.) **www.mcmdavcw-chd.edu**

INTRODUCTION

Swachh Bharat Abhiyan is an initiative by the Government of India to make the country completely clean and hygienic. This mission was launched by Prime Minister, Shri Narendra Modi on 2nd October 2014 and it urges people to fulfill Mahatma Gandhi's vision of a clean India by his 150th Birth anniversary in 2019. Therefore, the mission envelops all rural and urban areas of the country to create a clean and hygienic environment.

The clarion call given by our Hon'ble Prime Minister Shri Narendra Modi seeking citizen participation has found increasing resonance in the efforts of various stakeholders that has transformed it into a mass movement. Conscious of its social responsibility, MCM DAV College for Women has plunged itself full throttle into this initiative in order to contribute towards this noble cause. Committed to the cause of 'Swachhata', MCM has undertaken a slew of initiatives inside the campus as well as at the community level including its adopted village- Badheri. The efforts by the college, aimed at accelerating the pace of realization of this mission, include plantation drives, solar lighting, rain water harvesting, real-time air quality monitoring system, generating awareness about waste segregation, installation of blue and green dustbins within the campus, cleaning of campus and surroundings by NSS volunteers, sensitization programmes on sanitation, hygiene and cleanliness in village Badheri, participation in Swachh Pakhwada- an initiative of Ministry of Youth Affairs and Sports, participation in Institutional Swachhata Ranking and so on. Going beyond the brief and taking the mission a step forward, MCM endeavours to make its campus not just a clean but also a green and hygienic one which proves to be a model for others to emulate.

The role of the college has been instrumental in realizing the mission of Swachh Bharat. Recognizing the vital role of spreading Swachhata awareness, the college observed Swachhata Pakhwada from July to September 2017. As part of this initiative, Swachh Bharat Pledge was administered to more than 200 students and faculty members where they promised to devote at least 100 hours per year to work for cleanliness voluntarily. The college undertook following activities under Swachhata Pakhwada:

Clean Campus Day: The college conducted a Campus Cleaning Programme at its premises where volunteers (divided in several groups) carried out a massive cleanliness drive. Waste material such as dry leaves, paper, carry bags, plastic items was collected from classrooms, lawns, offices and surrounding areas of the premises and segregated into bio-degradable and non-biodegradable.

Clean Hostel Day: A cleanliness drive was carried out in the college hostels in which students undertook extensive cleaning of their rooms, common room, backyard and the surrounding areas. Ms. Shaily Bhagi, a senior hostel warden, inaugurated the Clean Hostel Day event. During this drive, Cleanest Hostel Room Contest was conducted wherein the hosteller with the cleanest room was awarded. The aim of this contest was to promote healthy living habits among the students by reinforcing the message that cleanliness begins at home. The prize winners of this contest were awarded later during the Swachhata Prize Distribution Ceremony.



Green Campus Day: To infuse the love for nature among students and make them realize the importance of green and healthy planet, Green Campus Day was observed at college premises. A tree plantation drive was the highlight of the day in which members of the committee planted saplings in college campus. Our brilliant students with their innovative ideas gave the premises a whole new look.

Health Check-up and Awareness Camp: The Medical Committee of the college organized a Health Check-up cum Awareness Camp for the workers employed in the college canteen, mess and shops on the campus as well as residents of college hostel. Around 40 workers were examined by a team of experts from Healing Touch Hospital which conducted various tests including eye-checkups, dental checkup, tests for diabetes, hemoglobin, PFT. The experts also sensitized the workers on the issue of general hygiene and a healthy life style. The workers of the college enthusiastically participated in the camp and benefitted from the insights of the experts. During the awareness camp, different activities like poster making and slogan writing were conducted and the winners were felicitated. The aim of the awareness camp was to teach students to improve the level of personal hygiene and community health at large. Students were also sensitized about the importance of maintaining hygiene and the benefits of healthy diet and life style.

Essay Writing Contest: Students of the college participated in Essay Writing Contest organized by Swachhata Abhiyan Committee under the theme "Innovative Ways for Spreading the Message of Hygiene". The competition was conducted in three languages i.e. English, Hindi and Sanskrit. Interesting topics were given to the students and through their writings they came up with many innovative ideas. At the end of event, participants were awarded with prizes and certificates.

Clean Surroundings Day: This event was conducted with an objective to educate the residents of Sector 36, Chandigarh about the environmental issues and significance of cleanliness and hygiene. NSS volunteers of the college observed this day by cleaning of roads leading to the institution in coordination with the Municipal Corporation, Chandigarh. The efforts were productive and were highly appreciated by the Chandigarh Municipal Corporation.

Care for the Surroundings: Under the Care for the Surroundings initiative, garbage management system in public places was studied and an action plan in coordination with the Municipal Corporation was framed. As part of the event, a visit to the adopted village Badheri was made by the NSS unit of the college. The volunteers explained the concepts of cleanliness and health to the residents. They also conducted a survey of more than 80 dwelling units in Badheri. During the survey, the residents were quizzed about a wide range of issues pertaining to cleanliness like availability of clean drinking water, hygiene related habits, availability of toilets inside the houses, garbage disposal, awareness about waste segregation at source, prevalence of illnesses among children, etc. The study found that most of the residents had access to clean drinking water, in-house toilets and proper garbage collection system. There was a general lack of awareness among most of the residents about segregation of waste.

Under the same initiative, the volunteers visited the market of Sector 36 and interacted with shopkeepers, vegetable and fruit vendors with the underlying aim of gaining an insight into the system adopted for disposal of the waste generated by them and the system for cleaning. The study revealed that the garbage was disposed off responsibly by the vendors and the Municipal Corporation truck collected it twice in a week. As a part of this initiative, a visit to the institutions for the poor was undertaken by NSS volunteers.

The volunteers visited Kartar Aasra Orphanage, Chandigarh to study the garbage disposal system being followed over there. The study found that the garbage kept in garbage bags was collected by MC garbage truck on a daily basis. The inmates were also sensitized about cleanliness and hygiene.

Elocution Competition on 'Health and Hygiene is the Real Wealth': The language departments of the college i.e. Hindi, English and Sanskrit organized Elocution Competition on the topic 'Health and Hygiene is the Real Wealth'. Students participated enthusiastically in the competition and presented insightful points advocating the imperativeness of health and hygiene.

Workshop on Composting: The department of Botany organised a workshop on Composting in which 60 students participated. The theme of the workshop was- 'Compost Banao, Compost Apnao'. Through the workshop, the students were made aware of the benefits of making compost and were also guided about the process of making compost at home.

Say No to Polythene: Continuing its efforts towards creating mass awareness among students regarding pollution caused by plastic, a session was held at the college. Mr. Gaurav Gaur, Assistant Professor, Centre for Social Work, Panjab University was the keynote speaker for the session that witnessed enthusiastic participation of more than 250 students and NSS volunteers.

Workshop on Waste Management: The day was dedicated to sensitizing students about the ways to create new things by utilizing waste material and the importance of proper disposal of e-waste through a highly informational workshop on Waste Management. During the workshop, NSS volunteers prepared many utilitarian objects from waste and displayed

these at the campus. Chief Guest on the occasion was Mr. Tham Lem Lian, Director, NSS, Ministry of Youth Affairs and Sports, Govt. of India. Captain Subhash Chand, Regional Director, Directorate of NSS, Chandigarh and Mr. Bikram Rana, State Liaison Officer (NSS), Chandigarh Administration were the Special Guests on this occasion.

Closing Ceremony: For the distribution of prizes and certificates to the participants of various competitions organized under Swachhata Pakhwada, a Prize Distribution Ceremony was held. The Chief Guest on the occasion was Mr. B. Purushartha, IAS Commissioner, M.C. Chandigarh. The brand ambassador for Swachhata Abhiyan (Chandigarh) Mrs. Savita Bhatti and Mr. Davesh Moudgil, Municipal Councillor, Chandigarh were special guests during the ceremony.

Mr. B. Purushartha, IAS Commissioner, Municipal Corporation Chandigarh(U.T.)

Mr.Davesh Moudgil Councilor, Municipal Corporation Chandigarh (U.T.)

Swachh Bharat Pledge was administered to more than 200 students and faculty members. Students pledged towards devoting at least 100 hours per year to work for cleanliness.

Photo Booth for Swachh Bharat Awareness: The Department of Mass Communication put up a photo booth to sensitise and educate students about the Swachh Bharat Mission in an innovative manner and through the medium that the youth identifies with. The booth included the glasses of Gandhiji and a television cut-out as props. The TV cut-out had the activities carried out under Swachh Pakhwada displayed as a ticker beneath the TV screen.

'I am the change'- Personal initiatives for Cleanliness: The department of Fine Arts undertook various idea generation activities for the utilisation of waste material in an optimum manner. The students created utilitarian items from waste material. Continuing its endeavour to promote a 'Clean and Green MCM' and to sensitize students on the importance of a clean and green environment, departments of Fine Arts and Interior Designing and Decoration jointly organized a workshop on recycling of waste material. The participants of the workshop showcased their creativity by painting innovative designs on used buckets and recycling them as pots for plants.

Cleanliness Lab / Departmental Room Contest were organized and the best maintained labs and departmental rooms were awarded.

Cleanest Washroom Contest was held and the worker who maintained the cleanest washroom was awarded.

Cleanest Food Kiosk Contest: Canteen Committee of the college organized this contest to adjudge the cleanest of all food kiosk, on the basis of cleanliness and hygiene maintained in and around the different kiosks at the campus.

Cleanest Office Contest: The offices in the administrative block were surveyed for the cleanliness maintained therein and the Cleanest Offices were awarded.

'Samagra Swachhta – Shramdaan': Best Hostel Block Contest was organized under this initiative.

'Sarvatra Swachhta': The sweepers and gardeners of the college undertook a cleanliness drive in the Sector 36 gardens and market areas.

Most Hygienic Food Worker Contest: Mess Committee of the college organized the Most Hygienic Food Worker Contest to create awareness among food workers on the importance of hygiene.

Best Maintained Lawn Contest: Landscaping Committee and Horticulture Committee of the college organized this contest.

Cleanliness Drive: A cleanliness drive was carried out at Sector 17 Plaza and the parking area near Neelam Theatre by the NSS unit of the college. The event was organized as part of the Swachhata Pakhawada under the directive of MHRD to perform cleanliness drive in a prominent area of the city. As an extension of cleanliness drive, a Best out of Waste Competition was also organized on the second day to inculcate a sense of waste management in the volunteers.

Prize Distribution Ceremony: The Swachhata Committee of MCM DAV College for Women organized a Prize Distribution ceremony to honor the winners of various competitions held under the banner of 'Swachhata hi Seva'. Organized as per the directive of Ministry of Human Resource Development, Government of India, the aim of Swachhata hi Seva was to sensitise various stakeholders about the importance of cleanliness and hygiene and, to bring about behavioural and attitudinal change towards cleanliness through innovative activities. The Chief Guest on the occasion was DHE UT Mr. Rakesh Kumar Popli, PCS.

Soliciting active participation and support of each and every individual in making Clean India a reality, Mr.Popli expressed appreciation for the initiatives undertaken by MCM. Dr. Geeta Mehra, Coordinator, Swachhata hi Sewa presented a PowerPoint presentation detailing the activities, including setting up of biogas plant, vermicomposting, e-waste management, real-time air quality monitoring, etc. being undertaken by MCM to march towards 'Clean MCM, Green MCM'. A short film by the Department of Mass Communication on 'What can I do to make India clean?' and a movie by NSS unit chronicling the activities undertaken as part of Swachh Bharat Abhiyan were also showcased during the event.

Prize Winners with the Chief Guest

Swachhata Action Taken Report

[Quarter II : October - December 2017]

Mehr Chand Mahajan DAV College for Women

Sector 36- A, Chandigarh (U.T.) www.mcmdavcw-chd.edu

NSS Camp on 'Health, Hygiene and Cleanliness': Hygiene and health are go hand in hand. To reiterate this interconnection in daily practice, the NSS unit of MCM DAV under the guidance of Mrs. Punam Dawgotra and Mrs. Sugandha Sapru organised a week long Day and Night camp on "Health, Hygiene and Cleanliness" in the month of October 2017. During the camp, more than 100 volunteers interacted with the residents of the adopted village Badheri. The volunteers informed the residents that cleanliness is important for personal as well as psychological wellbeing. Apart from conducting cleanliness drives, the volunteers sensitized the residents of Badheri about the ways of conserving environment, maintaining hygiene and keeping the neighbourhood and society clean. They were made aware about the methods of waste segregation, disposal of waste, composting and making of eco enzymes from fruit peels. The residents were apprised of the negative effects of burning garbage and leaves. The village women were explained the issues related to menstrual hygiene and methods of making hygienic and economical reusable sanitary pads. While interacting with children, the NSS volunteers gave demonstrations on some personal hygiene practices like washing hands and personal hygiene. The volunteers also taught the various techniques of making useful products from waste at home like foot mats, carry bags, envelopes and decorative items from bottles. etc. Apart from these activities of Swachhata, volunteers also spread awareness about the importance of educating girls and their wellbeing.

Green Diwali : In furtherance of the spirit of Swachh Bharat, the college organized a Green Diwali Mela. Dr. Nisha Bhargava, worthy Principal inaugurated the festival with 'Gift a Plant' initiative wherein she gifted saplings to the staff members, thereby conveying the message of need for environmental conservation. She advocated propagation of eco friendly celebration of festivals and sensitizing people to contribute in gifting our future generations a cleaner and greener planet. Stalls aimed at promoting environment-friendly products like earthen diyas, candles, decorative lights made from waste material like disposable cups, etc. were set up during the fest. Eco-friendly Rangoli Competition and Poster making Competition were also held at the campus.

Craft made of Castoffs: Taking up eco-friendly measures of 'recycle, refurbish, and reinvent' a String Art Workshop was organized in October 2017 in the college premises. During the workshop, 50 students participated and learnt the art of making decorative pieces using common discarded products like colourful anchor strings, used yarn, nails and wooden planks. Thereafter they showcased their creativity by making beautiful pieces for decoration using the technique. Applauding the endeavour of the students, Principal Dr. Nisha Bhargava appreciated the creative prowess and talent of students in creating best out of waste during the workshop. She also suggested that reusing the discarded materials is not only a smart choice but also in the spirit and substance of the Swachhata Mission.

Swacchata MoHUA App : The college organized an interactive session in collaboration with Municipal Corporation, Chandigarh Administration under the aegis of Swachhata Committee and the NSS unit of the college. The session aimed at generating awareness about the mission and bringing about attitudinal and behavioural changes towards cleanliness. The officials observed that dream of clean India can only be realized through active participation by every responsible citizen and it required to be put in everyday practice.

Encouraging the students to download Swachhata MoHUA App, the officials said that students are important stakeholders in the mission. They also sensitized the students that cleanliness is not limited to cleaning surroundings but also promoting environmental conservation by planting trees, creating pollution free environment and providing sanitation facilities. The participants were informed about waste-segregation techniques and the importance of making cleanliness a way of life.

The officials also informed the students about several initiatives taken at the city, state and national level for promoting cleanliness. All participants took an oath to keep their surroundings and localities clean. The NSS volunteers of the college charted out their plan of action to be implemented in the village they had adopted and presented a brief report of cleanliness and awareness drives undertaken by them. The initiatives of the volunteers were applauded by the officials.

Nutrition and Food Safety: The Department of Food Science organized a workshop on 'Awareness Generation and Dissemination of Knowledge and Skills about Recent Advances in Nutrition and Food Safety sponsored by Department of Biotechnology and Department of Science and Technology. The workshop was organized in collaboration with Department of Community Medicine, School of Public Health, PGIMER, Chandigarh. The objective of the workshop was to generate awareness about issues pertaining to food safety so as to help in the prevention of potential health hazards and sensitize people about recent advances in this field. A Mobile Food Testing Lab was also set up by Chandigarh Administration during the workshop wherein the samples of different food items were tested for the presence of adulterants. Raw food articles were collected from different eatery sources such as college canteen, hostel messes and food kiosks in the college campus. Milk was tested for the presence of starch, fat and sugar by standardized FSSAI method of checking adulteration and was found to be unadulterated. The samples of

turmeric powder were tested for the presence of metanil yellow through a chemical analysis and no adulteration was found in the samples. No starch or chalk powder was found in the powdered spices namely gram masala, coriander powder, red chilli powder, amchur, etc. Thus, all the samples collected from strategic food production points in the college were found to be unadulterated.

Lecture on Indoor Pollution: With the growing incidence of respiratory ailments in the country, health experts caution about the indoor air pollution hazards as several studies show that indoor pollutants are much higher than those in an urban outdoor environment. A lecture cum interactive session on the causes and remedies of Indoor Pollution was organized in the college by Dr. Shafila, Assistant Professor, Environment Studies. The lecture aimed to sensitize the students and faculty members about the alarming rise in indoor pollution and its ill-effects on the health. The lecture enlightened them about the ways in which to tackle this problem. Dr. Shafila also informed that the level of indoor air pollution is very high in our country mainly because of reasons like overcrowding, poor ventilation, faulty design of dwellings and indoor smoking, poorly maintained AC systems, incense sticks, air fresheners, and insecticides. Also, mosquito repellent coils, heavy carpets, curtains and furnishings that entrap dust and dust mites, as well as kitchen fumes cause indoor pollution. She offered some simple measures as remedy to indoor pollution as: removing the pollutant, grow plants to help remove dangerous gases and maintaining appropriate ventilation.

Biodegradable Crockery: The promotion of usage of biodegradable crockery by the food kiosks at the college aims to minimize the harm done to the environment by non-biodegradable disposable crockery. Some of the kiosks in the college have started using wooden cutlery and paper plates. In addition, a letter has been forwarded to the Nestle's regional head to replace the plastic cutlery with wooden or edible ones.

Workshop on Mask Sculpture : A workshop on Mask Sculpture was organized by the Department of Fine Arts wherein the students made portraits by using waste newspaper for paper pulp, waste pieces of ply board, expired or used talcum powder and shilpkaar. 48 students participated in this workshop and learned various techniques to make best out of waste.

Research Projects

Project1: Preliminary studies on habitat characterization of mosquito species breeding in N-Choe, Chandigarh.

Sponsored by: Malaria Wing, Health Department, Chandigarh Administration under Chandigarh National Vector Borne Disease Control Programme.

Aim of the study

1. To assess the presence and abundance of mosquito larvae in N-Choe, a seasonal stream that originates in Chandigarh and runs across the Leisure Valley to Kajheri, Mohali (now known as Ajitgarh) Punjab, India, and later merges into the Ghaggar River.
2. To evaluate the associations between the characteristics of the water bodies that influences the abundance of anopheline and culicine mosquito vectors.

Results : Culex breeding was restricted to water with low phosphate and iron content. The concentrations of ammonia, nitrites and nitrates remained almost constant indicating the presence of bacteria and organic waste in proportionate amounts. Total hardness levels varied during the survey period. Excess Calcium (Ca2 +) and Magnesium (Mg2+) ions contribute to water hardness. The minerals in hard water act as a buffer which reduces the amount of acid in the water. The resulting water becomes more alkaline and higher in pH. Evaporation can cause salinity concentrations to rise. As the water level lowers, the ions present become concentrated, contributing to higher conductivity levels. This is why conductivity and salinity values often increase in summer due to lower flow volume and evaporation. Water conductivity values did not show a regular pattern in the present studies.

Project 2: Synthesis, characterization and evaluation of larvicidal potential of curcumin nanoparticles against the vector species of mosquitoes (Diptera: Culicidae).

Sponsored by: Department of Science & Technology, Chandigarh Administration

Aim of the study : To develop a method for the preparation of organic nanoparticles (ONPs) of curcumin with a view to improve its aqueous-phase solubility and to evaluate its larvicidal efficacy against the mosquitoes.

Results

I. Species identification

The Culex larvae were identified to be belonging to species tritaeniorhynchus based on the larval and adult identification keys.

II. Larvicidal properties of ONPs

A dose dependent mortality was observed as the percentage mortality (y) was positively correlated with the concentration (x) of the ONPs. The lethal concentration (LC50) was found to be 38 µM.

III. Histological studies on control and treated larvae

In the control group, the midgut epithelium consisted of a single layer of digestive cells that exhibited a well developed brush border and a cytoplasm with acidophilic regions. In the treated larvae, there was a hypertrophy of intestinal cells which began topull away from each other. This is explained by the fact that the intercellular connections ' junctions' were broken. Cell lysis was observed with a cytoplasmic debris discharge in the intestinal lumen. Also the peritrophic membrane showed destruction.

Conclusion: Organic nanoparticles of the curcumin derivative (ONP1) have shown larvicidal potential against the vector species of Culextriteniorhynchus. Once curcumin forms nanoparticles, the size reduces to 2-40 nm, which is much less than the size of curcumin particles dissolved in DMSO (500-800 nm). Reduced size is responsible for better penetration and higher uptake by cells. Extensive field studies are required to be conducted to evaluate actual potential of the ONPs. Electron microscopic studies can shed light on the detailed mechanism of action of ONPs.

Artificial Forest : In order to increase the green cover, a patch of land (about 70ft X 25ft) has been identified in the campus. It is being prepared for creating an artificial forest land and seventy trees of different varieties will be planted. In order to stratify the forest patch, plants of different heights will be planted. To create awareness about the flora in the campus, labels specifying the scientific and common names of medicinal and ornamental plants have been put up. Efforts were made to beautify Rishi Vatika. Ornamental Sicus plants were planted to enhance the landscape and a wall with additional plants was erected.

Composting Units : Under the aegis of Rashtriya Uchchatar Shiksha Abhiyan (RUSA), three composting units were constructed. This initiative was taken under Swachh Bharat Abhiyan where main aim was to recycle green waste (i.e. plant litter) generated in college campus into manure that could further be utilized for gardening purpose. Thus, with this initiative, zero waste zones could be created in the college premises.

Vertical Farming: The college introduced vertical farming. Six stainless steel frames (Dimensions 2 racks of 5ftx1.5ft, 7x1.5ft and 6x1.5ft each) were installed in the campus. In all, three varieties of plants were planted. These are Acalyphawilkesiana Mull. Arg.(common name – copper leaf, fire dragon), Ophiopogon japonicas (Thunb.) Ker Gawl., Tabernaemontanadivaricata. (L.) R.Br. ex Roem. & Schult. In addition, big planters with multiple plants were prepared as a part of landscape enhancement.

Vermi Composting : The college has functional vermi composting for organic manure production. The fruit and vegetable waste generated from the mess is optimally utilized as manure for the flora on the campus.

New Constructions

The following construction was undertaken as a part of Swachhata initiative in the college.

1. New construction of washrooms in D Block of hostel, first floor and second floor (7 + 7 = 14)
2. Renovation of washrooms in D Block of hostel, staff washroom at ground floor. Total units = 4
3. Temporary washroom at celebration ground. Total units = 2.
4. New construction of toilets at PG Block. Total Units = 15.
5. Total Units of all washrooms = 35.

Eco-enzyme: Eco enzyme (garbage enzyme) is a complex solution produced by fermentation of sugar (brown sugar, jaggery or molasses sugar), fresh kitchen waste (fruit and vegetable) and water in 1:3:10 ratios, which is fermented for three months in an air-tight container. Once ready, it becomes a dark brown coloured liquid with a strong sweet-sour fermented scent. As an alternative to the cleaning products, the eco enzyme is a natural multi-purpose liquid, which has numerous applications and can be used in homes, agriculture, animal husbandry and many other areas at a negligible cost. It has anti-bacterial and antifungal properties and can be used as a natural antiseptic for households. It removes odour and toxins released in the air because of smoking, car exhausts, chemical residues of household products, etc. The enzyme residue flows underground and eventually purifies the river and the sea.

Applications: During the World Culture Festival (WCF, 2016) on Yamuna floodplains, Art of Living volunteers, resorted to the natural way of cleaning the drain by making over 5,000 litres of eco enzymes and pouring it into the Barapullah drain. Over a period of time, the foul smell reduced and the cattle and birds started coming back to the place again.

Household applications:

- Washing of fruits and vegetables.
- Removal of grease stains from clothing materials.
- Sink cleaning using baking soda (Sodium Bicarbonate) and Eco-Enzymes.
- White board cleaning using Eco-Enzyme.
- Pond Water cleaning.
- Cleaning of Dirt Deposition on Shoes.
- Sewage Water Treatment.

APPLICATIONS OF ECO-ENZYME AS A CLEANSER
Demonstrations done in laboratory

(Removal of stain on clothing material using Eco-Enzyme**)**

Removal of dirt deposition on shoes using Eco-enzyme

Cleaning of a white board and sink of the lab using Eco-enzyme.

Representation of cleaning of pond water using Eco-enzyme

(a) Before (b) After

Representation of sewage water treatment using Eco-Enzyme.

Biogas Plant: The last stage of setting up of a biogas plant in college campus has been completed. Every day approx. 70-80 kg food waste is collected from the mess and transported to the plant. The required quantity of water is mixed with the solid waste in the inlet tank and discharged to the digester vessel for digestion. The gas produced through methanogenesis in the digester is collected in the dome. At the top of the dome, a stop cock valve is provided. A flexible pipeline is connected to it up to the canteen kitchen, where it is connected to the biogas stove for cooking food. The digested slurry flows to the outlet drain which is connected with composting pits constructed next to the digester. The slurry, which is a rich fertilizer, is used to augment the degradation of garden waste added in the composting pits.

Inauguration of Bio-Gas Plant by Sh. R.K. Popli, PCS, Director Higher Education cum State Project Director (RUSA), Chandigarh Administration, U.T., Chandigarh.

Swachhata Action Taken Report

[Quarter III : January - March 2018]

Mehr Chand Mahajan DAV College for Women

Sector 36-A, Chandigarh (U.T.) **www.mcmdavcw-chd.edu**

Cleanliness Committee: The Cleanliness Committee of the college actively pursued its motto- "Make College Litter Free". Ensuring the general cleanliness in the campus and routine inspection of the washrooms has been a regular feature of the committee. Surprise visits to the washrooms were conducted and to boost the morale of cleanliness workers they were awarded prizes based on their performance. To support Swachh Bharat Mission and promote menstrual hygiene, automated sanitary napkin vending machine and sanitary napkin incinerators were installed for easy disposal of napkins in the students' washroom. Apart from these measures, various other initiatives were undertaken in and around the campus.

Cultivation of Edible Oyster Mushrooms from Domestic and Agro Waste: The management of solid waste has become a major cause of concern over the past few years in both developed and developing countries. Zero waste management strategies adopted by MCM DAV College are an ideal example of reducing and recycling waste for the community and society. One of the research based assignments carried out by students of B.Sc. (MFT) and faculty, included management of solid waste by using it as a potential substrate for growth of highly nutritional and edible variety of mushrooms i.e. Oyster mushrooms- which have been long known for their immense array of benefits (culinary, medicinal, nutritional and environmental benefits).

Although wheat straw is the most preferred substrate for growth of these mushrooms yet various kinds of domestic and kitchen waste can also be used and explored for their cultivation. This represents a novel means of recycling and reducing waste thus converting it into healthy edible end products.

The research work thus included: a) optimizing different substrates and their combinations in different ratios to be used for bag filling b) generation of in house spawn of *Pleurotusosteartus* variety of Oyster mushrooms c) optimizing conditions of temperature and humidity crucial for spawn run and pinning stages of mushroom growth d) optimizing the technique of bag filling, spawn layering, spawn run, pinning and final harvest.

This waste management strategy is equally scalable, replicable and is an innovative depiction of money generation out of waste that can be used as a skill based learning technique promoting self-employment and small business set up.

Segregation and soaking of domestic and agro-waste

Autoclaving and preparation of bags (spawning)

Spawn Run, Pinning and final Harvest of Oyster Mushrooms

Microbial contamination of toilet door handles: A major health concern : Microorganisms are found everywhere and constitute a major part of every ecosystem. The transmission of diseases through hand contact has been an area of major concern. Daily interaction of people contributes to spreading of these diseases. A study was carried out by the Department of Food Science, MCM DAV College for Women, Chandigarh to determine the level of bacterial contamination of toilet door handles/knobs.

The major source and spread of community acquired infections are fomites. Such fomites include door handles, showers, toilet seats and faucets, sinks, lockers, chairs and tables, especially those found in schools, public offices, hospitals, hotels, restaurants and restrooms. Microbes live as transient contaminants in fomites or hands where they constitute a major health hazards as sources of community acquired infections. The increasing frequency of epidemic outbreaks of certain diseases and its rate of spread from one community to the other has become a major public health anxiety. One is at the greatest risk of contracting infections while using public toilets as the total number of people using these places is more and variety of bacteria is deposited on the door handles.

People are at risk of contracting infections through the use of public toilets when the microbes enter the body through hand to mouth contact or hand to food contact. Some of the illnesses that result from the usage of public toilets include diarrhoea, food borne illness, urinary tract infections (UTI), and severe acute respiratory syndrome (SARS). Even after multiple flushing and cleaning with antimicrobial fluids, bacteria seeded into toilets remain in the toilet for a long time. Bacteria such as *Staphylococcus aureus,E. coli, Klebsiella*sp., *Citrobacter*sp. and *Salmonella* sp. were found to be present on various contact surfaces.

The first line of defence in preventing the spread of disease is by hand washing that is ignored and must be emphasized strongly by families, schools and health care professionals. The study focuses on the significance of regular hand washing and the need to ensure basic sanitation practices in public toilets in order to prevent these diseases.

Microbiological safety evaluation of street vended ready-to-eat sliced fruits sold in Chandigarh : A study to determine the level of bacterial contamination of street vended ready to eat sliced fruits is being carried out by the Department of Food Science at MCM DAV College for Women, Chandigarh. The aim of the research is to characterize the bacterial isolates and perform antimicrobial sensitivity test.

Fruits are rich in vitamins, minerals, antioxidants and many phytonutrients and are vital for health and well-being. They are widely exposed to microbial contamination by mishandling during harvest or post-harvest processing. Food-borne illnesses of microbial origin are major health problem associated with street foods. In addition, resistance of food-borne microorganisms in multi-drug makes the food safety situation more vulnerable in public health. Sliced fruits are bought directly from the street vendors without necessarily having to undergo any further treatment before consumption. This leads to the outbreak of illness caused by consumption of fruits.

Anti-biotic resistant Microbial strains isolated from cut fruits

Food contamination with antibiotic resistant bacteria can be a major threat to public health. The prevalence of antimicrobial resistance among food pathogens has increased during recent decades.

Edible Crockery - From Disposable to Eatables:

Edible crockery has made its way in daily trends as an effective eco-friendly alternative to plastic disposable cutlery and crockery. A hands-on-workshop on 'Edible Crockery' was conducted by the Department of Food Science. Mr. Shantanu Gupta (Consultant, Green Food Consultancy, New Delhi) was invited as an expert to conduct the workshop. The resource person taught the students the utility of edible crockery and the advantages of using it. It is eco-friendly and there is no need to dispose it off. It also has additional nutritional and sensory value. Such edible crockery will soon be commercially popular. It was quite an amazing and knowledge enhancing workshop for the students.

Standardization of Osmo-dehydrated Orange peel Candy : Fruits and vegetable processing is an emerging trend in developing countries like India but we are still lacking in the proper utilization of the waste produced thereafter. Department of Food Science of the college is utilizing orange peel to develop chocolate coated osmo-dehydrated orange peel candy by using different solutes like sucrose, honey and jaggery. These solutes enhance taste and flavour of peels. These peels are rich in oils, flavonoids, carotenoids and antioxidant properties which are known to be anti-carcinogenic, anti-oxidant, anti-inflammatory, anti-arthritic and anti- fungal.

Some other research projects being carried out are:

1. Evaluation of antimicrobial potency of eucalyptus oil against *S.aureus* Effect of Eco enzyme on physico-chemical parameters of beverage industrial waste

2. Effect of herbal extracts on *Coliforms* extracted from local goli-soda drinks.
3. Role of eco-enzymes in bioremediation of polluted sewage water and its screening for the presence of hydrolytic enzymes

Swachhata Message through Fine Arts : Fine Arts Department organized an Art Camp in the college. In this camp, students worked on 'Warli Art". Students painted the walls in traditional style depicting warli figures cleaning their surroundings in order to spread awareness about Swachhata.

In order to make students aware about their natural surroundings and motivate them to save plants 6 banners relating to the need to grow more trees with the quotes to save trees were placed in the premises of the college. To beautify the banners, bamboo sticks were used to symbolize the hands of the trees. The hands showed that the trees themselves were holding the banner and conveying the message.

The Punjabi Corner on the passage near the ramp area was also renewed under the Swacchata Abhiyan and the walls and floor were painted and redecorated. Beautiful geometrical patterns were depicted with earthen colours. Designs were created with the help of waste bangles and mirrors. Terracotta pots were painted and hung in this corner. Painted and decorated pots, *pankhi* were placed in this installation. Alpana with white and red colour was applied on the floor to depict the rural tradition.

In order to beautify the corridor from Arts block to Gymnasium Hall, a beautiful stencil for Alpana was designed. After that, students drew them on the floor and painted them with enamel paints (red and white colours). On the alternate Alpana, pots were placed to enhance the plantation with art design.

Swachhata Activities Conducted by NSS : 25 NSS volunteers beautified the college campus by painting contemporary and rustic creations on the college wall and corridor pillars thereby giving a clean and artistic look to the college.

Volunteers conducted cleanliness inspection of different areas of the college and reported the same to the concerned committee during the President's visit to the college. This helped in defining and streamlining an organized cleanliness process. The parking area was cleaned with the help of the cleaning staff and the front area of the college was repainted before the President of India's visit to the college.

In coordination with the Women Development Cell of the college, the NSS units organized a talk on Health and Hygiene for women residents of MCM DAV's adopted village Badheri. Dr. Parminder Kaur from Fortis discussed various gynecological health issues and the ways to handle them. Later, about 500 sanitary packs (Collected by Women Development Cell) were distributed among the women of the village to encourage them for better menstrual hygiene.

Hygienic and Safe Food Handling : An interactive talk was organized by the Mess Committee for the mess workers and food handlers. 35 mess workers attended the session. Various aspects of hygienic and safe food handling especially for workers involved in preparation were discussed. Personal hygiene practices as well as various sources of food contamination were discussed at length.

To prevent contamination of food during different stages of food production, the participants were told about various measures like:

- Good personal hygiene
- No bare hand contact with food
- Purchase safe food
- Store food properly
- Prepare and cook food adequately
- Clean and sanitize

Proper ways to handle food, glassware, dishes and utensils were also demonstrated to the food handlers. In the end, additional activities were also carried out to support the content presented to the participants. Various doubts and questions asked by the participants were also clarified resulting in a successful session.

Plant Nomenclature Awareness: Identifying the plants in the surroundings is vital to understanding what role each plant can play in the overall development and sustainability of mankind on mother earth. Therefore, it becomes important that each of us is aware of the plant wealth in our surroundings. A step in this direction has already been taken by the Department of Botany. Hundred plates bearing plant names viz. botanical names, family and common names have already been made. Plants in the college campus planted in the previous quarter have also been so labelled to make the students and the staff aware about the flora of the campus. Continuing this practice, another hundred plants are in the process of being identified and will then be labelled.

Artificial Forest : Under the aegis of the Swachhata Mission introduced by the Government of India, an artificial forest has been created by the Department of Botany in the campus. This has been done as a part of 'Innovative Practices' category. The initiative is a move towards a cleaner, greener and a healthier environment. It is the first of its kind in the region. About 40 plants of medicinal and economic relevance, including *Simaroubaglauca* DC., *Withaniasomnifera* (L.) Dunal, *Pyruscommunis*L.,*Cascabelathevetia* (L.) Lippold, *Buteamonosperma*(Lam.) Taub. , *Terminaliachebula*Retz. , *Sapindusmukorossi*Gaertn, have been planted on 13. 3. 2018. These plants would ultimately develop into a stratified forest.

Land after initial digging

Leveling of the stretch

Manure procurement

Manure being dropped into heaps

Manure heaps

Stirring and overturning of soil

Leveling of the stretch

Manure mixing

Mr. Davesh Moudgil, Mayor, Municipal Corporation Chandigarh, planting the sapling.

Mr. Davesh Moudgil, Mayor, Municipal Corporation Chandigarh, and
Principal Dr Nisha Bhargava, during inauguration of Artificial Forest at college campus.

Study of Floral Diversity on Campus : Plants emit large amount of volatile compounds. Natural plant products that are involved in various ecological functions may serve as anti-herbivore, antifungal, antibacterial compounds, phytotoxins, as attractants of pollinators and seed dispersers and are also involved in plant-plant interactions, including allelopathy.

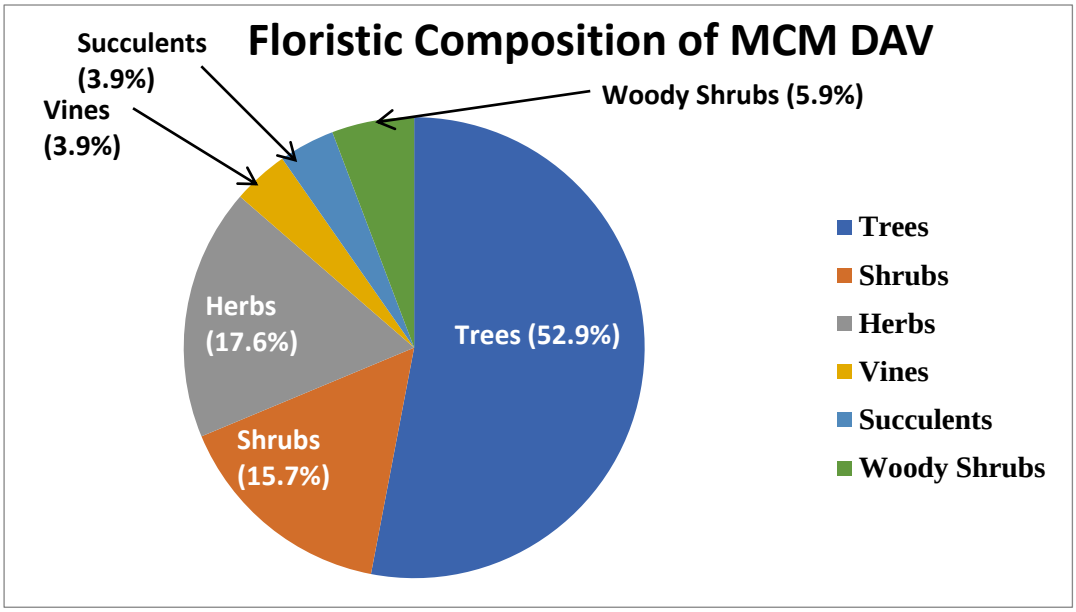
During a study, the floral diversity of the campus was studied through visual observations. Regular visits were planned in the college campus, to note the floral diversity growing in the campus and to list them according to their type and family.

List of plant species

S.No.	Name of the plant	Number of	Family	Common Name	Type
1.	Tageteserecta	60	Asteraceae	Mexican marigold	Herb
2.	Rosa indica	20	Rosaceae	Rose	Woody Shrub
3.	Durantaerecta	20	Verbenaceae	Golden dewdrop	Shrub
4.	Ficuskrishnae	4	Moraceae	Krishna fig	Tree
5.	Asparagus officinalis	15	Asparagaceae	Garden asparagus	Herb
6.	Croton sp.	6	Euphorbiaceae	Rushfoil	Shrub
7.	Ocimum sanctum	25	Lamiaceae	Tulsi	Sub Shrub
8.	Mangiferaindica	8	Anacardiaceae	Mango	Tree
9.	Citrus limon	3	Rutaceae	Lemon	Tree
10.	Barleriacristata	10	Acanthaceae	Philippine violet	Shrub
11.	Acoruscalamus	6	Acoraceae	Sweet flag	Herb
12.	Elettariacardamomum	1	Zingiberaceae	Elaichi	Herb
13.	Aloe vera	10	Liliaceae	GhritKumari	Herb
14.	Opuntiaficus-indica	12	Cactaceae	Cactus	Succulent
15.	Sansevieriahyacinthoides	15	Asparagaceae	Mother-in-law's tongue	Succulent
16.	Plumeriarubra	1	Apocynaceae	Frangipani	Small tree
17.	Terminaliaarjuna	1	Combretaceae	Arjuna	Tree

18.	Cassia fistula	1	Fabaceae	Amaltas	Tree
19.	Eucalyptus globulus	10	Myrtaceae	Safeda	Tree
20.	Phyllanthusemblica	1	Euphorbiaceae	Amla	Tree
21.	Terminaliabelerica	4	Combretaceae	Bahera	Tree
22.	Bacopamonnieri	1	Plantaginaceae	Brahmi	Herb
23.	Stevia rebaudiana	1	Asteraceae	Sugar leaf	Herb
24.	Ocimumkilimandscharicum	20	Lamiaceae	Camphor basil	Woody shrub
25.	Adhatodavasica	2	Acanthaceae	Vasaka	Shrub
26.	Justiciagendarussa	2	Acanthaceae	Kala adulasa	Shrub
27.	Ficusreligiosa	7	Moraceae	Peepal	Tree
28.	Bauhinia purpurea	3	Fabaceae	Orchid tree	Tree
29.	Bougainvillea spectabilis	5	Nyctaginaceae	Great Bougainvillea	Woody vine/Shrub
30.	Azadirachtaindica	11	Meliaceae	Neem	Tree
31.	Grevillearobusta	24	Proteaceae	Silver oak	Tree
32.	Litchi chinensis	6	Sapindaceae	Litchi	Tree
33.	Saracaasoca	52	Fabaceae	Ashoka	Tree
34.	Cycasrevoluta	5	Cycadaceae	Sago palm	Tree
35.	Psidiumguajava	5	Myrtaceae	Guava	Shrub or tree
36.	Manilkarazapota	4	Sapotacaeae	Sapodilla	Tree
37.	Syzygiumcumini	2	Myrtaceae	Jambolan	Tree
38.	Annonasquamosa	6	Annonaceae	Sugar apples	Tree
39.	Araucaria columnaris	2	Araucariaceae	Coral reef	Tree
40.	Punicagranatum	3	Lythraceae	Pomegranate	Small tree
41.	Alstoniascholaris	3	Apocynaceae	Devil tree	Tree
42.	Ficuspumila	9	Moraceae	Creeping fig	Evergreen vine

43.	Bambusaarundinacea	1	Poaceae	Thorny bamboo	Herb
44.	Murrayapaniculata	2	Rutaceae	Jasmine orange	Tree
45.	Ageratum conyzoides	13	Asteraceae	Billy goat weed	Herb
46.	Ficusbenghalensis	1	Moraceae	Banyan tree	Tree
47.	Pinusroxburghii	4	Pinaceae	Pines	Tree
48.	Dracaena fragrans	11	Asparagaceae	Cornstalk dracaena	Shrub
49.	Syngoniumpodophyllum	28	Araceae	Syngonium	Evergreen vines
50.	Euphorbia pulcherrima	2	Euphorbiaceae	Poinsettia	Shrub
51.	Murrayakoenigii	1	Rutaceae	Curry tree	Tree



Type of the plant	No. of species
Trees	27
Shrub	8
Herb	9
Vines	2
Succulents	2
Woody shrubs	3
Total	**51**

Renewable Energy

Solar power is arguably the cleanest, most reliable form of **renewable energy** available, and it can be used in several forms to help power one's home or business. Solar-powered photovoltaic (PV) panels convert the sun's rays into electricity by exciting electrons in silicon cells using the photons of light from the sun. In addition, it does not lead to any type of pollution and is readily available for most part of the year in India. Keeping in view the above mentioned facts, the renewable energy committee took the following initiatives.

1. Installation of roof top solar panel in the college campus

So far, out of 160 kWp, 125 kWp capacity solar panels have already been installed and installation of 35 kWp solar panel is under process. Out of this, a 25kWp solar panel has been installed on the roof of science block of the college which was sponsored by RUSA.

2. Installation of solar lights

The College has planned to install about ten solar lights in the college for maximum and optimum utilization of the solar energy.

3. Demonstration on Installation and Working of Solar Panels

A demonstration for all science students was organized by Renewable Energy Committee of the college. Students were taken to the rooftop to show the workings of the solar panels. Students were taught about how these solar panels are installed. They learnt about various electrical modules used in the solar power generation. An engineer from Multi Overseas Pvt. Ltd. conducted this demonstration session.

4. **Panel discussion on 'Role of Women in Renewable Energy Revolution'**

A panel discussion on the 'Role of Women in Renewable Energy Revolution' was organized in collaboration with CII. The keynote speaker was Principal Dr. Nisha Bhargava, an expert in Energy Economics. Eminent speakers from diverse fields shared their views on the topic. Some of the speakers who participated in the discussion were Ms Shirin Khujur, Head CSR; Prof. (Dr.) Rudra Rameshwar, Thapar University, Patiala, Mr Vikram Hans, Multi Overseas India Pvt Ltd (Delta Power), Mr. Harpal Singh, CII, Justice (Retd) S.S. Sondhi, President, Tribune Trust. The interactive session of the audience with renowned speakers helped to share insightful knowledge about the issue.

Environment Conservation

1. **Inter-college Eco-Rangoli Competition** on the theme 'Save Earth, Save Life' was organized during the Add on Fest "Melange" on January 20, 2018. The aim of the

competition was to drive home the message of environment conservation in a novel manner. The teams were allowed to use only biodegradable/ environment friendly colours for their rangolis. About 10 teams from various colleges of Chandigarh participated in the competition.

2. **An educational visit to Energy Park, Sarangpur** was organized for medical students of first year in order to provide them a platform for understanding the importance of energy conservation. Students were shown Solar PV Power Plant 5 KWP that generates solar power to run the color TV & VCR, computer, LCD display board on Energy Environment, Solar Light (CFL), fans, computer based energy games etc., Solar PV submersible Pumps 1800 WP that supply water to garden through sprinklers, Solar Street Lights, Solar Powered Toy Cars, Battery Operated Three Wheelers &Bicycles, Solar Water Heating System and Solar Cookers. Further, students got a hand-on experience of operating Water Power Exhibits like Pelton Wheel Turbine, Francis Turbine, Kaplan/Cross Flow Turbine, Water Wheel installed in water room.

3. **National Science Day** was celebrated in collaboration with National Council for Science & Technology Communication, DST, Govt. of India and Punjab State Council for Science & Technology on March 19, 2018. A number of students participated in scientific model making competition on the theme “Science & Technology for Sustainable Future” by making models on waste water treatment process, rain water harvesting, marine ecosystem, steam wind mill, hydraulic wind mill etc. As a part of the celebration of National Science Day, a talk on “**Carbon Footprints**” by Dr. Ashok Sharma, Chief Executive, Cleantech International Foundation, New Delhi was organized. Dr. Sharma, explained the sources and sinks of carbon in daily life, along with the tips for reducing carbon footprints. Further, a lecture was delivered by Dr. Gurmeet Singh Gill, Agriculture Officer, Nabha, on Bio-pesticides regarding the impact of synthetic pesticides on environment and the types and need to use of bio-pesticides. Dr. Gill elucidated that bio-pesticides are the best example of Green Technology and they also help in reducing carbon footprints.

राष्ट्रीय विज्ञान दिवस पर एमसीएम कॉलेज में कार्यक्रम

विज्ञान व प्रौद्योगिकी के उपयोगों संबंधी युवाओं को किया जागरूक

चंडीगढ़ 20 मार्च (पठानिया): एमसीएम डीएवी कॉलेज फॉर वुमन की एनवायरनमेंट कमेटी कॉलेज परिसर में राष्ट्रीय विज्ञान दिवस के उपलक्ष्य में एक कार्यक्रम का आयोजन किया। साइंस एंड टेक्नोलॉजी फॉर सस्टेनेबल फ्यूचर थीम पर यह कार्यक्रम नेशनल कौंसिल फॉर साइंस एंड टेक्नोलॉजी कम्युनिकेशन, डीएसटी, भारत सरकार, पंजाब स्टेट कौंसिल फॉर साइंस एंड टेक्नोलॉजी तथा डिपार्टमेंट ऑफ साइंस एंड टेक्नोलॉजी एंड रिन्यूएबल एनर्जी, चंडीगढ़ प्रशासन के सहयोग से आयोजित किया गया था। इस आयोजन के अंतर्गत कॉलेज के उभरते हुए शोधकर्ताओं ने साइंटिफिक मॉडल मेकिंग प्रतियोगिता तथा साइंटिफिक प्रदर्शनी के माध्यम से पर्यावरण संरक्षण, हाइड्रो इलेक्ट्रिसिटी, सीवेज ट्रीटमेंट एवं बेस्ट आउट ऑफ वेस्ट आदि विषयों पर विभिन्न मॉडल बनाकर अपनी शोध एवं रचनात्मकता का परिचय दिया। इसके अतिरिक्त अन्य प्रतियोगिताओं जैसे पावर पॉइंट प्रेजेंटेशन में भी ग्लोबल वार्मिंग, साइंस कार्टून, इनोवेटिव आइडियाज़, साइंटिफिक पोस्टर तथा स्केचिंग साइंटिस्ट बड़े ही रोचक ढंग से प्रस्तुत की गयी।

इसी आयोजन में क्लीनटेक इंटरनेशनल फाउंडेशन, नयी दिल्ली के सीईओ डॉ. अशोक शर्मा तथा एग्रीकल्चर ऑफिसर, नाभा डॉ. गुरमीत सिंह ने कार्बन फुटप्रिंटिंग तथा बायोपेस्टीसाइड्स पर अपना व्याख्यान दिया। कार्यक्रम के अंत में विभिन्न प्रतियोगिताओं के विजेताओं को पुरस्कृत भी किया गया। कॉलेज की प्रिंसीपल डॉ. निशा भार्गव ने कॉलेज के एनवायरनमेंट कमेटी के इस प्रयास की सराहना करते हुए कहा कि राष्ट्रीय विज्ञान दिवस मनाने का उद्देश्य विज्ञान और प्रौद्योगिकी के उपयोग के बारे में युवाओं में जागरूकता पैदा करना है।

राष्ट्रीय विज्ञान दिवस पर करवाए कार्यक्रम में मुख्य वक्ताओं का सम्मान करते एमसीएम कॉलेज की प्रिंसीपल डॉ. निशा भार्गव। (छाया : गुरिन्दर सिंह)

Save Biodiversity Mission

Over the past few decades, the population of house sparrow has declined quite drastically due to continuous degradation of the environment. The rationale for celebrating World Sparrow Day on 20th March was to spread awareness about the need to conserve house sparrows by protecting their natural habitats. To celebrate this significant day, the department of Zoology organized an on-the-spot painting competition and quiz competition on the themes **“Save Sparrows”** and **“Journey of the Sparrows”** respectively. Feeders and nests were installed at various places in the college campus to lure sparrows. An interactive session was also held with the students to sensitize them about the fact that the decline of house sparrow is a warning bell to alert us about the detrimental effects on our health and wellbeing.

Spending time in natural environment is known to provide soothing effect on humans. According to the research published in the journal "Environment & Behavior", people who spend time watching aquariums and fish tanks could see improvements in their physical and mental wellbeing. Viewing aquarium displays led to noticeable reductions in blood pressure and heart rate and improved their moods. Building a tiny ecosystem of animals and plants is an amazing feeling. Freshwater fish tanks are inexpensive to set up and maintain, and there is an incredible array of fish available with which we can stock our new aquarium. Understanding which fish to purchase, what basic maintenance to perform and when, how much and how often to feed among other details is important for keeping the fish alive and healthy. Keeping this in mind, the department of Zoology conducted a hands on training workshop on **"Aquarium Designing"** by Dr. Yogesh Kumar Rawal, an expert in the field of Aquaculture from Panjab University, Chandigarh. The workshop aimed at enhancing the skills of students in aquarium setting and maintenance. The students participated enthusiastically and enjoyed designing their own aquarium.

Insects are the dominant group of organisms on earth in terms of both taxonomic diversity and ecological role. Many insects play an important role as primary or secondary decomposers and help clean the environment and recycle the nutrients. They also help in cross pollination of plants. Many insects are predatory or parasitic. Such insects are important in nature to help keep pest populations (insects or weeds) at a tolerable level. Some of the insects are harmful as they act as parasites to humans and animals, and cause diseases. With an aim to acquaint the students with ecological role of insects, the department of Zoology conducted preliminary investigations on the **"Insect diversity in the College campus"** for a period of six months. Early morning and evening visits were planned during the study period as the insects are more active during this period. The insects were then identified with the help of available keys. During the investigations, insects belonging to four families each of the orders Lepidoptera and Hemiptera, three families of Hymenoptera, five families of Coleoptera, two families each of Odonata and Orthoptera, and one each of Isoptera and Mantodea were captured and recorded for further data analysis.

Swachhata Action Taken Report

[Quarter IV : April - June 2018]

Mehr Chand Mahajan DAV College for Women

Sector 36-A, Chandigarh (U.T.) **www.mcmdavcw-chd.edu**

Hands-on Training Workshop on Composting

A series of workshops on '*How to make your own compost*' were organized under the aegis of the Swachh Bharat Mission introduced by the Government of India. The first workshop was conducted in village Kaimbwala, Chandigarh wherein around 50 children were given lecture cum training on compost making. The second workshop of the series was conducted in Government Model Senior Secondary School, Dhanas, Chandigarh where around 25 people including safai karamcharis and waste collectors of that area were given basic training about waste segregation and importance of composting. The main aim of these workshops was to sensitize people about waste management and give training in compost making from daily waste generated in kitchens and homes. In addition, a demonstration was given to NSS students about the procedure of making compost units in school so that the green waste generated in the premises could be handled, recycled and reused efficiently.

Lecture in Progress at Village Kaimbala

MCM Faculty at Village Kaimbwala

Interactive session at Village Kaimbwala

Students involved in compost making at Village Kaimbwala

Lecture in progress at GMSSS, Dhanas

Interaction with people at GMSSS, Dhanas

Hands on Compost making at GMSSS, Dhanas

Development of Spice Garden

Guided by the philosophy that Clean India is not just about cleanliness but also about environmental conservation and doing our bit to promote and preserve biodiversity, the area adjoining E and F hostel blocks has been demarcated for the development of a spice garden and 4 flower beds have been prepared in the area.

(i) The following spices have been planted in this area:

a) Mint	b) Coriander	c) Mustard Seeds	d) Lemon Grass
e) Ginger	f) Green chilli	g) Turmeric	h) Onion
i) Garlic	j) Curry leaves		

Lecture-cum-Demonstration on Eco-enzyme and Personal Hygiene

With the aim of sensitising students about the harmful effects of usage of chemical-based cleaning products and generating awareness about Eco-enzyme- an organic alternative to these products, the Department of Chemistry organised a lecture-cum-demonstration on Eco-enzyme at Ankur School, Sector 14, Panjab University, Chandigarh. Introducing the concept of Eco-enzyme to the students, the faculty of the department apprised the students of the effect of frequent usage of various cleaning products made from chemicals on the underground water, rivers and the surrounding eco-system, and the damage caused to the planet. The students were also made aware about how the use of eco-enzyme- a complex solution produced by fermentation of fresh kitchen waste (fruit and vegetable dregs), sugar (brown sugar, jaggery or molasses sugar) and water, would save the environment from harmful chemicals. Acquainting the students with the benefits of eco-enzyme, including ease of preparation at negligible cost, free from harmful pollutants and effective multipurpose liquid, the preparation of eco-enzyme from simple kitchen waste and its use as general cleaner, air and water purifier, insect repellent, etc. was demonstrated. Students were encouraged to study about the purification of water using eco enzymes.

The faculty of the department also promoted the concept of personal hygiene among the students and motivated them to pay attention to personal hygiene for a healthier life.

Study on 'Isolation and Identification of Heavy Metal Tolerant Microbes from Soils of Industrial and Agricultural Areas in Panchkula, Haryana'

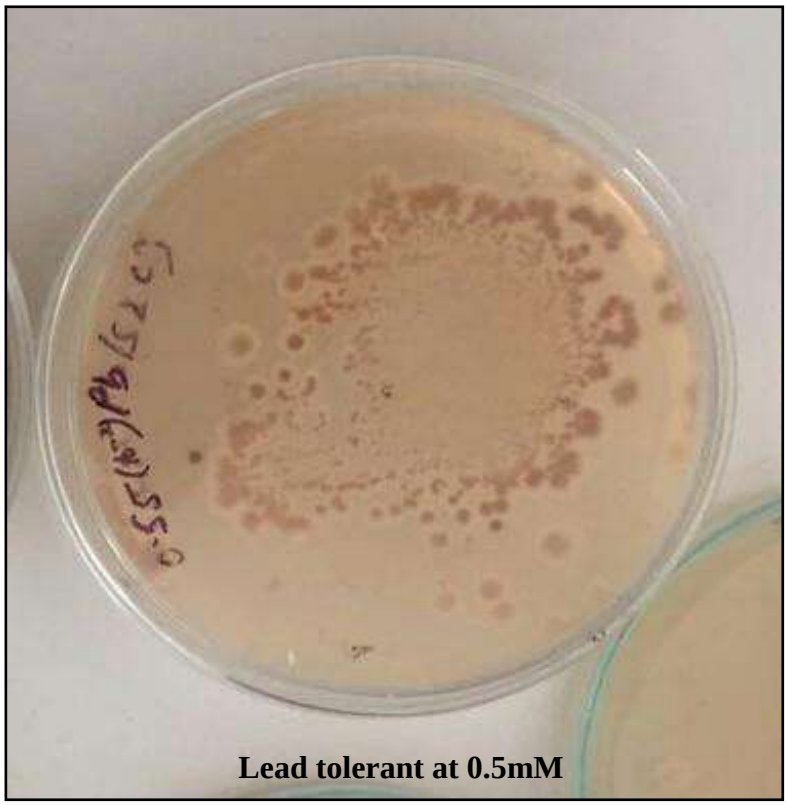
Since the presence of heavy metals like lead, arsenic, mercury, etc. is indicative of serious ground water and soil pollution, and the intake of such water can lead to deadly diseases in humans, the Department of Food Science undertook a study focussing on the use of friendly bacteria to remove such toxic heavy metals from soil and water. This initiative of the department is a step towards harnessing microbial technology for creating a 'Swachh' and 'Swasth' environment.

About Heavy Metals: Heavy metals are naturally present in the soil, but higher concentration and prolonged exposure of these elements is harmful to plants, animals, and humans. Intensive industrialisation and agricultural activities are bound to pollute the soil. Potential sources of heavy metal poisoning include mining and industrial wastes, agricultural runoff, occupational exposure, and paints and treated timber. Some heavy metals, such as cadmium, mercury, and lead, are highly poisonous. Higher concentrations than the normally requisite ones result in disturbance of the soil's pH, acidity, and also harm the organisms by introducing the heavy metals in the food web through crops. These heavy metals cause multiple diseases in various organisms due to their bioaccumulation.

Various microbes found in these soils either cease to exist because they cannot tolerate the heavy metal contamination or some of them adapt themselves to their environment by developing mechanisms which involve uptake of heavy metals as nutrients, reduction of metal ions to their lesser toxic forms followed by their active or passive effluxion.

Heavy Metal Tolerance Test: Soil samples were obtained from various agriculture and industrial areas of Panchkula, Haryana. Heavy metal tolerant microbes were isolated from the soil samples. The pure cultures were tested for their respective tolerance for five metals which were zinc, copper, silver, lead and mercury. This test was performed on the three different concentrations of heavy metals i.e. 0.5mM, 2mM and 5mM.

Results



Lead tolerant at 0.5mM

Metal resistance microorganisms have properties to absorb and accumulate heavy metals. Investigations were carried out to isolate microbial strains from soil collected from five locations around industrial areas of Panchkula (Haryana) and to test their metal tolerance to Zinc, Copper, Silver, Lead and Mercury (Zn, Cu, Ag, Pb, Hg). In the primary screening 5 aerobic bacterial strains were isolated that were tested on various concentrations of Zn, Cu, Ag, Pb, and Hg (up to 5 mM). It has been noticed that the intracellular accumulation of Pb changes the color of colonies grown on media with lead. The selected 5 strains were morphologically and biochemically characterized. In our study twenty-five isolates were selected on the basis of heavy metal tolerance. Mostly strains were able to tolerate metal concentration 0.5mM except mercury. Three strains (S1, S2 and S3) out of five were able to tolerate Cu and Pb metal concentration of 2mM respectively and no one strain was able to tolerate metal at concentration of 5mM. The multiple heavy-metal resistant bacteria of the present study could survive well in the heavy metal contaminated environment and thus could be exploited for the remediation of metals from such environment. Heavy metals can be absorbed by the microbial cells and bio-films may be formed. These mechanisms help the bacteria resist the deteriorating effects that heavy metals have on them. Also, these mechanisms make the microbes useful for bioremediation of the soil. Isolation and identification of the heavy metal tolerant microbes is the first and foremost step in the process of bioremediation.

Training Workshop on Aquaponics

With the aim of raising awareness about water conservation using Aquaponics, a training workshop was organized for the faculty and students by the department of Zoology. Mr. Himank Kakkar, a young entrepreneur with engineering background, practicing the technique at his own residence in Chandigarh, delivered the workshop. A comprehensive introduction to the technique was given by stating that aquaponics is a form of agriculture that combines raising fish in tanks (aquaculture) with soilless plant culture (hydroponics). The only input into an aquaponics system is fish food. The fish eat the food and excrete waste, which is converted by beneficial bacteria to nutrients that the plants can use. By consuming these nutrients, the plants help to purify the water. Herbicides, pesticides or other harsh chemicals are not used in an aquaponics system. Aquaponics is a great example of indoor farming and can be used to sustainably raise fresh fish and vegetables. The unique feature of this first of its kind venture in Chandigarh is the use of harvested rain water for the said purpose and the use of mosquito eating fish, *Gambusia* for cleaning water stored in tanks. Further, Mr. Kakkar motivated the faculty and students to adopt the technology and set up small scale experimental aquaponic units in the college campus.

Temple Floral Waste Management

India is known as a holy land and there is hardly any city, town or village in the country that does not have temples. Huge amounts of flowers are offered in temples creating a large amount of floral waste, which creates severe environmental pollution and health hazards. This is generally disposed off in open dumps or is released in water generating foul odour. Thus, proper management of floral waste is a pressing demand of modern times. Vermicomposting has been found to be an excellent and eco-friendly method of floral waste management by many researchers.

Keeping this in view, the faculty and students of Department of Zoology contacted the authorities of Shri Sanatan Dharam Mandir, Sector-37, Chandigarh for its floral waste management. Floral Waste was collected every alternate day for 15 days from the selected temple. The non-biodegradable parts were removed by hand sorting. From the biodegradable waste, garlands and flowers were segregated. Garlands were dismantled. Marigold was chosen for vermicomposting because it was present in the highest amount. The segregated floral waste was air dried by spreading it over paper sheets for 48 hours. Four vermi beds were prepared for the introduction of floral waste mixed with cow dung in the proportion of 50:50 in each. *Eisenia foetida*, commonly known as red worm was used for vermicomposting. 500 grams of earthworms were inoculated in each bed after 10 days of pre-decomposition. All the beds were covered on the top by a jute cloth to protect the earthworms from the predators and to prevent moisture loss. The process of vermicomposting was carried out for a period of 60 days. The temperature and moisture content were maintained by sprinkling adequate quantity of water every day and upside down mixing of waste was done once daily. After the feed material got converted into loose, granular mounds, the entire material was collected from each bed. The cast was passed through the sieve and the earthworms were removed manually. The cast was air dried by spreading on a sheet. After sufficient moisture was lost, the vermicompost was stored in bags for further analysis.

Plantation Drives: With the aim of adding to the greenery on campus, certain initiatives were undertaken. Twelve types of succulent plants were grown on the shaded area which was grassless. Landscaping of this area has enhanced the beauty of the front lawn. Plants were planted in the shape of *Aum* in Rishi Vatika. In the artificial forest area new plantation was done. Decorative plants were planted in used vehicle tyres, thereby promoting the idea of recycling of waste.

Cleanliness Initiatives: Installation of 3 incinerators: Incineration is the main alternative to landfills and is environmentally beneficial in terms of lower carbon emission, avoidance of land contamination, lower dis-amenity cost, higher energy recovery potential and the potential of output (ashes) to be reused. In view of this, 3 incinerators have been installed in the college hostels.

(i) Installation of Sanitary napkin vending machine: With the aim of promoting menstrual hygiene and ensuring easy availability of sanitary napkins within the hostel premises to hostellers, a sanitary napkin vending machine has been installed in the hostel.

(ii) To promote clean surroundings, extensive cleaning of the college was carried out including removal of the faecal excreta of pigeons from the roofs and balconies of the college.

Exhibition of Eco-friendly products and Lecture on Handmade Sheets

With the aim of promoting the adoption of eco-friendly products, a 2-day event was organized by the Fine Arts department in collaboration with Abstract Graphics (Jaipur, Rajasthan). The event included an exhibition of Eco friendly products and a presentation cum lecture on handmade sheets. In the exhibition, objects made of handmade paper and organic products such as key rings, diaries, folders, album, photo frames, sketch books, handmade sheets, etc. were displayed. Mr Sudhir Jaggi delivered the lecture on handmade sheets, in which he explained the process of making handmade papers, how to identify handmade sheets, what is the process of making these handmade sheets. Besides this, students also interacted with speaker and discussed about handmade sheets in detail. The students were motivated to give preference to eco friendly products in their daily life.

Best out of Waste Project

In order to educate and aware students about nature and cleanliness, an activity was assigned to the students of B.A. III by the Fine Arts Department in which 53 students were given project on best out of waste. As part of the project, the students made objects such as wall hangings, lamp shades, show pieces, toys, paper weights, pen holders, folders, decorative items, paintings, photo frames, moulds etc. with waste materials such as old newspapers, magazines, bangles, egg trays, pieces of clothes, bottles, cartons, plyboards, balloons, nails, wool, mats, cold drink bottles, CDs, treads and many other objects.

Poster Making Competition on Swachh Bharat

An event of Poster making was organised by the Fine Arts Department of the college in which 65 students of B. A. II participated and made Posters on the topic of Swachh Bharat. Students used Mahatma Gandhi as a symbol of Swachh Bharat Abhiyan and painted various motivational quotes regarding cleanliness of the nation.

Save Trees Initiative

Placards carrying various messages pertaining to the need to save trees were made and hung around trees at the campus. Through this initiative, the department sought to educate the students and staff about the importance of trees in conservation of our environment and to adopt a proactive approach towards saving the environment.

Swachh Bharat Summer Internship 2018

Location: Kishangarh, Dhanas, Kaimbwala (Chandigarh) and Vikas Nagar (Uttarakhand)

Duration: 01 June 2018 to 20 June 2018

"Swachh Bharat Summer Internship 2018", the program of 100 hours, was organized by the Ministry of Water and Sanitation in association with the Ministry of Human Resources Development, Government of India. The main endeavour of the program is to integrate students in community service in rural areas. A team of 30 interns, who got registered under the summer internship, was formed in the month of June 2018 to support and compliment 'Swachh Bharat Mission' by the Government of India. During this 100 hour program, the interns were given the opportunity to perform various cleanliness related activities in rural areas. The registered students of MCM DAV College for Women, Chandigarh began their summer internship in the first week of June 2018 in the selected villages namely: Kishangarh, Dhanas and Kaimbwala of UT Chandigarh and Vikasnagar of Uttarakhand. The internship program was carried out under the able guidance of Dr. Nisha Bhargava, Principal, MCM DAV College for Women, Chandigarh, who provided her whole hearted support to the volunteers and is the main guiding force behind the success of this program. The volunteers participated enthusiastically in the internship under the supervision of their nodal officers, Dr. Namita Bhandari and Ms. Manjot Kaur. More than 30 volunteers participated in the internship. With the support of village administartors, numerous awareness drives and programs were organised related to cleanliness. Besides, students conducted various activities to contribute to the cause of rural sanitation like awareness drives on menstrual hygiene and sanitation as well. Furthermore, waste collection drives of households and shared spaces (shops, restaurants and dhabas) of villages were also organized. Various campaigns were organised to make people aware about segregation of solid waste into non-biodegradable and biodegradable waste. While delivering lectures on solid waste management, villagers were encouraged to develop compost pits. The students have already started working for compost pits that would help Panchayats and villagers to draw up their plans further. The Panchayats and villagers also helped the students in setting up sustainable cleanliness and sanitation programs. Through their sincere and innovative efforts, the registered students made this endeavour successful and effective. A highlight of this event was to inculcate a sense of social service in students and also motivating them to indulge in the development of highly skilled co-curricular tasks. The concluding days of summer internship were infused with a feeling of service for humanity.

Activities Conducted under the Swachh Bharat Summer Internship 2018

Awareness Campaigns and Interactive Sessions: These were conducted keeping in mind the objective of the internship i.e. " Swachhta". The teams conducted awareness campaigns after analysing the conditions of the village. These campaigns were based on women's hygiene, health, cleanliness, importance of handwash, segregation of waste and its disposal, need of dustbins, prohibition of use of polythene bags, prevention of vector borne diseases like malaria and dengue and digging of compost pits. The campaigning was done with posters and interaction with the residents of the village. There was an interactive session with the students, teachers and caretakers or helpers of the Anganwadis. A cleanliness survey was conducted in the market areas, restaurants and around vegetable vendors.

Door-to-door Campaign: Door-to-door campaigning was carried in the villages for raising awareness about waste segregation, cleaning of water coolers and composting. Door-to-door campaigning was also carried out for creating awareness about female hygiene in particular. Awareness on various diseases caused by the filthy and unhygienic surroundings was also spread through campaigning.

Wall Paintings: As required under the internship**,** the volunteers painted the walls of villages with messages related to cleanliness and hygiene. To reinforce key messages from time to time, wall paintings play a key role as people tend to see them during their daily routines. This medium has a great potential to emphasize on key messages of correct hygiene and sanitation. Under this initiative, five wall paintings were made in the selected villages for a wider impact. The beneficiaries who had seen the wall paintings claimed that they reinforced learning relevant to good hygiene and sanitation. Another advantage of the wall painting is that it does not target a group of stakeholders but in fact triggers thought in anyone who sees them. The students made an inspiring wall painting for the promotion of cleanliness. The motive behind spending hours in painting a wall and making it look attractive is simple, i.e. to bring about a behavioral change. If a wall is painted with messages of cleanliness, people will think twice before spoiling such an art. The aim of targeting a person's mindset through paintings hit the right chord as a high success rate was observed during the internship. To make sure areas are well maintained after the hard work, the team identified local residents who could monitor the place on a regular basis. The interns made routine checkups for a few days and then assigned the work to locals who kept in touch with them.

The painting of the interior and exterior walls of Anganwadi took place at village Kishangarh and Dhanas. The interior of Anganwadi was arranged and given a new look by pasting wall papers. It was cleaned and well decorated. The wall of a classroom of the Dharamshala at Kishangarh was scrapped and painted light yellow and sky blue with patches of handprints in blue to give it a children-friendly look. After the completion of the inside walls of Dharamshala (classroom specifically), the exterior wall was painted with a swachhta related message on it.

Construction of Compost Pits: Safai Karamcharis and villagers were given demonstration on digging compost pits. The compost pits were made from kitchen waste with the help of sweepers and with due cooperation of the village sarpanch. The teams also contributed by bringing newspapers and cardboards from homes. The advantages of compost pits were explained to the residents.

Street Cleaning, Drain Cleaning, Cleaning of back alleys: A cleanliness drive was conducted with active participation of the residents in which the teams cleaned the streets along with the sweeper to make people realise the importance of cleanliness. Volunteers along with workers of UT administration malaria control department generated awareness among villagers about prevention of vector borne diseases like Malaria, Dengue.

Movie Screenings to Generate Awareness: Movie screenings related to use of sanitary pads and general cleanliness were organized for the women of Anganwadi and nearby areas. Videos were also shown to children about sanitation and self cleaning, use of dustbins and recycling of waste. Sessions of movie screenings related to 'Swachh Bharat Mission' were also held in the Panchayat Ghars of the selected villages. During the internship, the following films were screened: *Toilet, Ek Prem Katha, Mere Pyare Prime Minister, Meet Phullu and Padman*. Apart from these films, various awareness videos regarding clean Bharat were also showcased.

Anganwadi Visits :- The frequent Anganwadi visits helped the volunteers to know more about their hygiene practices and they taught them more methods of a healthy lifestyle, like bathing, wearing chappals while walking on road, trimming nails regularly etc. The neighbours were asked to contribute in the hygiene of children and help them to provide good surroundings to play and study. The workers of Aganwadis were addressed by the interns so that they could come out of orthodox mind-sets and motivated both genders (in all age groups) in their villages to promote importance of hygiene and sanitation practices for healthy lives. The college teachers also conducted several interactive sessions for the target audience. The awareness methods helped to understand importance of hygiene and good sanitation practices during pregnancy and motherhood. Lectures endorsed to increase awareness about good sanitation practices and the hazards of open defecation. Although the target audience of the awareness program was mothers, even children benefited a lot from it. To inculcate critical hand-washing behaviour, demonstration was adopted as an effective tool.

Restaurants Visits to Promote Waste Segregation Awareness: Disposable chef caps were distributed to promote hygienic cooking at village eateries. Volunteers spread awareness about the benefits of having a hand wash and separate dustbins. The kitchens of the restaurants were inspected and ways to promote hygienic cooking were suggested. The restaurant owners were informed of the importance of waste segregation and its correct disposal.

Awareness Rallies on Plastic Pollution and Cleanliness: Special rallies were organized on 'Say No to Plastic' to mark the 'World Environment day', in order to spread awareness amongst people about the harmful effects of using plastics. During the rallies, participants raised slogans and carried placards with messages about the harmful effects of using plastic. Students and staff of GMSSS, Dhanas also participated in the march to create awareness of cleanliness among local people.

The interns of Kaimbwala organised a road show by taking out a rally from the village Aanganwadi. The theme of the road show was 'Beat Plastic Pollution', which urged the communities and individuals to come together and explore sustainable alternatives and urgently reduce the production and excessive use of single-use plastic polluting our oceans, damaging marine life and threatening human health. The initiatives of the volunteers were highly appreciated by the residents of the village.

Interactive Sessions On Menstrual Hygiene And Sanitation: The college interns arranged interactive and informative talks on menstrual hygiene. A majority of women, especially in slum areas, prefer using reusable unhygienic cloth, sand, rags, newspapers etc. as sanitary napkins are expensive. The objectives of the interactive sessions were to increase awareness among adolescent girls/women on menstrual hygiene, build self-esteem, and empower girls for greater localisation and to ensure safe disposal of sanitary napkins in an environment friendly manner. The programme was targeted at females in the age group of 10-35 years, residing in rural areas, to ensure that they have adequate knowledge and information about the use of sanitary napkins. Another major objective of the sessions was to provide hygienic menstrual solutions to the women in rural and slum areas.

Cleanliness and Waste Collection Drives: Various cleanliness drives were held in select villages. They comprised of volunteers actively performing cleaning activities at different places in Kishangarh. Students with the help of village people were successful in cleaning the local areas dumped with garbage. They collected plastic glass and bottles and simultaneously asked the residents to segregate their waste into dry and wet waste. The use of dustbins was promoted and collection of dry waste from houses like plastic bottles and paper was also done. The students also collected waste from shops and cleaned the market street along with the help of sweepers. Areas around the village school were cleaned with the help of the Gram Panchayat.

Swachhata Mela at Village Kaimbwala: With the sole mission of spreading awareness, Swachhata Mela was held at Kaimbwala on 17th June 2018. Through a very entertaining play, children were given a message of Swachhata which was the sub-theme of the summer internship and the venture was much appreciated by the people. The Swachhata Mela was well accepted by the local people particularly children as a source of entertainment and information to follow good hygiene and sanitation practices for better health. Besides, a lot of fun filled yet learning activities were organised during 'Swachhata Mela' where kids from various slums and village schools came to participate.

Interactive Sessions with Sarpanches and Panches: Since the Panchayats play a strategic role in creating awareness and imparting key messages on hygiene and sanitation for behaviour change, four Panchayats of four different villages were addressed to promote and take initiatives towards making their villages clean and open-defecation free zones. They are committed and contributing towards making their village clean and open- defecation free zones and to sustain the open-defecation free status (if achieved) of their village.

Lecture on Solid Waste Management and Personal Hygiene: Special lectures and demonstrations were organized on Solid Waste Management and Personal hygiene by the College faculty members. Some of the things discussed during the lectures and demonstrations were: the segregation of all waste of waste generators at source and taking solutions from municipal bodies for dealing with segregated waste and creating effective solid waste management plants.

Dr. Vandana Sharma from the Department of Food Science of the college delivered a lecture on solid waste management at village Kaimbwala where she elaborated on the segregation of biodegradable and non biodegradable wastes and how kitchen waste can be utilised in creating manure by digging compost pits at home. Dr. Sandeep Kaur from the college also delivered a lecture creating awareness among villagers about personal hygiene, proper way of washing hands and patient management during diarrhoea. Information was also given on how to recycle plastic waste. The prohibition of polythene bags and bottles was also promoted. They also conducted a lecture on growing mushrooms with the help of kitchen waste at village Kishangarh along with lectures on solid waste management and personal hygiene. Dr Poornima and Dr Shafila from the College also conducted a lecture at Village Kaimbwala and Dhanas where they taught construction of compost pits. Villagers were taught how to make sanitary napkins from cotton cloth and to dispose the napkins in the dustbins in proper manner. They were also taught to make newspaper bags for additional income. A drawing competition on the topic of Swachhata was also conducted.

Conclusion

The 100 hour Summer Internship Programme exposed the students to various aspects of Community services and helped them to engage the community in various social outreach programs. The behaviour of the villagers was studied and suitable ways to generate maximum awareness in rural areas were thought of. Interactive sessions, helped to transform their minds. During the internship period students were given a crucial responsibility of changing particularly the minds. of women and illiterate class of the society who are governed by stereotypical thoughts.

Workshop Series on Sustainable Urban Farming

The Skill Development Committee of the college organised a series of workshops on 'Sustainable Urban Farming' in collaboration with Kheti Virasat Mission, Ministry of Agriculture, Government of India. The aim of the workshops was to contribute to the worldwide effort to promote farming practices that are environment friendly. During the workshops, the participants were familiarized with the benefits and techniques of organic farming- an alternative to the present agricultural practices that involve the use of harmful pesticides and insecticides. The experts also urged women to take up organic farming as a mission to safeguard the health of future generations and also to save mother Earth. The workshop included demonstration of creation of nutritious and chemical free soil for organic farming at home, preparation of manure and pots, planting and caring for plants, visit to organic farm. and a host of other activities that equipped the participants with requisite skills and knowledge to practice sustainable urban farming.

Fire Fighting Equipments

Initiatives were undertaken by the college in order to combat the emergency situation of a fire outburst. All the fire extinguishers in the campus demanding repair and replacement were procured from the concerned authorities. The gymnasium hall of the college was equipped with a fire hydrant system for the safety of the students. This system is connected to the water tank and is ready to supply water in case an emergency occurs. Besides this, a workshop was also conducted to train at least all non-teaching and some teaching members to make use of fire extinguishers.

Harnessing Solar Energy

The plan of implanting 100KW solar panels on roof tops was executed as was proposed earlier by the Renewable Energy Committee of the college, under the aegis of RUSA. The process is at present under progress and would be completed in a month. Solar lights in hostels and along the boundaries of the college campus were installed which are proving beneficial in both ecological and economical terms.

Cleaning of Water tanks

As an annual feature of the college, at the end of the session, tenders were invited from cleaning agencies for cleaning of water tanks in the campus. After comparisons, the order was placed keeping in mind the quality of work. 'Crystal Clean' company was hired to clean the water tanks in the campus. The silt deposition in the well in the college was also cleaned by the local personnel involved in this work.

Proposal for new Rain Water Harvesting System

The setting up of a new rain water harvesting system in the low lying hostel area of the college has been proposed. The funding for the above said project would be taken care from RUSA grant. All the documentation work has been compiled and the project is expected to initiate as soon as permission is received from the management and other concerned higher authorities.

Swachhata Initiatives in Hostels

The Hostel Committee undertook various initiatives revolving around the Swachh Bharat Abhiyan. One more connection of tertiary water was established and water boosting system was installed to maintain consistent water pressure and flow. Mesh doors were installed in rooms for the sake of ventilation and the washrooms on three floors of one side of B Block of the Hostel were repaired and renovated. Work related to whitewash and painting work was completed in blocks A, B, C and D. Tree plantation drives were held at regular periods to share the concern of climate change and global warming amongst the students. Work related to Mess cleaning and whitewash was also done. Besides this, desert coolers were set up in the Mess of all blocks of the hostel. Proper servicing of water coolers of the hostel and College was done. The water tanks of the college and hostel were cleaned using herbal techniques. Termite treatment was done in all blocks of hostel to enhance the quality of soil. Fully automated washing machines having capacity of 6.5 kg, were provided in the hostel for the comfort of students.

New washrooms for the mess workers were constructed. Underground water tanks that facilitate more storage capacity and help to avoid carbon footprint of bringing water tanks from outside were built. Solar lights were installed and fluorescent tube lights were replaced with LED lights in the hostel. New water coolers and water dispensers were installed so that at any time students get hot and cold water in the hostel.

Digital lounges were setup in the hostel so that the students can easily take part in any kind of digital activity viz. preparation of projects etc. New framed windows were installed in block E and F for easy use and ventilation.

Extensive Mess Cleaning and Pest Control

The Mess Committee of the college regularly inspects the mess on various parameters like cleanliness of surroundings, food storage, food preparation, disposal and hygiene of the workers. The Mess contractor regularly cleans and disinfects the cooking as well as serving and storage area.

The following points are kept in mind for smooth conduction of mess during academic sessions:

(i) Enable a better balanced diet throughout the year by providing nutritionally adequate food in respective menus.

(ii) Reducing kitchen waste by preserving unused or uneaten food for later use.

(iii) Preserving pantry food, such as spices or dry ingredients like rice and flour, for eventual use in cooking by regular pest control.

(iv) Maintaining proper kitchen hygiene, to reduce risks of bacteria or virus growth and food poisoning.

(v) For safety, it is important to verify the temperature of the refrigerator. Refrigerators are set to maintain a temperature of 40°F or below and proper freezing temperature is maintained.

(vi) Regular servicing of the water purifiers and coolers is done to monitor any unwanted microbial growth.

Purchase and Storage of Raw material

Raw material is purchased from time to time according to its perishable nature to reduce wastage. Dry ingredients are purchased in standard packing like 25 kg of rice and 30 kg of wheat and opened only and when required to reduce insect infestation. Highly perishable food items like milk and other dairy products are purchased on daily basis to reduce wastage. Perishable food items like green leafy vegetables are purchased every alternative day.

The food items to be stored are kept in large storing bins which are tightly covered and opened only as and when required. The surrounding area is well disinfected with caution to maintain the nature of the stored food for human consumption. The storage area is disinfected by spraying pesticides quaternary to reduce infestation, by taking appropriate precautions.

All the water pipes and outlets are sprayed with pesticides on a large scale once the students are on academic leave i.e. during a new session or during winter holidays.

Hastkala – A Workshop and Training Program on Developing Skills in Fabric Ornamentation : The Department organized a 7-day Skill Development Workshop and Training Programme – 'Hastkala' – with the aim of developing skills in Fabric Ornamentation under the aegis of Internal Quality Assurance Cell (IQAC) of the College. The Programme included training in various techniques of Tie and Dye, Block Printing, Khaddi Block Printing and Fabric Painting. During the first three days of the programme,

various techniques of Tie and Dye were demonstrated by the resource person, Ms Rati Arora from the department of Home Science, like Lehriya, Boondi, Marbelling, Muthra, Ruching and Pleating. The students prepared beautiful Bandhani dupattas, kurtis, cushion covers and illow covers. On the fourth and fifth days of the programme, Block Printing and Khaddi Block Printing were done on different articles like table covers, pillow covers and kurtis. On the sixth and seventh days, fabric painting in various forms was demonstrated which included Free hand, Stencil and Wet form. Beautiful floral and animal motifs were executed on running material, dupattas, kurtis and jute bags.

Emphasis was laid on eco-friendly and bio-degradable material, jute, to convey the message of environment protection. Students from various institutes in Chandigarh namely, Govt. College of Art, GGDSD College, Chitkara College and University Institute of Fashion Technology and Panjab University, Chandigarh participated in the training programme.

Preliminary Report on the Insect Fauna in the College Campus

Mehr Chand Mahajan DAV College for Women

Sector 36-A, Chandigarh (U.T.) **www.mcmdavcw-chd.edu**

PRELIMINARY REPORT ON THE INSECT FAUNA

Insects are the dominant group of organisms on earth in terms of both taxonomic diversity (50% of all described species) and ecological function. As far as diversity of the insects is concerned, insect species are distributed unevenly among the higher taxonomic groups. Five orders stand out for their high species richness, which include Coleoptera (beetles), Diptera (flies), Hymenoptera (wasps, ants and bees), Lepidoptera (butterflies and moths), and Hemiptera (the true bugs). Among these, beetles comprise almost 40% of described insect species i.e. more than 3,00,000 species. During the present investigations, the insect diversity of the campus was studied through visual observations for a period of six months. Early morning and evening visits were planned during the study period as the insects are more active during this period. The insects were then identified with the help of available standard literature such as Borrer, *et al.* (1992), Gullan & Cranstan (2000), Mauro, *et al.* (1987), Gunathilagaraj, *et al.* (1998), Haribal (1992), Mani (1995), Pradhan (1992) and Saxena (1992).

OBSERVATIONS

I. Order: Lepidoptera

The butterflies and moths are common insects and are well known to everyone. They are most readily recognized by the scales on the wings. Most of the body and legs are also covered with scales. The principal characters used in identifying adult Lepidoptera are those of the wings (venation, method of wing union, wing shape and scaling). Other characters used include the characters of the antennae, mouth parts, ocelli, legs, and frequently some general features such as size and color.

Details of the Lepidoptera species recorded from the College campus

Family	Scientific Name	Common Name	Fig. No.
Pierridae	*Eurema hecabe*	Common grass yellow	1
	Catopsilia sp.	Common emigrant	2,3
Papilionidae	*Papilio polytes*	Common mormon	4
Lycaenidae	*Chilades pandava*	Jewel butterfly	5
	Talicada nyseus	Red Pierrot	6
	Spindasis vulcanus	Common silverline	7
Nymphalidae	*Tirumala sp.*	Beautiful tiger	8
	Melanitis	The great evening brown	9

1. Eurema hecabe

2. Catopsilia sp.

3. Catopsilia sp.

4. Papilio polytes

5. Chilades pandava

6. Talicada nyseus

7. Spindasis vulcanus

8. Tirumala sp.

9. Melanitis

II. Order: Hymenoptera

Hymenoptera is a large order of insects, comprising the sawflies, wasps, bees, and ants. This is the most beneficial order from the human point of view. It contains great many species that are of value as parasites or predators of insect pests and it contains the most important pollinators of plants, the bees. The Hymenoptera are very interesting group in terms of their biology. They exhibit a great diversity of habitat and complexity of behavior in the social organization.

Details of the Hymenoptera species recorded from the College campus

Family	Scientific Name	Common Name	Fig. No.
Apidae			
Subfamily			
Bombinae	*Xylocopa sp.*	Bumble bee	10
Apinae	*Apis mellifera* *Apis indica*	Honey bee Honey bee	11 12
Formicidae	*Solenopsis sp.*	Black ant	13
Vespidae	*Vespula sp.*	Yellow wasp	14

10. Xylocopa sp.

11. Apis mellifera

12. Apis indica

13. Solenopsis sp.

14. Vespula sp.

III. Order: Coleoptera

Coleoptera is the largest order in the class Insecta. As adults, most beetles have a hard, dense exoskeleton that covers and protects most of their body surface. The front wings, known as elytra, are just as hard as the rest of the exoskeleton. They fold down over the abdomen and serve as protective covers for the large, membranous hind wings. At rest, both elytra meet along the middle of the back, forming a straight line that is probably the most distinctive characteristics of the order. The principle characters of beetles used in identification are those of the head, antennae, thoracic sclerites, legs, elytra, and abdomen. Occasionally, characters such as size, shape, and colour are used.

Details of the Coleoptera species recorded from the College campus

Family	Scientific Name	Common Name	Fig. No.
Malachiidae	*Anthocomus fasciatus*	Soft winged flower beetle	15
Pyrochroidae	*Pyrochroa serraticornis*	Cardinal Beetle	16
Coccinellidae	*Coccinella sp.*	Ladybird beetle	17
Cleridae	*Trichodes alvearius*	Soldier Beetle	18
Meloidae	*Mylabris pustulata*	Orange blister beetle	19

15. Anthocomus fasciatus

16. Pyrochroa serraticornis

17. Coccinella sp.

18. Trichodes alvearius

19. Mylabris pustulata

IV. Order: Hemiptera

The Hemiptera or true bugs are an order of insects comprising some 50,000 to 80,000 species of groups such as the cicadas, aphids, plant hoppers, leaf hoppers, and shield bugs. Most hemipterans feed on plants, using their sucking and piercing mouthparts to extract plant sap. Some are parasitic while others are predators that feed on other insects or small invertebrates. They live in a wide variety of habitats, generally terrestrial, though some species are adapted to life in or on the surface of fresh water. Two pairs of wings are usually present, the anterior pair of wings most often of harder consistency than the posterior pair.

Details of the Hemiptera species recorded from the College campus

Family	Scientific Name	Common Name	Fig. No.
Pyrrocoreidae	*Pyrrhocoris sp.*	Cotton stainer	20
Pentatomidae	*Erthesina fullo*	Yellow spotted stink bug	21
Myridae	*Lygus sp.*	Tarnished plant bug	22
Coreidae	*Acanthocoris scabrator*	Squash bug	23
	Cletus sp.	Leaf footed bug	24

20. Pyyrochoris sp.

21. Erthesima sp.

22. Lygus sp.

23. Acanthocoris sp.

24. Cletus sp.

V. Order: Odonata

Odonata is an order of carnivorous insects, encompassing the dragonflies (Anisoptera) and the damselflies (Zygoptera). Dragonflies are generally larger, and perch with their wings held out to the sides; damselflies have slender bodies, and hold their wings over the body at rest.

Details of the Odonata species recorded from the College campus

Family	Scientific Name	Common Name	Fig. No.
Aeshnidae	*Pantala flavescens*	Wandering Glider	25
Coenagrionidae	*Ceriagrion sp.*	Coromandel Marsh Dart	26

25. Pantala flavescens

26. Ceriagrion sp.

VI. Order: Orthoptera

Orthoptera is an order of insects that comprises the grasshoppers, locusts and crickets. Orthopterans have a generally cylindrical body, with elongated hind legs and musculature adapted for jumping. They produce sound (known as "stridulation") by rubbing their wings against each other or their legs.

Details of the Orthoptera species recorded from the College campus

Family	Scientific Name	Common Name	Fig. No.
Acrididae	*Poicelocera picta*	Printed grasshopper	27
Tettigoniidae	*Ruspolia*	Long horned grasshopper	28

27. Poicelocera picta

28. Ruspolia Sp.

VII. Order: Diptera

This is one of the largest insect orders in the world and includes many familiar insects such as mosquitoes, midges, sand flies, house flies and blowflies. Many species of Diptera are important due to the role they play in disease transmission, which includes such things as mosquitoes that spread malaria in many underdeveloped countries. Diptera can be distinguished by one pair of membranous wings and hind wings reduced to small club like structures called halteres.

Details of the Diptera species recorded from College campus

Family	Scientific Name	Common Name	Fig. No.
Muscidae	*Musca domestica*	Housefly	29
Syrphidae	*Allograpta sp.*	Hoverfly	30
Calliphoridae	*Calliphora erythrocephala*	Blow fly/blue bottle fly	31
Culicidae	*Culex pipiens*	Common house mosquito	32
	Aedes aegypti	Yellow fever mosquito	33

29. Musca domestica

30. Allograpta sp.

31. Calliphora erythrocephala

32. Culex sp.

33. Aedes sp.

VIII. Order: Isoptera

This order includes social and polymorphic insects like termites living in large communities composed of reproductive forms together with numerous apterous, sterile soldiers and workers. Wings are very similar, elongate and membranous, superposed flat over the back when at rest, and capable of being shed by means of basal fractures.

Details of the Isoptera species recorded from College campus

Family	Scientific Name	Common Name	Fig. No.
Termitidae	*Odontotermes* sps.	White ants	34

34. Odontotermes sp.

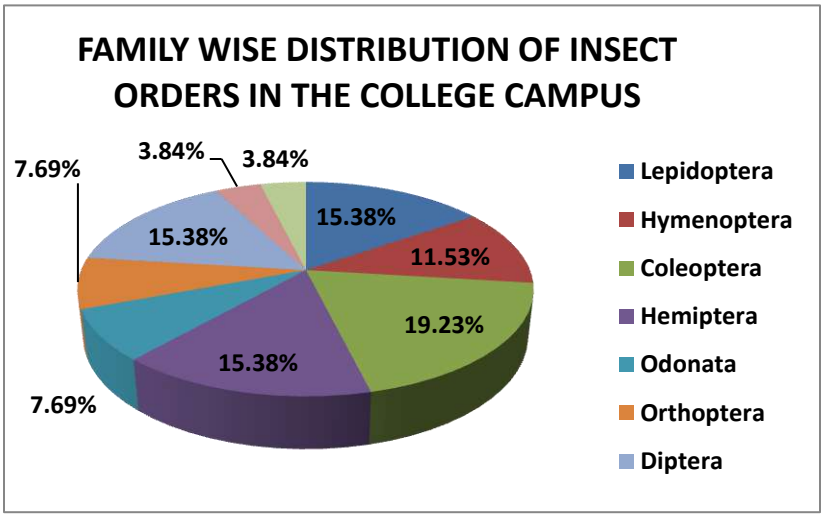
35. Mantis religiosa

IX. Order: Mantodea

Mantises are an order (Mantodea) of insects that contains over 2,400 species in about 430 genera in 15 families. The largest family is the Mantidae ("mantids"). Mantises are distributed worldwide in temperate and tropical habitats. They have triangular heads with bulging eyes supported on flexible necks. Their elongated bodies may or may not have wings, but all Mantodea have forelegs that are greatly enlarged and adapted for catching and gripping prey. Their upright posture, while remaining stationary with forearms folded, has led to the common name praying mantis.

Details of the Mantodea species recorded from the College campus

Family	Scientific Name	Common Name	Fig. No.
Mantidae	*Mantis religiosa*	Mantis	35



Efforts by: B.Sc. I & II Medical students under the supervision of Dr. Ravneet Kaur & Dr. Neetu

Preliminary Report on the Floral Diversity in the College Campus

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Preliminary Report on the Floral Diversity

Plants emit large amount of volatile compounds / natural plant products that are involved in various ecological functions e.g. they may serve as antiherbivore, antifungal, antibacterial compounds, phytotoxins, as attractants of pollinators and seed dispersers and are also involved in plant-plant interactions, including allelopathy. As far as floral diversity is concerned, the plant species are distributed into different types, viz. herbs, climbers, vines, shrubs and trees.

During the present study, the floral diversity of the campus was studied through visual observations. Regular visits were planned in the college campus, to note the floral diversity growing in the campus and to list them according to their type and family.

List of plant species

S.No.	Name of the plant	Number of species	Family	Common Name	Type
1.	Tagetes erecta	60	Asteraceae	Mexican marigold	Herb
2.	Rosa indica	20	Rosaceae	Rose	Woody Shrub
3.	Duranta erecta	20	Verbenaceae	Golden dewdrop	Shrub
4.	Ficus krishnae	4	Moraceae	Krishna fig	Tree
5.	Asparagus officinalis	15	Asparagaceae	Garden asparagus	Herb
6.	Croton sp.	6	Euphorbiaceae	Rushfoil	Shrub
7.	Ocimum sanctum	25	Lamiaceae	tulsi	Sub Shrub

8.	Mangifera indica	8	Anacardiaceae	Mango	Tree
9.	Citrus limon	3	Rutaceae	Lemon	Tree
10.	Barleria cristata	10	Acanthaceae	Philippine violet	Shrub
11.	Acorus calamus	6	Acoraceae	Sweet flag	Herb
12.	Elettaria cardamomum	1	Zingiberaceae	Elaichi	Herb
13.	Aloe vera	10	Liliaceae	Ghrit Kumari	Herb
14.	Opuntia ficus-indica	12	Cactaceae	Cactus	Succulent
15.	Sansevieria hyacinthoides	15	Asparagaceae	Mother-in-law's tongue	Succulent
16.	Plumeria rubra	1	Apocynaceae	Frangipani	Small tree
17.	Terminalia arjuna	1	Combretaceae	Arjuna	Tree
18.	Cassia fistula	1	Fabaceae	Amaltas	Tree
19.	Eucalyptus globulus	10	Myrtaceae	Safeda	Tree
20.	Phyllanthus emblica	1	Euphorbiaceae	Amla	Tree
21.	Terminalia belerica	4	Combretaceae	Bahera	Tree
22.	Bacopa monnieri	1	Plantaginaceae	Brahmi	Herb
23.	Stevia rebaudiana	1	Asteraceae	Sugar leaf	Herb
24.	Ocimum kilimandscharicum	20	Lamiaceae	Camphor basil	Woody shrub

25.	Adhatoda vasica	2	Acanthaceae	Vasaka	Shrub
26.	Justicia gendarussa	2	Acanthaceae	Kala adulasa	Shrub
27.	Ficus religiosa	7	Moraceae	Peepal	Tree
28.	Bauhinia purpurea	3	Fabaceae	Orchid tree	Tree
29.	Bougainvillea spectabilis	5	Nyctaginaceae	Great Bougainvillea	Woody vine/Shrub
30.	Azadirachta indica	11	Meliaceae	Neem	Tree
31.	Grevillea robusta	24	Proteaceae	Silver oak	Tree
32.	Litchi chinensis	6	Sapindaceae	Litchi	Tree
33.	Saraca asoca	52	Fabaceae	Ashoka	Tree
34.	Cycas revoluta	5	Cycadaceae	Sago palm	Tree
35.	Psidium guajava	5	Myrtaceae	Guava	Shrub or tree
36.	Manilkara zapota	4	Sapotacaeae	Sapodilla	Tree
37.	Syzygium cumini	2	Myrtaceae	Jambolan	Tree
38.	Annona squamosa	6	Annonaceae	Sugar apples	Tree
39.	Araucaria columnaris	2	Araucariaceae	Coral reef	Tree
40.	Punica granatum	3	Lythraceae	Pomegranate	Small tree
41.	Alstonia scholaris	3	Apocynaceae	Devil tree	Tree
42.	Ficus pumila	9	Moraceae	Creeping fig	Evergreen vine

43.	Bambusa arundinacea	1	Poaceae	Thorny bamboo	Herb
44.	Murraya paniculata	2	Rutaceae	Jasmine orange	Tree
45.	Ageratum conyzoides	13	Asteraceae	Billy goat weed	Herb
46.	Ficus benghalensis	1	Moraceae	Banyan tree	Tree
47.	Pinus roxburghii	4	Pinaceae	Pines	Tree
48.	Dracaena fragrans	11	Asparagaceae	Cornstalk dracaena	Shrub
49.	Syngonium podophyllum	28	Araceae	Syngonium	Evergreen vines
50.	Euphorbia pulcherrima	2	Euphorbiaceae	Poinsettia	Shrub
51.	Murraya koenigii	1	Rutaceae	Curry tree	Tree


Asparagus officinalis


Ocimum sanctum


Mangifera indica


Citrus limon


Barleria cristata


Acorus calamus


Elettaria cardamomun


Terminalia belerica


Phyllanthus emblica


Justicia gendarussa


Adhatoda vasica


Ocimum kilimandscharicum


Stevia rebaudiana


Bacopa monnieri (Brahmi)
FAMILY : SCROPHULARIACEAE
PART USED : WHOLE PLANT
Bacopa monnieri


Ficus religiosa


Annona squamosa
Araucaria columnaris
Grevellia robusta
Saraca asoca


Punica granatum
Alstonia scholaris
Cycas revoluta
Manikara zapota


Litchi chinensis
Azadirachta indica
Psidium gujava
Bouganvillea spectabilis

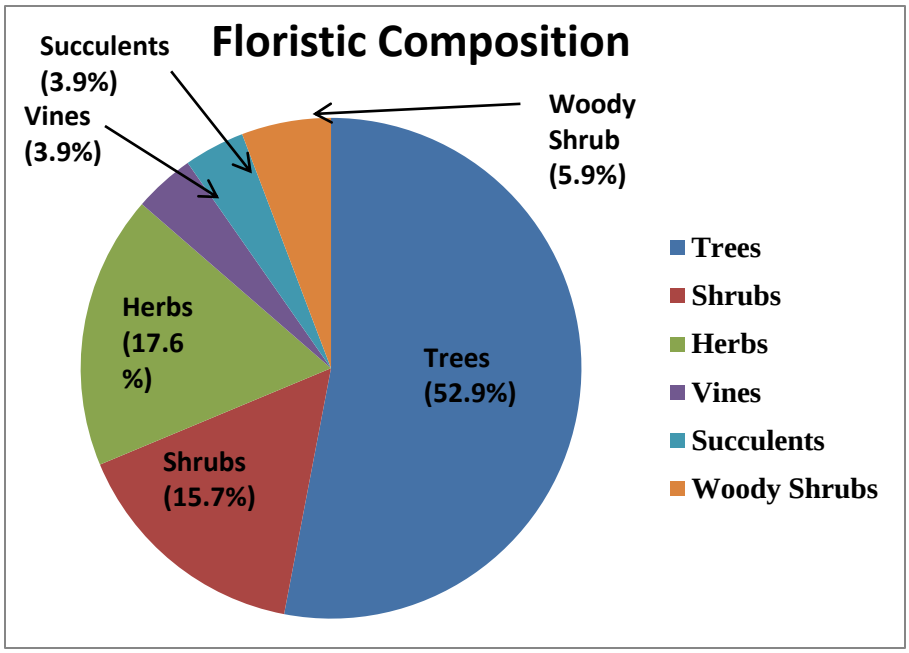

Bauhinia purpurea
Cassia fistula
Sanseviria hyacinthoides
Opuntia ficus-indica


Plumeria rubra
Aloe vera
Eucalyptus globulus
Terminalia arjuna


Ficus pumila
Bambusa arundinacea
euphorbia
pulcherrima


Murraya paniculata
Ageratum conyzoides
Ficus benghalensis


dracaena fragrans
Syzygium cumini
pyrgonium
podophyllum



Efforts by: B. Sc. II[nd] and III[rd] year medical students under the supervision of Dr. Gunjan Sud, Dr. Jasleen Kaur and Dr. Aditi Shreeya Bali from department of Botany

Type of the plant	**No. of species**
Trees	27
Shrub	8
Herb	9
Vines	2
Succulents	2
Woody shrubs	3
Total	**51**

List of Trees in the College Campus

Mehr Chand Mahajan DAV College for Women

Sector 36-A, Chandigarh (U.T.) **www.mcmdavcw-chd.edu**

LIST OF TREES IN THE COLLEGE CAMPUS

Botanical name	Family	Common name
Jacaranda mimosifolia D.Don	Bignoniaceae	Neeli gulmohur
Tecoma stans (L.) Juss. ex Kunth	*Bignoniaceae*	Yellow bells
Delonix regia(Hook.) Raf.	*Caesalpiniaceae*	Flame Tree, Gulmohar
Grevillea robusta A.Cunn. ex R.Br.	Proteaceae	Silver oak
Alstonia scholaris (L.) R. Br.	*Apocynaceae*	Scholar Tree, Devil tree
Bauhinia variegata L.	*Leguminosae*	Kachnar, Mountain-ebony.
Bauhinia purpurea L.	*Leguminosae*	Purple Bauhinia
Ceiba speciosa (A.St.-Hil.) Ravenna	*Malvaceae*	Silk floss tree
Neolamarckia cadamba (Roxb.) Bosser	*Rubiaceae*	Kadamb
Casuarina equisetifolia L.	*Casuarinaceae*	Jungli Saru
Plumeria obtusa L.	*Apocynaceae*	Singapore graveyard flower
Magnolia grandiflora L.	Magnoliaceae	Magnolia, Him Champa
Azadirachta indica A. Juss.	Meliaceae	Neem
Chukrasia tabularis A. Juss.	Meliaceae	Indian Mahogany
Polyalthia longifolia (Sonn.) Thwaites	Annonaceae	Ashoka
Manilkara zapota (L.) P.Royen	Sapotaceae	Chikoo
Nyctanthes arbor-tristis L.	*Oleaceae*	Har singar
Litchi chinensis Sonn.	Sapindaceae	Lychee
Araucaria araucana (Molina) K.Koch	Araucariaceae	Monkey puzzle tree
Cycas revoluta Thunb.	*Cycadaceae*	Sago palm
Caesalpinia pulcherrima (L.) Sw.	Leguminosae	Peacock flower

Bischofia javanica Blume	Phyllanthaceae	Bishop Wood, Paniala
Annona squamosa L.	Annonaceae	Sharifa
Aegle marmelos (L.) Corrêa	Rutaceae	Bael
Koelreuteria paniculata Laxm.	Sapindaceae	Golden Rain Tree
Markhamia lutea (Benth.) K.Schum.	Bignoniaceae	Siala
Pterospermum acerifolium (L.) Willd.	Sterculaceae	Kanak Champa
Roystonea regia (Kunth) O.F.Cook	Arecaceae	Royal Palm
Barringtonia acutangula (L.) Gaertn.	*Lecythidaceae*	Samundarphal
Callistemon viminalis (Sol. ex Gaertn.) G.Don	*Myrtaceae*	Weeping bottlebrush
Mimusops elengi L.	*Sapotaceae*	*Maulsari*
Syzygium cumini (L.) Skeels	*Myrtaceae*	Jamun
Lagerstroemia speciosa (L.) Pers.	*Lythraceae*	Pride of India
Psidium guajava L.	*Myrtaceae*	Guava
Citrus limon (L.) Burm. f.	*Rutaceae*	Lemon
Dalbergia sissoo DC.	*Leguminosae*	Sheesham
Cassia fistula L.	*Leguminosae*	Amaltas
Ficus elastica Roxb. ex Hornem.	*Moraceae*	India Rubber Tree
Carica papaya L.	*Caricaceae*	Papaya
Thuja occidentalis L.	*Cupressaceae*	Northern White-Cedar
Ziziphus mauritiana Lam.	*Rhamnaceae*	Ber, Chinese date

Pinus roxburghii Sarg.	*Pinaceae*	Chir Pine
Eriobotrya japonica (Thunb.) Lindl.	*Rosaceae*	Loquat
Moringa oleifera Lam.	*Moringaceae*	Senjana
Mangifera indica L.	*Anacardiaceae*	Mango
Cascabela thevetia (L.) Lippold	*Apocynaceae*	Yellow oleander
Ficus religiosa L.	*Moraceae*	Peepal
Ficus benghalensis L.	*Moraceae*	Banyan, Bargad
Tectona grandis L.f.	*Lamiaceae*	Sagwan, Teak
Terminalia chebula Retz.	*Combretaceae*	Harad
Terminalia bellirica (Gaertn.) Roxb.	*Combretaceae*	Bahera
Terminalia arjuna (Roxb. ex DC.) Wight & Arn.	*Combretaceae*	Arjun
Artocarpus heterophyllus Lam.	Moraceae	Jackfruit, Kathal
Eucalyptus camaldulensis *Denham*	Myrtaceae	Longbeak eucalyptus
Ficus virens Aiton	*Moraceae*	Pilkhan
Jatropha curcas L.	*Euphorbiaceae*	Jangli Arandi
Phyllanthus emblica L.	*Phyllanthaceae*	Amla, Indian gooseberry
Elaeocarpus serratus L.	*Elaeocarpaceae*	Rudraksh
Lagerstroemia indica L.	*Lythraceae*	Crepe Myrtle
Vachellia nilotica (L.) P.J.H. Hurter & Mabb.	*Leguminosae*	Kikar

Besides this, saplings of the following trees have been planted in the campus to add to the species diversity of the college campus.

Botanical Name	**Family**	**Common Name**
Pyrus communis L.	*Rosaceae*	Nashpati
Sapindus mukorossi Gaertn.	*Sapindaceae*	Soapberry, Reetha
Artocarpus lacucha Buch.-Ham.	*Moraceae*	Dheu, Monkey Jack
Cordia dichotoma G.Forst.	*Boraginaceae*	Lasura
Butea monosperma (Lam.) Taub.	*Leguminosae*	Flame of the Forest, Palash
Saraca asoca (Roxb.) Willd.	*Leguminosae*	Sita Ashok

MCM students participate in 'Swachh Bharat Summer Internship 2018'

CHANDIGARH, JULY 3

More than 30 students of MCM DAV College for Womenhave got registered for "Swachh Bharat Summer Internship 2018" organized by the Ministry of Water and Sanitation in association with the Ministry of Human Resources

गांववासियों को साफ-सफाई रखने के लिए जागरूक करते हुए एन.एस.एस. स्वयंसेवक। (छाया : गुरिन्दर सिंह)

एमसीएम डीएवी कॉलेज में स्वच्छता पखवाड़ा शुरू

एम.सी.एम. की छात्राओं ने स्वच्छ भारत समर इंटर्नशिप में लिया हिस्सा

पंजीकृत होने के बाद चंडीगढ़ के किशनगढ़, धनास और कैम्बवाला इलाकों में इंटरर्नशिप की शुरूआत की

छात्राओं ने चंडीगढ़ के चुने हुए गांवों में इंटरर्नशिप की शुरुआत की।

एनएसएस स्वयंसेवकों ने की कालेज की सफाई

चंडीगढ़ (ट्रिन्यू) : एमसीएम में आयोजित स्वच्छता अभियान के तहत 15 दिन के लिए अलग-अलग गतिविधियां निर्धारित की गयी हैं। कॉलेज की एनएसएस यूनिट के इस अभियान में स्वच्छता के प्रति व्यवहारात्मक बदलाव लाने के लिए जागरूक किया जाएगा। लगभग 400 एनएसएस स्वयंसेवकों ने कॉलेज में क्लास रूम्स, लेबोरेट्री, बगीचे की सफाई की। एक अन्य कार्यक्रम में कॉलेज की स्किल डेवलपमेंट कमेटी ने सड़क सुरक्षा

संक्रामक बीमारियों व स्वच्छता संबंधी गांववासियों को किया जागरूक

चंडीगढ़, 12 अगस्त (पठानिया): स्वच्छ भारत के उद्देश्य को प्रभावी रूप से कार्यान्वित करने की दिशा में एमसीएम सामाजिक समस्याओं का समाधान ढूंढ़ने की आवश्यकता पर बल दिया। इसके लिए उन्होंने छात्राओं को तकनीक की

मदद से भूमिगत निकास व्यवस्था

धर्म संबंधित साफ-सफाई को लेकर प्रयासों के लिए सराहना करते हुए

एम.सी.एम. की छात्राओं ने शुरू की नई पहल

स्वच्छ भारत समर इंटर्नशिप में गांववासियों को किया जागरूक

से नो तो प्लास्टिक पर रैलियां निकाल कर किया जागरूक

चंडीगढ़, 3 जुलाई (राकेश) : एम.सी.एम. डी.ए.वी. कॉलेज फॉर वूमैन की छात्राओं ने स्वच्छ भारत समर इंटर्नशिप 2018 के लिए स्वयं को पंजीकृत किया। यह इंटर्नशिप भारत सरकार के मानव संसाधन विकास मंत्रालय के सहयोग से जल एवं स्वच्छता मंत्रालय के द्वारा आयोजित किया गया था। इसका मुख्य उद्देश्य ग्रामीण क्षेत्रों में सामुदायिक सेवा के लिए छात्राओं को एकसूत्र में बांधना था। पंजीकृत छात्राओं ने जून 2018 के पहले सप्ताह में चंडीगढ़ के चुने हुए गांवों (किशनगढ़, धनास और कैंबवाला) में अपनी इंटरर्नशिप की शुरुआत की। गांवों के सरपंचों की मदद से भूमिगत निकास व्यवस्था, गीले-कचरे एवं गली सफाई आदि से संबंधित अनेक अभियान एवं सजगता कार्यक्रम आयोजित किए गए।

इतनी निर्धारित गतिविधियों के अतिरिक्त छात्राओं ने कुछ अभियान अपनी स्वेच्छ से भी चलाये जैसे मासिक धर्म संबंधित साफ़ सफाई को लेकर जागरूकता अभियान, इतना ही नहीं घरों की बेकार वस्तुओं को एकत्रित करना, दुकानों, रेस्त्राओं एवं ढाबों से व्यर्थ पड़ी सामग्री एकत्रित करना आदि। कई अभियान जनता को इस बात के लिए सजग करने हेतु आयोजित हुए की इस प्रकार कूड़े और नॉन बायोडिग्रेडेबल और बायोडिग्रेडेबल कचरे में अलग अलग किया जा सकता है।

कचरा प्रबंधन पर गाँव वालों को जानकारी देते हुए उन्होंने कम्पोस्ट गड्ढे बनाने के लिए प्रोत्साहित किया। छात्राओं ने गांवों में पूर्णतः सफाई रखने के लिए स्वच्छ भारत समर इंटर्नशिप 2018 के तहत हमेशा कायम रहने वाली साफ़ सफाई व्यवस्था कार्यान्वित करने में भी सहयोग दिया। इसी कार्यक्रम के तहत विश्व पर्यावरण दिवस पर प्लास्टिक के नुकसानदेह प्रभाव को बताने के लिए से नो तो प्लास्टिक पर विशिष्ट रैलियां भी निकाली गयी। स्वच्छता मेला में कई मनोरंजक व शिक्षाप्रद गतिविधियां भी आयोजित हुई जिसमे कई गावों के स्कूलों के बच्चों ने जमकर भाग लिया। चुने हुए गांवों के पंचायत घरों में स्वच्छ भारत मिशन से सम्बंधित पिक्चरों पर बातचीत सत्र भी रखा गया। कॉलेज की छात्राओं ने आंगनवाड़ी की दीवारों को चित्रित किया और स्वच्छता पर नारे लिखे। उन्होंने निवासियों को मशरूम की खेती और इको फ्रेंडली-एंजाइम बनाने पर भी प्रकाश डाला। कॉलेज की प्राध्यापिकाओं ने भी स्वच्छता, पर्यावरण संरक्षण और सस्टेनेबिलिटी पर व्याख्यान दिये । कॉलेज की प्रिंसिपल डॉ निशा भार्गव ने इंटर्न्स और उनके मेंटर्स को उनके प्रयासों के लिए सराहना करते हुए कि यह कार्यक्रम न केवल छात्राओं के लिए एक ज्ञानवर्धक अनुभव रहा अपितु यह सरकार द्वारा एक स्वच्छ एवं स्वस्थ भारत बनाने के लिए किये जा रहे प्रयासों की ओर आशा का एक बढ़ा हुआ कदम भी है।

एम.सी.एम. में स्वच्छता अभियान, प्राथमिक चिकित्सा पर एक व्याख्यान

एमसीएम कालेज में छात्रा स्वच्छता अभियान में कालेज की सफाई करती हुई।

चंडीगढ़ (राकेश) : एम.सी.एम. में आयोजित स्वच्छता अभियान में 15 दिनों के लिए अलग अलग गतिविधियां निर्धारित की गई हैं। कालेज के एन.एस.एस. यूनिट द्वारा आयोजित इस अभियान में स्वच्छता के प्रति व्यवहारात्मक बदलाव लाने के उद्देश्य से जागरूकता पैदा करना ही मुख्य बिंदु है। लगभग 400 एन.एस.एस. स्वयंसेवकों ने कॉलेज परिसर के अलग अलग क्षेत्रों जैसे क्लासरूम, लेबोरेट्री, बगीचे आदि की सफाई की। एक अन्य कार्यक्रम में कॉलेज की स्किल डिवेलपमेंट कमेटी ने सड़क सुरक्षा एवं प्राथमिक चिकित्सा पर एक व्याख्यान एवं प्रदर्शन आयोजित किया। संभव फॉउंडेशन बंगलुरु के मिशन सलामती की प्रोजेक्ट कोऑर्डिनेटर अमोल कौर ने सड़क सुरक्षा पर ज्ञानवर्धक जानकारी दी। कॉलेज की प्रिंसिपल डॉ निशा भार्गव ने कॉलेज को हमेशा से ही जागरूक और जिम्मेदार नागरिक निर्माण के ओर प्रयत्नशील बताते हुए कहा कि विशेषज्ञों के साथ बातचीत, व्यख्यान एवं सामाजिक कारणों के प्रति व्यवहारात्मक एवं सकारात्मक रुख जगाने के लिए भिन्न भिन्न प्रकार की गतिविधियां निश्चित रूप से हमारी हमारी

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