Manav Rachna International Institute of Research and Studies

(Deemed to be University under section 3 of the UGC Act, 1956)

PROGRESS REPORT 2022-23

11 SUSTAINABLE CITIES AND COMMUNITIES

Make cities and human settlements inclusive, safe, resilient & sustainable

Contents:

1. PREAMBLE

Manav Rachna International Institute of Research and Studies (MRIIRS) is dedicated to supporting Sustainable Development Goal 11, which aims to make cities and human settlements inclusive, safe, resilient, and sustainable. MRIIRS works tirelessly to create an environment where students and researchers can address urbanization challenges, promote sustainable infrastructure, and foster innovation in urban planning. By offering programs in architecture, urban and regional planning, and environmental science, and by engaging in community outreach initiatives, MRIIRS contributes to the development of smart and sustainable cities, ultimately striving to enhance the quality of life for current and future generations.

MRIIRS have well established Departments in Civil Engineering and Architecture & Design that actively contribute to the fulfillment of Sustainable Cities and Communities. These programs are designed to empower students with the knowledge, skills, and values needed to create resilient and inclusive urban spaces.

2. TEACHING AND LEARNING

At Manav Rachna International Institute of Research and Studies (MRIIRS), educators emphasize the importance of urban sustainability and encourage students to explore innovative solutions for creating inclusive, environmentally friendly, and resilient cities. By integrating SDG 11 into their curricula, MRIIRS can equip future leaders with the knowledge and skills needed to contribute to the sustainable development of cities and human settlements, ultimately helping to achieve this vital global goal.

The curriculum is designed to equip students with the knowledge and skills needed to address environmental, social, and economic aspects of sustainability in the built environment. Students learn about green building practices, energy-efficient design, materials with reduced environmental impact, and sustainable construction techniques. They are also encouraged to explore innovative solutions that promote resource conservation, resilience, and inclusivity in urban development. The internships and projects included in the curriculum help them to learn through real time applications. Students are also given exposure to gain knowledge through industrial visits, awareness camps, workshops/Trainings and seminars arranged by renowned academicians or Industry Personnel.

3. RESEARCH ECOSYSTEM

At Manav Rachna International Institute of Research and Studies (MRIIRS), the research ecosystem serves as a vibrant hub of innovation and academic excellence. It encompasses a collaborative network of dedicated faculty, passionate students, and cutting-edge facilities, fostering an environment where research thrives. Interdisciplinary interactions and partnerships with industry and the community are encouraged, providing a rich repository of resources and expertise to tackle real-world challenges.

MRIIRS has cultivated a research environment that actively engages in projects focused on urban sustainability, resilient communities, and inclusive development. Researchers collaborate across various disciplines to develop innovative solutions for the complex challenges faced by cities and communities, such as sustainable urban planning, resource management, and inclusive infrastructure.

- **Prominent Research Publications Addressing SDG 11**

In the onward research journey at MRIIRS, efforts have been undertaken to not only seed the culture of research but also to achieve substantial momentum by achieving more than 2588 research publications in Scopus and Web of Science apart from several in PubMed, UGC care.

The prominent research publications addressing SDG 11 are as listed below:

- ***Analysis of Contamination of Soil by Sensor Monitoring Systems: A Green Technology***

DOI -: http://doi.org/10.53550/EEC.2023.v29i02.041The soil is a significant element of the landscape because it affects the crops, distribution of natural vegetation and human settlements across the landscape. Soil contains organic matter, liquids, gases as well as numerous microbes. Soil quality monitoring plays the most important role in sustainable crop production. Monitoring of soil using traditional methods requires many tests to be conducted in order to predict the soil quality. Soil testing entails the analysis of a soil sample from a specific land that includes estimation of pH, electrical conductivity for moisture content, nitrogen, phosphorus, potassium (NPK) level, temperature, etc. There are many challenges for direct monitoring of soil quality in terms of its chemical, biological and physical characteristics.

However, with the advancement in sensor technology, certain sensors for soil quality monitoring have been developed and commercially available too.

In this paper, the design and development of available sensor monitoring system for remote monitoring quality of soil has been reviewed. The objective is to explore the different kinds of sensors systems that can be used for predicting soil quality. Internet of Things (IoT) based sensors are efficient, and provide quick results with lesser resources.

- ***Bio remedial Process: A Review on Removal of Fluoride from the Waste Water***

DOI- : http://doi.org/10.53550/EEC.2023.v29i03s.073

Ground water has always been an important and most dependable source of water since prehistoric ages, but with rapid industrialization to meet the needs of growing population has stressed the ground water reservoir. Stress to ground water reservoir is just one problem; industrial waste has also introduced lots of new chemical substances in water bodies. Fluorides are one such pollutant that undermines living life forms especially human beings .There are primarily two sources of fluoride contamination in ground water. Geogenic sources and anthropogenic sources. Talking about the status of fluoride contamination it can be seen in more than 25 countries worldwide. In India itself 19 states and at least 132 districts have witnessed the problem of water contamination, Fluoride contamination is also impacting the health of people adversely. Diseases like skeletal fluorosis, non –skeletal fluorosis, and dental fluorosis are the most common health problem from fluoride contamination .Due to fluoride contamination diseases in plants like Chlorosis, Necrosis is impacting plant body. Thus, to remove fluorine contamination from water we can use bioremediation process. Bioremediation strategies can be classified mainly in two categories in – situ techniques and ex –situ techniques. Its mode of action primarily includes use of microbes in processing the fluoride contamination. This shows that bioremediation has lots of advantages like it's a natural process, cost effective etc. But it too have some disadvantages like they are highly specific and it takes longer time etc. Considering all the merits and demerits of bioremediation, it is the most effective technological tool that holds great value for the future as scientists learn more about its capabilities and the curiosity to find more appropriate methods are still going on. This review article deals with ground water pollution due to fluoride concentration. We have thoroughly reviewed on its impact on health of plants and animals and the bioremediation processes to cure the water contamination.

- ***Exploring the Effectiveness of Various Waste Materials in Enhancing Pervious Concrete Performance: A Comprehensive Review***

  Pervious concrete is a special concrete and has gained popularity due to its pioneering method to control, manage, and handle storm water runoff is widely used in many applications such as parking lots, pavements, and green roofs, due to its ability to mitigate the urban heat island effect and reduce stormwater runoff. It is a family of different materials such as cement, coarse & fine aggregate and admixtures. Since use of cement and natural aggregates for production of concrete are considered having negative environmental and cost effects, hence to control these different researchers are working on the utilization of waste materials as their replacement. This paper gives a detailed review about the previous finding of use of wastes such as flyash, ground granulated blast steel slag (GGBSS), rice husk, bottom ash, red mud, recycled aggregates, crump rubber etc. as a replacement in production and change in the properties of pervious concrete. It also leads towards use of pervious concrete in construction industry for building environment friendly, cost effective, self- cleansing and durable structures.

- ***Plastic Pollution and its Impact on Environment***

  DOI- http://doi.org/10.53550/EEC.2023.v29i03s.014

  Beginning around 1950 to 2021, about 6.3 billion tons of plastics have been delivered around the world, out of which only 9% is reused, individually. Human population increment is eventually related to the increasing use of plastic. Plastic items are answerable for consistent expansion in the development of plastic. We have surveyed in this paper, the most important written works on the various sorts of plastics underway, the negative impacts of these constituents to air, water, soil, organic entities and human wellbeing viz-a-viz the different removal technique. Papers that revealed ecological and general wellbeing impacts of plastic looked in to assortments of plastic utilized in the creation of numerous consumable items including clinical gadgets, food bundling and water bottles containing harmful synthetic substances like phthalates, weighty metals, and Nonyl phenol. Yearly 8 million tons of plastic is delivered into the sea, prompting corruption of marine living space which at last influences amphibian life forms and creates health hazards. The increased usage of plastic and plastic items when exposed to high temperatures leads to the release of toxins into food items and water.

- ***Removal of Organic and Inorganic Contaminants from Water by Chemical and Biological Techniques – A Review***

  DOI - : http://doi.org/10.53550/EEC.2023.v29i02.040

  Water is an essential component for survival of living beings globally. Water is being polluted day by day by anthropogenic sources. Rapid industrialization and urbanization play key roles for polluting the water. A lot of soluble and insoluble materials act as contaminants or pollutants for making water not usable. Inorganic materials such as heavy metals, ions and organic materials such as phenol and phenolic compounds are heavily released by the industry in the water. WHO and EPA recommended some values for these contaminants in water. Above the value of these contaminants from the recommended values may cause harmful effects for human beings as well as other living organisms. The aim of this study is to identify the sources of various types of inorganic and organic contaminants and their removal techniques from the water.

- ***Revisiting the modern approach to manage agricultural solid waste: an innovative solution***

  DOI - https://doi.org/10.1007/s10668-023-03309-7

  Agricultural solid waste (ASW) is a serious concern globally, specifically in agricultural countries like India, China, Japan, Indonesia, Malaysia, etc. A lot of agricultural waste like the remain of crop plants, peels, leaves, corn cob, decayed crops, etc., is produced directly or indirectly every year affecting the environment and is not appropriately managed. Therefore, to overcome this problem, there is a need to develop waste redemption techniques to transform solid waste into value-added products. The wastes are generally rich in carbohydrates, lipids, proteins, and many other organic and inorganic constituents. This composition allows us to produce numerous value-added products like livestock feed, bio-preservatives, biofuels, biofertilizers, single-cell proteins, nanoparticles, biodegradable plastic, chitosan, collagen, and antibodies. Additionally, various start-ups leading to new beneficial products from agricultural solid waste should be promoted. This review intends to explore the sources of agricultural solid waste generation and to provide a solution to manage the waste through modern technologies, saving the environment and boosting a country's economy.

The outcome of our study will lead toward a sustainable approach to waste management as we have comprises the most innovative and successful working models in one place. This newly developed technique will help to achieve the greater goal of sustainable development.

- ***Journal of Fundamental & Comparative Research:Role of TV Channels in Empowering Rural India***

  According to this study, rural development of India is directly related to the usage of TV channels in the country. Almost every component of rural development in India has been influenced by climate change, which is as diverse as the country itself. this article In addition to social networking sites and microblogs, other media networks, such as news channels and non-profits TV channel expands the notion of network to include organizations. contemporary art and There has been much discussion on the difference between the older forms of Mimi. To collect data from different experts in different fields For this an interview-based approach is used. Various success stories collected But the analysis was done. The objective of this study is to examine the ways in which The impact of TV channels has also been examined, as well as the ways in which the media has been reduced. This According to the study's findings, if India is to achieve its Vision 2020 goals, the country's rural areas TV channels networks should intensify their efforts, because India cannot shine without the help of its villages.

- ***Synthesis and characterization of polyamine-based polyelectrolytes for wastewater treatment in the sugar industry***

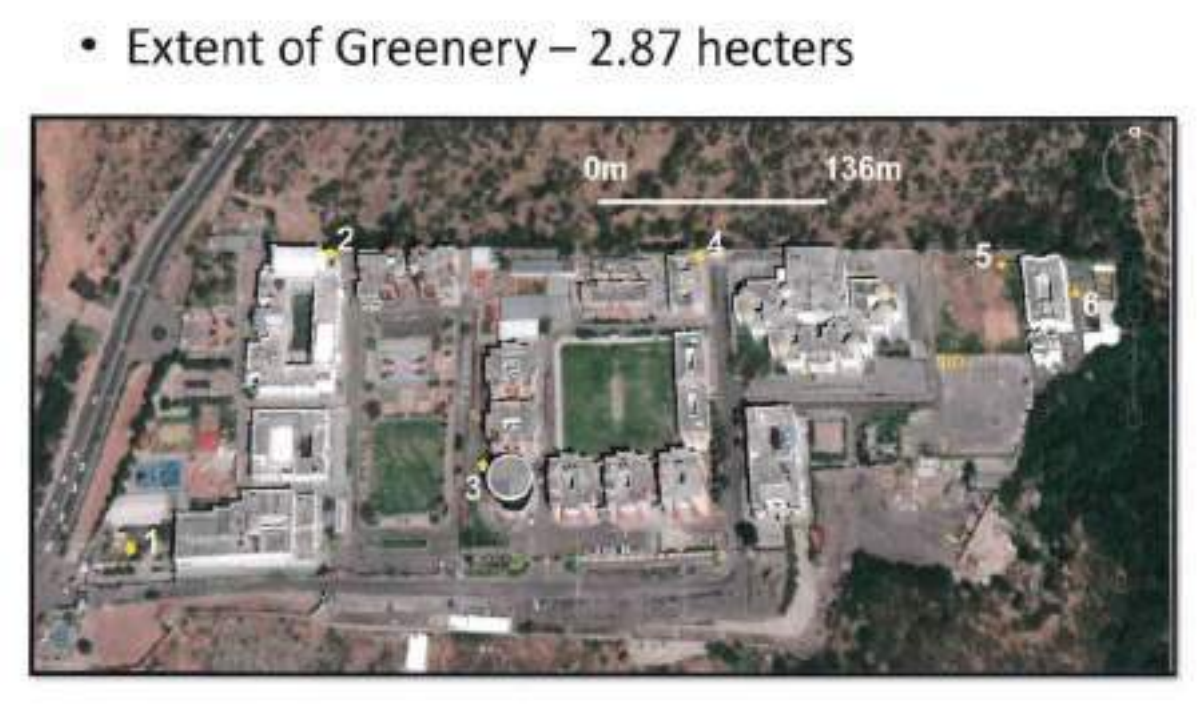
  DOI - https://doi.org/10.1016/j.molstruc.2022.134573

  The treatment of sugar industrial effluent is an enormous task because of the very high load of turbidity, chemical oxygen demand (COD), biological oxygen demand (BOD), total suspended solids (TSS), high or low pH value and oil & grease. The polyelectrolyte in conjunction with inorganic coagulant was used successfully for its treatment. Four new polyamine-based cationic polyelectrolytes have been synthesized. These polyelectrolytes were characterized by FTIR, ^{13}C NMR, ^{1}H NMR, gel permeation chromatography (GPC), and were exploited in the sugar industry wastewater. Cationicity of polyelectrolytes was also determined, and the polyelectrolytes' efficiency was calculated at different coagulants and flocculants dosages.

Based on the result obtained by four polyelectrolytes, it was observed that polyelectrolytes with a 1.5:1 molar ratio of epichlorohydrin: diphenylamine has given the best result in the removal of pollutants from sugar industry wastewater. The result was found to be consistent in all kinds of pollutants of sugar industry suspension with a 1.5:1 molar ratio of epichlohydrin: diphenylamine polyelectrolytes.

4. MRIIRS STATE OF ART INFRASTRUCTURE

The complete MRIIRS campus is beautifully planned in a manner to make best use of the geographical contours on the slope of an Aravalli Hill. The ambience adds to the learning needs of both students and faculty members. The lush green campus is conducive to providing a mechanism to release the pressure created by the rigors of academia, for venting out the study pressure of students through various sports, cultural, refreshment kiosks / food-junctions etc. These facilities are distributed throughout a lush green and



landscaped and secured campus.

Vegetation Coverage and Greenery in Campus

Medicinal Plant

VERMICOMPOSITING

FEATURES

- Input Waste, Get Black Gold as an output!
- Save Money by letting worms make compost for you free and fast!!
- Be Eco-conscious/Green by diverting food waste from the landfills
- Reverse the damage from years of bad soil management: Over fertilization, Chemicals, and over tilling.

- Trees
  - ➢ Angiosperms
  - ➢ Gymnosperms
- Shrubs and bushes
- Herbs and Grasses
- Climbers
- Creepers
- Desert plants
- Medicinal plants
- Ornamental plants

- BEST PRACTICE – FLOWER SHOW

- BEST PRACTISE – MEGA PLANTATION DRIVE

MGNCRE

महात्मा गांधी राष्ट्रीय ग्रामीण शिक्षा परिषद
Mahatma Gandhi National Council of Rural Education
Department of Higher Education,Ministry of Education,Government of India

Certificate of Appreciation

PROF (DR.) GURJEET KAUR CHAWLA, PROFESSOR & DEAN, MANAV RACHNA INTERNATIONAL INSTITUTE OF RESEARCH AND STUDIES, FARIDABAD, HARYANA has contributed to the World Environment Day Celebrations June 2022 as a ***faculty coordinator*** *by conducting and completing the Green activities on campus. The initiatives taken up under Swachhta Activities were building outdoor classrooms, reinforcing greenery and showcasing the green decisions of the Institution. Mahatma Gandhi National Council of Rural Education appreciates the team work during the activities.*

Date: 20.06.2022
Ref: MG/SAP/WED/FC/119

B S C Naveen Kumar
MGNCRE World Environment Day 2022
Monitoring Officer

Certificate of Appreciation for Green Activities on Campus

MGNCRE

महात्मा गांधी राष्ट्रीय ग्रामीण शिक्षा परिषद
Mahatma Gandhi National Council of Rural Education
Department of Higher Education,Ministry of Education,Government of India

Certificate of Appreciation

Dr. Sanjay Srivastava, Vice Chancellor, MANAV RACHNA INTERNATIONAL INSTITUTE OF RESEARCH AND STUDIES, Faridabad, Haryana has contributed to the World Environment Day Celebrations June 2022 by facilitating and completing the Green activities on campus. The initiatives taken up under Swachhta Activities were building outdoor classrooms, reinforcing greenery and showcasing the green decisions of the Institution. Mahatma Gandhi National Council of Rural Education congratulates the Institution for its participation and adding impetus to the activities conducted by the faculty members and students.

Date: 20.06.2022

B S C Naveen Kumar
MGNCRE World Environment Day 2022
Monitoring Officer

Certificate of Appreciation for Green Activities on Swachhta Activities

- **Hostels @ MRIIRS: A home away from home**

The University has separate hostels for Boys and girls within the campus and outside campus with total capacity to accommodate 805 students. The well-furnished rooms and the Mess provide a very congenial homely environment for the hostellers.

A. Hostel Details

Details of Campus Boys Hostels
Campus Boys Hostel - I (CBH - I) - capacity - 208 seats
Campus Boys Hostel -II (CBH - II) - capacity - 238 seats
Details of Campus Girls Hostel
Campus Girls Hostel (CGH) - capacity - 224 seats
Details of Off campus girls hostel
Off Campus Girls Hostel (OCGH) - capacity - 135 seats
Both A/C and non- A/C accommodation is available for boys and girls

B. **Facilities provided in the hostels**

- Mess facility has been out sourced to Caterman Cuisine Concepts Pvt. Ltd. (earlier out courced to Sodexo Onsite Services (P) Ltd.). Four meals with a variety menu are served. Special care of hygiene o Well equipped kitchen.
- The mess menu is finalized by Student Mess Committee.
- Wi-fi connectivity
- Daily news papers
- 24 hrs electric power back up
- 24 hrs security First-aid and ambulance facility
- RO drinking water
- Hot water in winters
- Housekeeping facility for 365 days
- Laundry facility for hostellers
- Medical & Accident insurance up to INR 1 Lac.
- Transport facility for local market on weekly basis; Regular transport services are available between off campus hostels & campus.
- Library facility in late hrs.

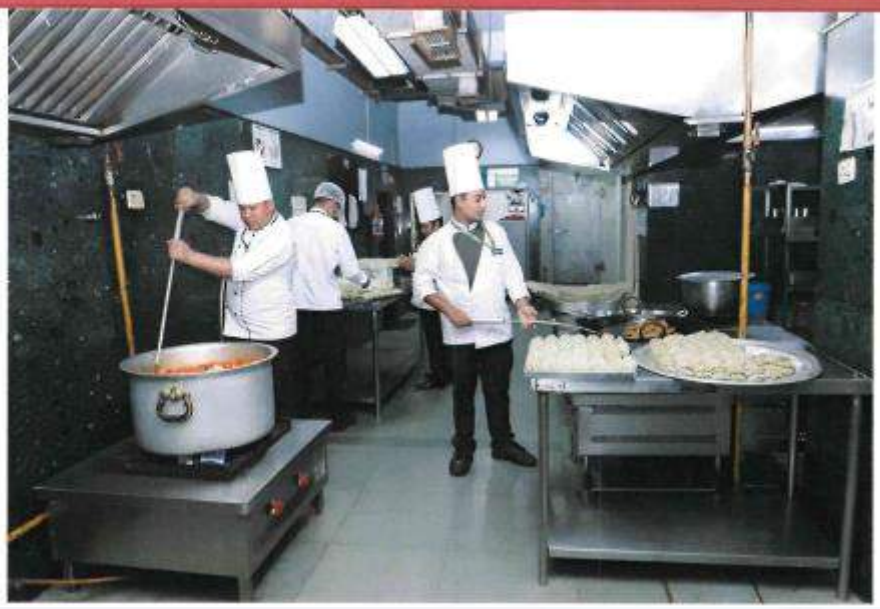
C. **Recreation and Sports activities**

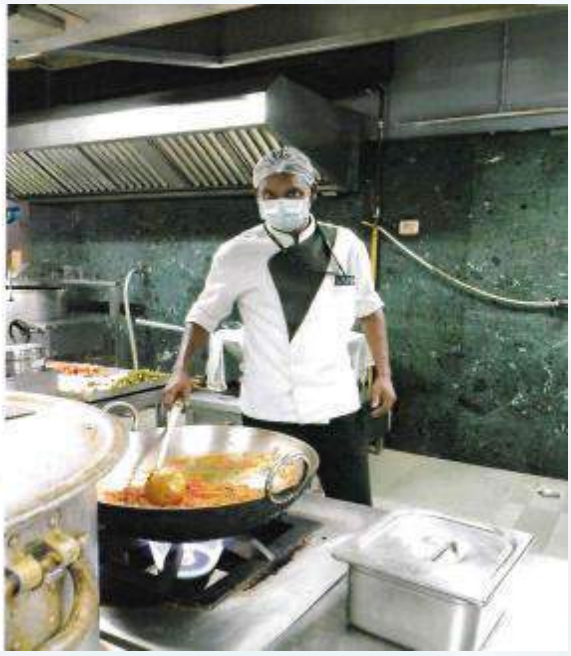
- TV, News papers etc.
- In door games like, Carom, Badminton, TT for girls.
- Cricket, Football, Basket ball, Badminton, TT, Carom, Chess etc. for boys.
- Cultural activities, sports tounaments etc.
- Garden Gym for girl hostellers.

Boys Hostel

Girl's Hostel

HOSTEL KITCHEN AND HYGIENE





HOSTEL KITCHEN AND HYGIENE

Ramps, Lifts, Pedestrian Paths and Tactile Paths

The campus has divyangjan friendly, barrier free environment. There are Ramps, Lifts, tactile path, Divyangjan friendly washrooms lights, display board, sign posts, accessible website, screen-reading software, reader, scribe, soft copies of reading material.

Pedestrian Friendly Pathway Central Lawn

Ramp2 in B Block-02

Ramp in C Block

Ramp2 in T Block

- **Art Gallery and Museums**

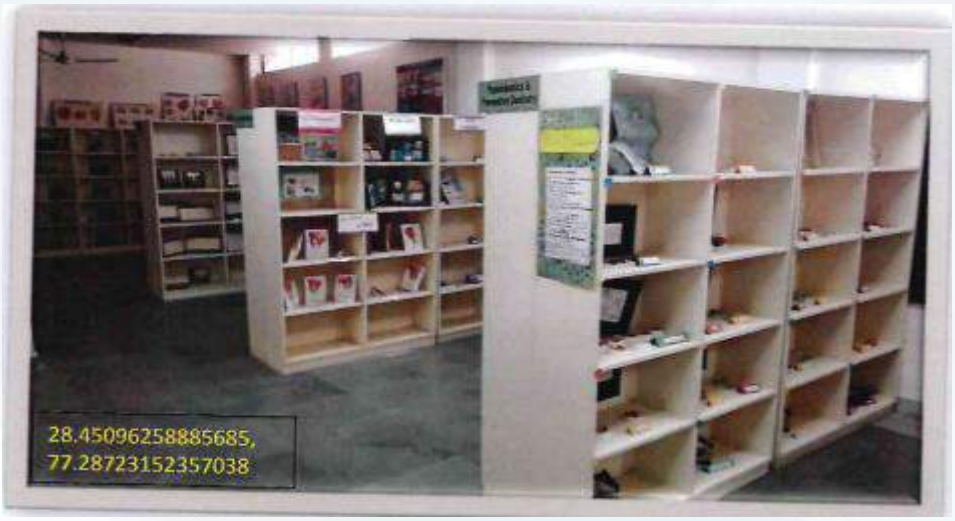
Manav Rachna International Institute of Research and Studies (MRIIRS) takes great pride in offering a diverse array of facilities that enrich the academic experience and contribute to the cultural and intellectual development of our students, as well as the wider community. Among these facilities, the MRIIRS Art Gallery and Museums are standout resources that are not only accessible to our students but also open to the public.

Art Gallerty

Art Gallery

Art Gallery : https://mriirs.edu.in/NAAC/Video/3.1.5_ArtGallery.mp4

Dental Museum



Visuals from Anatomy Sections

Visuals from Anatomy Sections

Department of Conservative Dentistry & Endodontics

Department of Orthodontics & Dentofacial Orthopedics

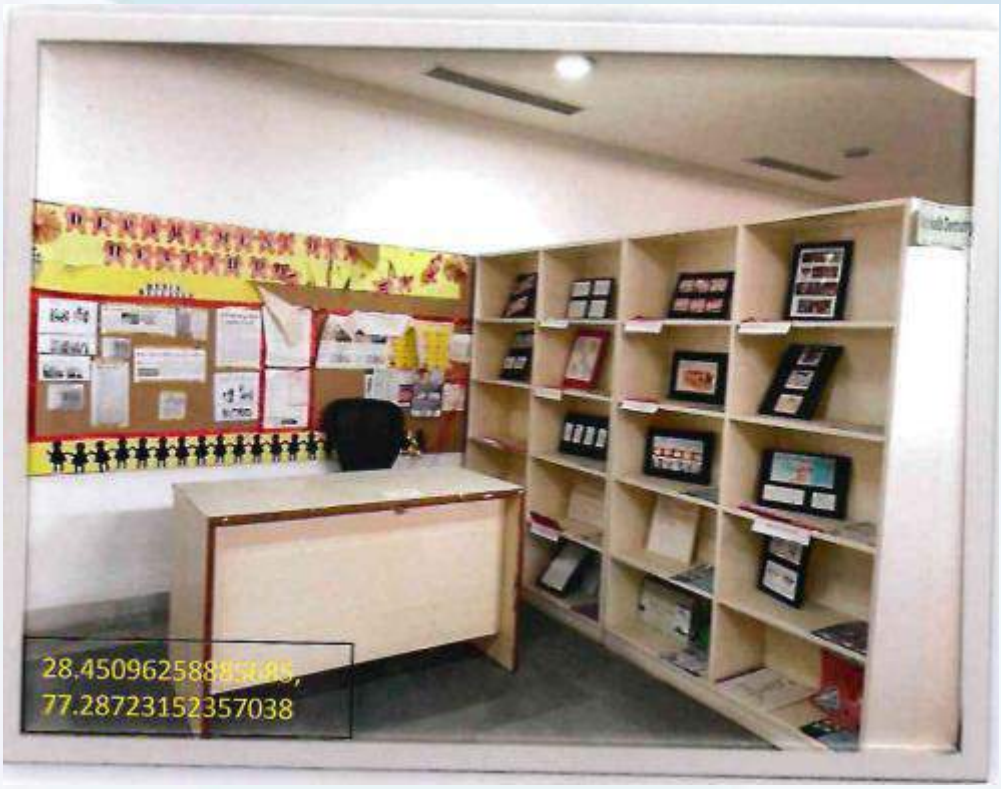
Department of Periodontology

Department of Prosthodontics

Department of Oral Pathology & Microbiology

Department of Oral Medicine & Radiology

Department of Public Health & Dentistry



Museum: Faculty of Engineering and Technology

Engineering Museum

The Museum is housed in the Basement of C Block, Room No. CUG-07. It comprises of following sections:

1. Automobile Engineering
2. Civil Engineering
3. Electrical & Electronics Engineering
4. Computer Science & Engineering
5. Mechanical Engineering
6. Electronics & Communication Engineering
7. Engineering Museum

Link to Video: https://mriirs.edu.in/NAAC/Video/3.1.5_Museum.mp4

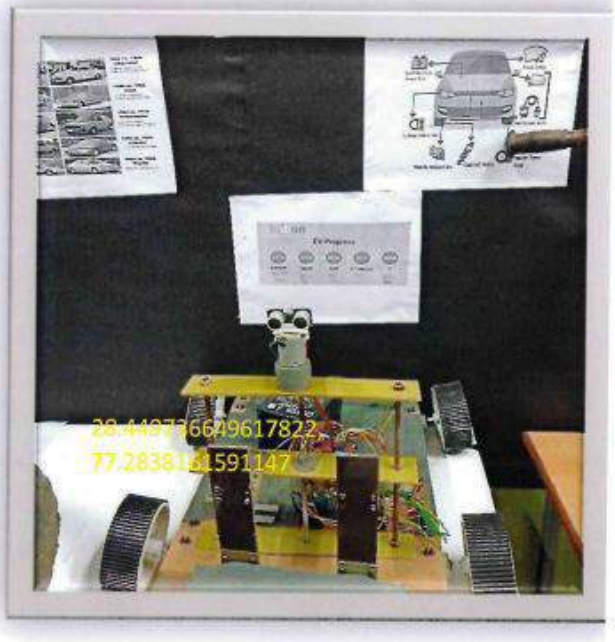
Department of Automobile Engineering

1. Development of Wheel Section

S.No	Particulars
1	Model of a Bullock Cart
2	Wooden wheel
3	Wire Wheel
4	Drum Wheel

2. Electric Vehicle section

S. No	Particulars
1	Model of an Electric Vehicle (EV)
2	Charts illustrating
	(a) EVs block diagram
	(b) Indian EV progress
	(c) List of Automobile giants in EVs manufacturing



3. Steering system section

S.No	Particulars
1	Steering system of a bike
2	Steering system of a car

4. Internal Combustion Engine section

S.No	Particulars
1	Cut section model of Petrol (2 stroke) engine
2	Cut section model of Petrol (4 stroke) engine
3	Cut section model of Diesel (2 stroke) engine
4	Cut section model of Diesel (4 stroke) engine

5. Automobile components section

S.No	Particulars
1	Clutch plates
2	Pressure plates
3	Gear selector mechanism
4	Flywheel

S.No	Particulars
1	Telescopic Shock Absorber
2	Mechanical Jack
3	Starter Motors
4	Piston assembly

S.No	Particulars
1	Carburettor (Maruti Van)
2	Cylinder head assembly
3	Chain sprocket mechanism
4	Steering mechanism

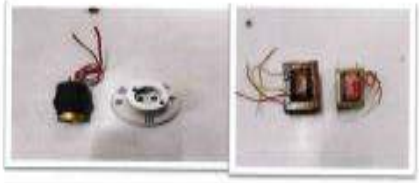
6. Maruti Van with CNG kit

Department of Civil Engineering

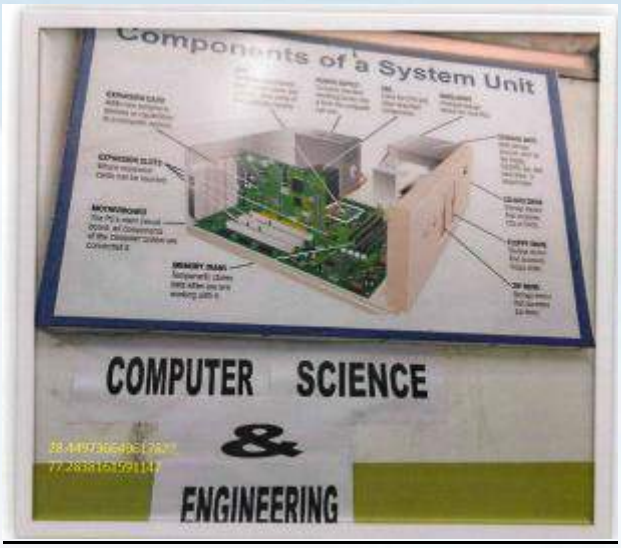



Department of Electrical & Electronics Engineering

View of Different Components in the Museum from Electrical & Electronics Engineering

Department of Computer Science Engineering



Musuem: Mechanical Engineering

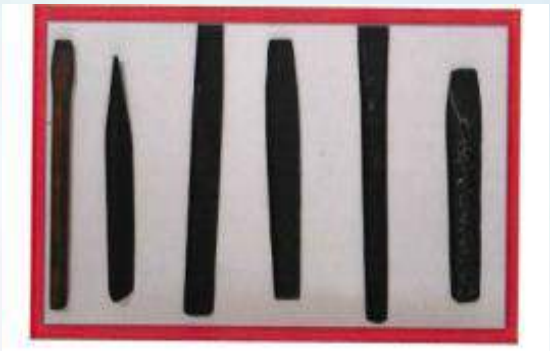
Fiiting Section (Hand Tools)

Measuring Instrument Section

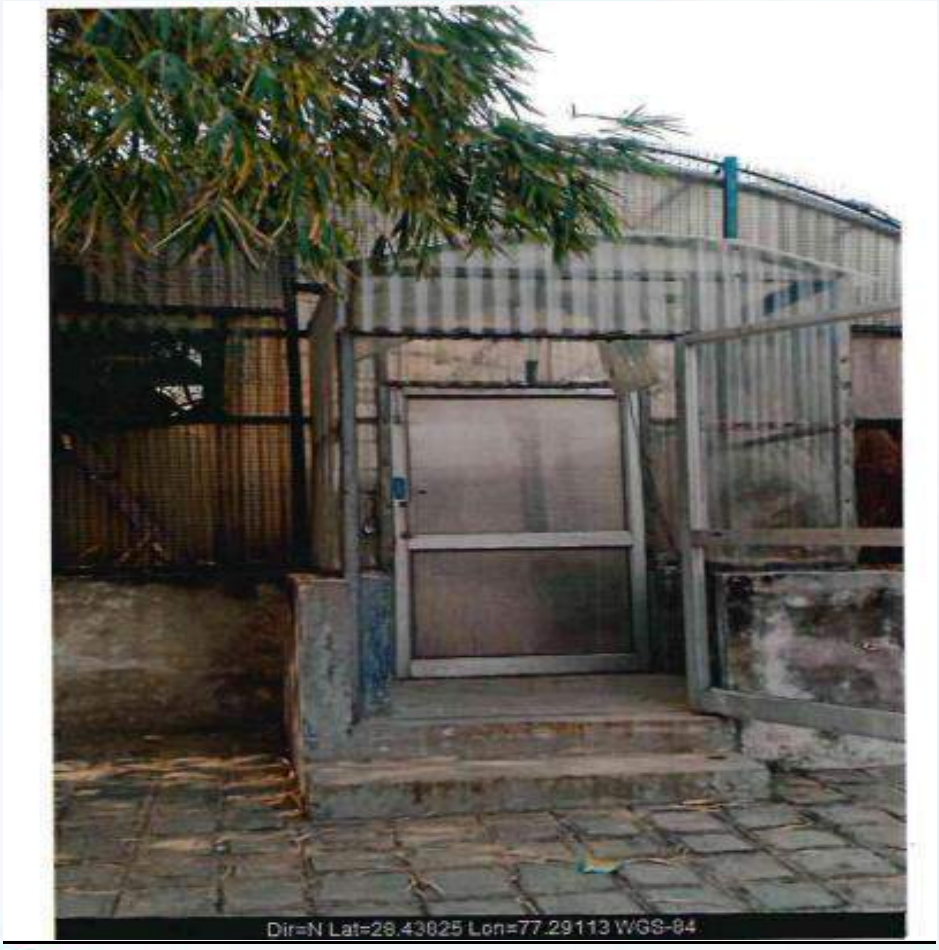
Carpentry Tools Section

Forging Tools Section

Cutting and Tools Section



Green House in front of A Block



Entrance Gate

Inside Green House

Inside Green House

Exterior of Green House

Green House: https://mriirs.edu.in/NAAC/Video/3.1.5_GreenHouse.mp4

1. Avenues for organising cultural and co-curricular activities @ MRIIRS

MRIIRS believes in all around development of not only students but all its stakeholders including faculty, students and staff members. To ensure the same, a lot of avenues have been created at MRIIRS to host a plethora of activities with the help of various clubs, societies, and sections.

1. Multimedia equipped Air-conditioned auditorium.
2. Seminar/Multipurpose Halls
    a. A Block Third Floor
    b. B Block Second Floor
    c. C Block Ground Floor
    d. T Block Basement
3. Amphitheatre
    a. In the front of B Block
    b. Adjacent to Central Library situated in T-Block (Munch)
    c. Adjacent to Central Lawns
4. Open Lawns with grass cover and stage
    a. Central Lawn
    b. A-Block Quad
5. Practice room for Dance and Music
    a. Top floor of B-Block

Location of facilities on Google Map

A Block Seminar Hall (AT-15,16)

B-Block Seminar Hall (B block Second Floor)

Lat,Long: 28.45009267181505, 77.2[illegible]4168

C Block Seminar Hall Ground Floor (CG-29)

Seminar Hall in T Block Basement

Munch: An amphitheatre in front of Central Library in T Block

मानव रचना में मनाया गया अंतरराष्ट्रीय योग दिवस

Amphitheatre in front of B-Block

Small Ampitheatre:

2. Adjacent to Central Lawns

Central Lawns with Stage for organising larger events

3. Pink ribbon art festival

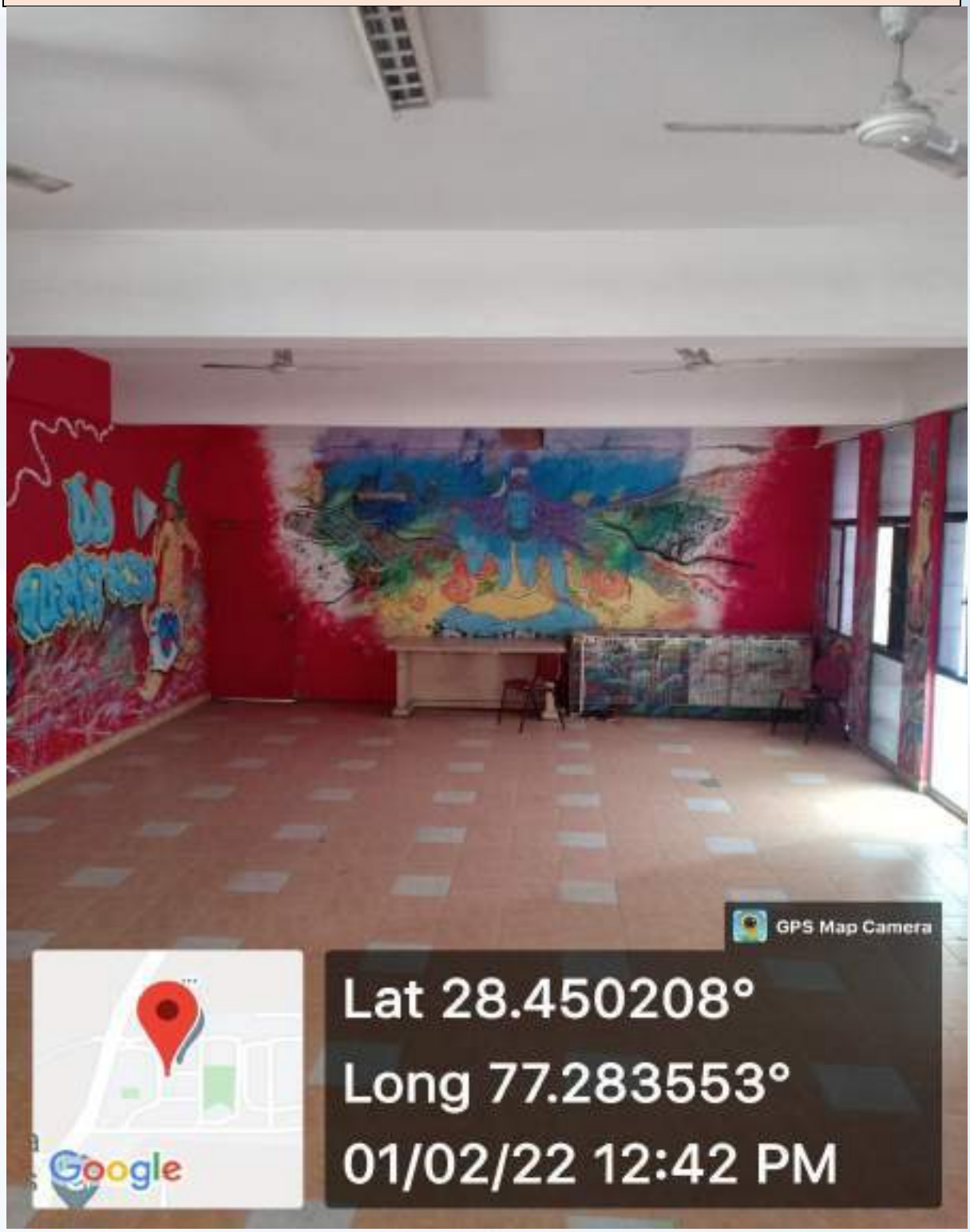
Lat,Long:28.45016384141273, 77.28444592741806

Lat,Long:28.45016384141273, 77.28444592741806

4. A-Block Quad

Lat,Long: 28.450578205577195, 77.28379313999503

5. Practice room for Dance and Music



Video for facilities available at MRIIRS
https://mriirs.edu.in/NAAC/Video/4.1.3_Amenities.mp4

5. PROMINENT WORKSHOPS/ SEMINARS/ TRAINING PROGRAMMES ORGANIZED FOR STUDENTS AND FACULTY MEMBERS

- ***Rally on Say no to Plastic***

The Department of English, SMeH organized a rally on 'Say No to Plastic' on 28 September, 2023 in Manav Rachna Campus. 23 students from B.A.(H) English 3rd semester & 5th semester carried the placards with messages on 'safe' environment and conducted a rally throughout the Campus. They were accompanied by Dr. Tripti Tyagi, Assistant Professor. The students raised slogans "Say No to Plastics" and "Refuse Reuse –Recycle Plastic" with an echo of determination and motive to reduce the use of plastic. They also pledged that they would use a minimal amount of plastic to sustain the environment.

- ***Awareness Programme on "Pledge on low Carbon Usage"***

Department of Applied Science, "School of Engineering and Technology" Manav Rachna International Institute of Research and Studies, Organized Awareness Programme on "Pledge on low Carbon Usage on 31st August 2023 for Ist year B.Tech. Students from 9:00 am onwards in C Block class room. Dr. Rajeev Kumar the coordinator of the event started the Awareness Programme by taking pledge with students on low Carbon Usage. Further Dr. Rajeev Kumar presented the details of low Carbon Usage. Low carbon only denotes a reduction in carbon dioxide (CO_2).

One of the main greenhouse gases responsible for the global warming is carbon dioxide.

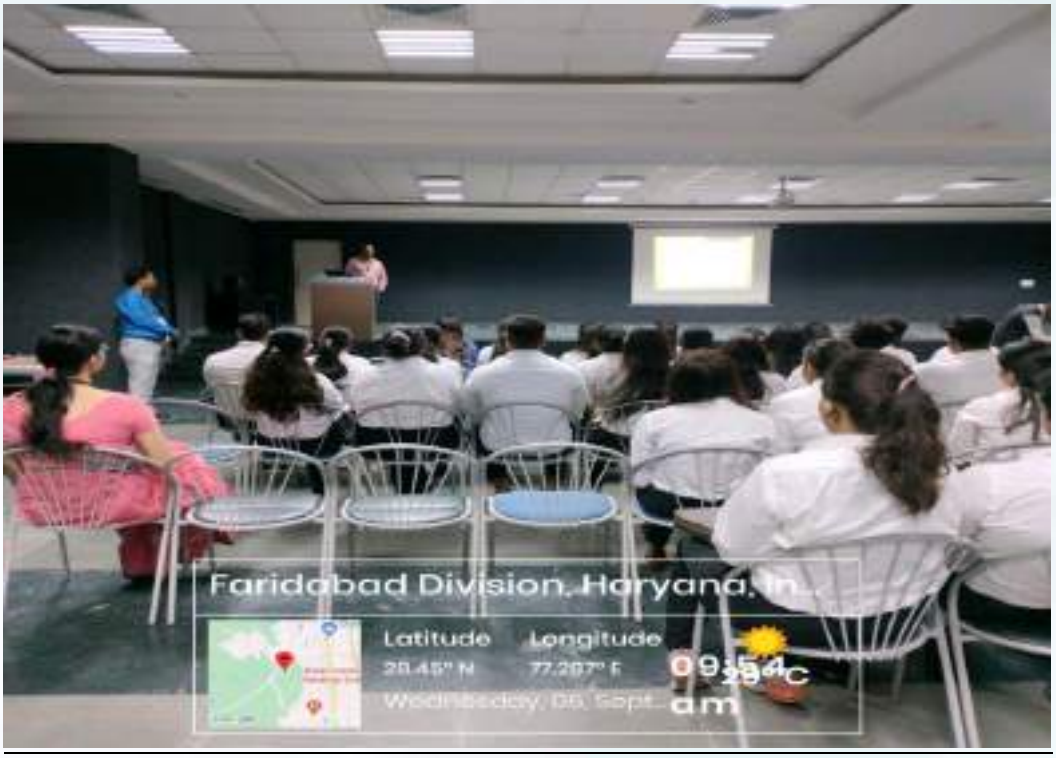
Numerous other sorts of activities, including deforestation, burning fossil fuels, and volcanic eruptions, emit it. Therefore, by reducing our CO_2 emissions, we are being more considerate of the environment. Wind, solar, hydroelectricity, and nuclear energy are the four primary categories of low-carbon energy. The first three are environmentally friendly because they use renewable resources like the sun and wind to generate electricity. Renewable energy is an endless resource that never runs out. It will ultimately run out, unlike fossil fuels, which we have a finite supply of on Earth.

- **Awareness Program on Managing Sustainable Commuting**

The Awareness Program on Managing Sustainable Commuting was held on 6th September 2023 for MBA First year students of Batch 2023-25. The resource person for the session was Dr. Nitin Kumar Waghmare, Assistant Professor, Automobile Engineering, School of Engineering and Technology.Dr. Nitin Kumar Waghmare covered the benefits of Sustainable Commuting which includes benefits for environment, health and economic benefits in terms of cost savings.

He sensitized the students towards the need for a holistic and balanced approach for achieving Environmentally Sustainable Transport. He emphasized that an

Environmentally Sustainable Transport System will meet today's needs for mobility, access and economic growth without compromising the ability of future generations to meet their needs and environment protection. Adequate, efficient and effective transport systems are important for access to markets, employment, education and basic services critical to poverty alleviation. However, current patterns of transportation development are not sustainable and may compound both environmental and health problems.



- **Awareness Programme on Say No to Hazardous Pollution and contamination**

Report on Awareness Programme on " Say No to Hazardous Pollution and Contamination" held on 15th September 2023 organized by Department of Applied Sciences, School of Engineering, MRIIRS, Fbd. in association with IQAC, MRIIRS. The objective of "Awareness Programme" is to develop a keen understanding among students on different kinds of hazardous waste materials and its adverse effects. A lecture was organized for the students of B.Tech first year , Computer Science Engineering, MRIIRS, Fbd on the above topic. The resource person for the event was Dr. Anjali Gupta, Professor, Department of Civil Engineering, MRIIRS, Fbd.

Students were enlightened about hazardous waste that is improperly managed and poses a serious threat to human health and the environment. A clean environment ensures the elimination of harmful substances that can cause diseases and ecological imbalance. It was aimed to promote appreciable knowledge among budding professionals through expert talk.

- ***Digital Road Safety Awareness Drive***

Students Welfare is happy to share that Shireen Koul, student of Department of English, FMEH was declared as Winner in Road Safety Awareness drive among different prestigious participating Universities and Colleges. She was awarded an Electric Bicycle in the Award Ceremony organised by Charan Sparsh Foundation for Digital Road Safety Awareness Drive conducted under the aegis of Ministry of Road Transport and Highways on 07.06.23.The event was conducted to award the Top Scorers of the Road Safety Awareness Drive and present them with the prizes. It aimed at recognizing the achievements and efforts of the Winners, creating awareness, fostering collaboration and encouraging further participation of students in events related to social causes.

- ***Awareness programme on road safety***

According to the Statistics, on average, annually about 1, 50, 000 people perish due to road accidents in India. Students Welfare consistently supports and organizes events related to Road Safety for inculcating a sense of responsibility among the students in the matters related to Road Safety. In an attempt to continue the same, Manav Rachna International Institute of Research and Studies organised an Awareness Drive on Road Safety in collaboration with the Ministry of Road Transport and Highways, Office of Deputy Commissioner of Police Traffic, Charan Sparsh Foundation and Dr. O.P Bhalla Foundation on 11.05.23.

Road Safety Awareness Quiz

Students Welfare is delighted to share that students from Manav Rachna International Institute of Research and Studies actively participated in the Road Safety Awareness Quiz Contest conducted by Ministry of Road Transport and Highways, Office of Deputy Commissioner of Police Traffic and Charan Sparsh Foundation. It gives Students Welfare immense pleasure to announce that Shireen Koul, 22/FMEH/BA(ENG)/037, student of Department of English, FMEH was declared among top 10 Winners among different prestigious participating Universities and Colleges. She was awarded an Electric Bicycle for her activeness in completing the Quiz in shortest time and commendable knowledge.

Students Welfare Congratulates Shireen Koul for winning the Quiz Contest and appreciates all the other participants for their efforts and dedication. All the participants through their enthusiasm and dedication depicted their commitment towards promoting a safer Environment on Roads. Students Welfare would like to thank Senior Management and Dignitaries for their kind Support and Guidance.

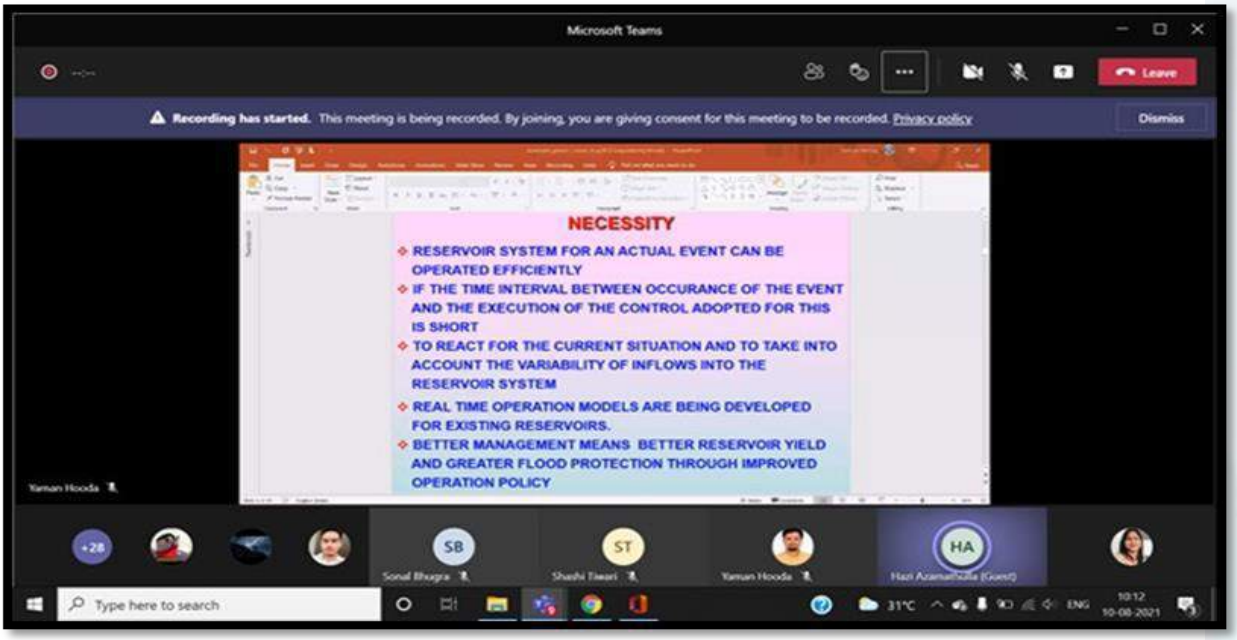
- ***One Day Basic First Aid and Basic Disaster Management Training***

Red Cross Society is a prominent Humanitarian Organization that works relentlessly towards providing aid, support, and relief during times of crisis and emergencies. A One Day Basic First Aid and Basic Disaster Management Training was conducted by District Red Cross Society, Faridabad at Manav Rachna International Institute of Research and Studies on 29.05.23.The NSS unit and Students Welfare took the lead and demonstrated coordination and dedication that contributed towards the smooth conduct of the event. Mrs. Meenu Kaushal, Master Trainer initiated the training by introducing students to the basics of First Aid and Disaster Management that included assessment of the scene for safety, arrangement of medical help and providing of medical care. She taught crucial techniques like CPR (Cardiopulmonary Resuscitation), Recovery Position, and Handling of Fractures.She emphasized on the importance of Golden period after the accident and also shared the order of priority with which the victim should be treated categorized on the basis of severity of the injury or accident.

One Day Basic First Aid and Basic Disaster Management Training

- ***International Expert Talk on "Linear Programming Approach for Sustainable Irrigation Scheduling: A Case Study".***

The Department of Civil Engineering, Faculty of Engineering and Technology (FET), Manav Rachna International Institute of Research and Studies (MRIIRS), is organising an Expert Talk on "Linear Programming Approach for Sustainable Irrigation Scheduling: A Case Study" on August 10, 2021. The increasing worldwide shortages of water and costs of irrigation are leading to an emphasis on developing methods of irrigation that minimize water use. Irrigation scheduling can be regarded as a mature research field which has moved from innovative science into the realms of use. This webinar on "Linear Programming Approach for Sustainable Irrigation Scheduling: A Case Study" was a small initiation towards generating awareness for such novel methods.



Linear Programming Approach for Sustainable Irrigation Scheduling: A Case Study

- ***Short Term Course on Innovative Technologies for Village Development***

The Faculty Development Program (FDP) on "Innovative Technologies for Village Development," conducted from January 30, 2023, to February 03, 2023, was a comprehensive and insightful event aimed at equipping participants with a profound understanding of innovative technologies and their role in fostering rural development. Dr. Amit Goyal, a distinguished Assistant Professor at NITTTR, Chandigarh, led the program.

The FDP was organized by the Department of Civil Engineering, MRIIRS, and drew attendees from diverse academic backgrounds.

- ***Clean and Green Environment***

The objective of "Quiz Competition" is to develop a keen understanding among students on "Clean and Green Environment". A clean environment ensures the elimination of harmful substances that can cause diseases and ecological imbalance. Green environment, on the other hand, play a significant role in absorbing carbon dioxide, reducing heat and providing habitats for various species. It was aimed to promote appreciable knowledge among budding professionals through Quiz competition.

- ***Energy Efficiency and Clean Energy Awareness Programme***

The Energy Efficiency and Clean Energy Awareness Programme aimed to promote energy-efficient practices and raise awareness about clean energy sources among the students was conducted on 16.8.2023.The programme commenced with an opening address from

Dr.Amrinder Kaur, emphasizing the urgency of addressing climate change through energy conservation and clean energy initiatives. She delivered an insightful presentation on the current global energy landscape, the challenges posed by energy consumption, and the potential benefits of transitioning to clean energy sources. Real-life case studies were presented, showcasing successful clean energy implementations in both residential and industrial settings. Participants learned how these projects not only reduced carbon footprints but also resulted in long-term cost savings. A discussion among students focused on the role of supportive policies in promoting clean energy. The programme explored potential policy changes and incentives that could accelerate the transition to renewable energy.

6. REGULAR SKILL SET ENHANCEMENT AT MRIIRS-CERTIFICATIONS EARNED BY STUDENTS AND FACULTY MEMBERS

Skill set development and enhancement are the important components of institutional development. The university is committed to conduct, through its competent constituent bodies, programs for the faculty and students for continuous skill set enhancement relevant to the recent technologies. Further, the faculty members and students are also encouraged to participate in Seminars/ Conferences/ Workshops/ Training Programs/ Short Term courses etc. within or outside the University. Sample certifications earned by faculty members and students in the relevant areas of SDG 11 are as appended below:

- ***Innovative Technologies for Village Development***

Certificate No: 1223/23

National Institute of Technical Teachers Training and Research Chandigarh

MINISTRY OF EDUCATION, GOVERNMENT OF INDIA

Certificate

This is to certify that

SUNITA BANSAL

MANAV RACHNA INTERNATIONAL INSTITUTE OF RESEARCH AND STUDIES, FARIDABAD HARYANA

Participated in the AICTE Recognized Faculty Development Programme

on

Innovative Technologies for Village Development

Conducted by

Civil Engineering Department

from

30/01/2023 to 03/02/2023 (One Week)

at

Manav Rachna International Institute of Research and Studies, Faridabad

Coordinator *Head of Department* *Director*

- ***Low Cost Housing Techniques and Practices***

Certificate No: ICT-25887/23

National Institute of Technical Teachers Training and Research Chandigarh

MINISTRY OF EDUCATION, GOVERNMENT OF INDIA

Certificate

This is to certify that

YAMAN HOODA

Manav Rachna International Institute of Research and Studies, Faridabad Haryana

Participated in the AICTE Recognized Faculty Development Programme

on

Low Cost Housing Techniques and Practices (Cluster)

Conducted by

Civil Engineering Department

from

13/03/2023 to 17/03/2023 (One Week)

at

Manav Rachna International Institute of Research and Studies, Faridabad

Coordinator

Director

- ***Short Course on Heavy-Haul Railways: Towards Safe, Efficient and Sustainable Design***

- ***FDP on Latest Analysis and Design Trends for Civil Engineering Structures***

- ***2nd International Conference on Construction Materials and Structures (ICCMS – 2022)***

Second International Conference on
Construction Materials and Structures

Jointly Organized by

Certificate of Presentation

This is to certify that ***Haobam Derit Singh*** of ***Manav Rachna International Institute of Research and Studies*** has presented a paper entitled ***"Experimental Study on the Strength Parameters of Self Compacting Concrete Reinforced with Carbon Fibre"*** in the Second International Conference on Construction Materials and Structures (ICCMS-2022) during 13-19 December, 2022.

Publication

Technical Support

- ***International Conference on "Metamorphosis of Engineering Sciences Towards Sustainable Smart Cities (MES3C)" held at Manav Rachna Institute of Research and Studies, Faridabad Haryana***

MANAV RACHNA
vidyanidhi

Certificate of Acknowledgement

Presented to

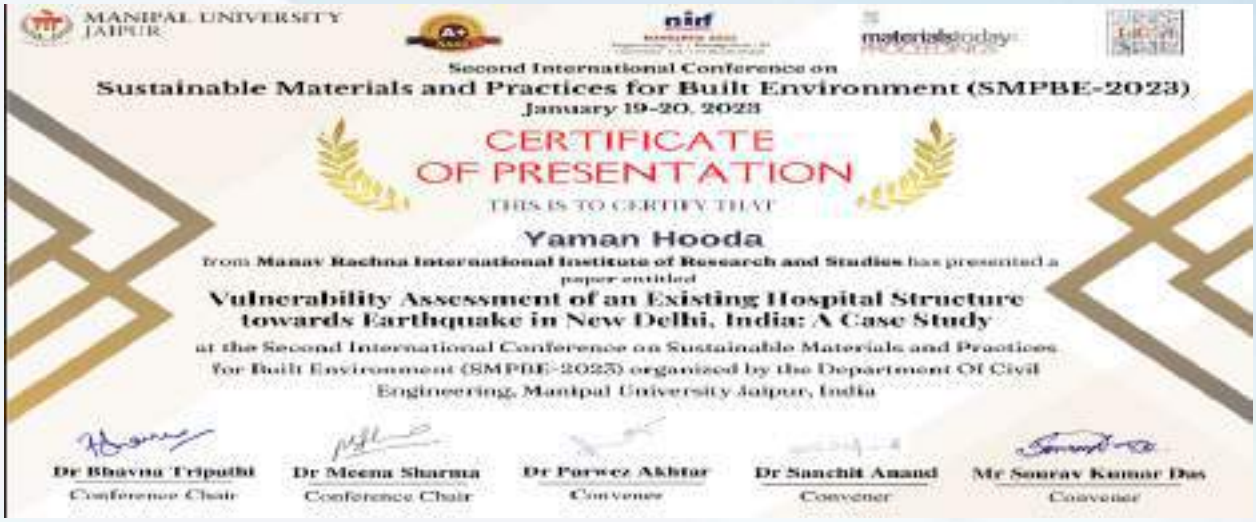
Mr. Yaman Hooda

For his Outstanding Contribution as a Organizing Secretary

At International Conference On Metamorphosis Of Engineering Sciences Towards Sustainable Smart Cities (MES³C) held during June (23rd -24th) 2022 organized by Department of Applied Sciences & Civil Engineering, FET, Manav Rachna International Institute of Research and Studies, Faridabad Haryana, India in online mode.

Dr. Anjali Gupta	Dr. Jyoti Chawla	Dr. Geeta Nijhawan	Dr. Pardeep Kumar
Convener	Convener &HOD	Associate Dean,FET	PVC & Dean, FET

- ***International Conference on Sustainable Materials and Practices for Built Environment (SMPBE – 2023) organized by Department of Civil Engineering, Manipal University, Jaipur***


MANIPAL UNIVERSITY JAIPUR

Second International Conference on
Sustainable Materials and Practices for Built Environment (SMPBE-2023)
January 19-20, 2023

CERTIFICATE OF PRESENTATION

THIS IS TO CERTIFY THAT

Yaman Hooda

from **Manav Rachna International Institute of Research and Studies** has presented a paper entitled

Vulnerability Assessment of an Existing Hospital Structure towards Earthquake in New Delhi, India: A Case Study

at the Second International Conference on Sustainable Materials and Practices for Built Environment (SMPBE-2023) organized by the Department Of Civil Engineering, Manipal University Jaipur, India

Dr Bhavna Tripathi, Conference Chair | Dr Meena Sharma, Conference Chair | Dr Parwez Akhtar, Convener | Dr Sanchit Anand, Convener | Mr Sourav Kumar Das, Convener

- ***2nd International Conference on Construction Materials and Structures (ICCMS – 2022) organized by NIT Calicut (India), University of Bath (United Kingdom), Monash University (Malaysia), Virginia Tech (USA), Purdue University (USA), University of New South Wales (Australia) and BITS Pilani (India)***


Second International Conference on
Construction Materials and Structures

Certificate of Presentation

This is to certify that *Yaman Hooda* of *Manav Rachna International Institute of Research and Studies* has presented a paper entitled *"'Comparative Analysis of Transmission Line Towers for Angle Sections and Square Hollow Sections Structural Configuration in Indian Context"* in the Second International Conference on Construction Materials and Structures (ICCMS-2022) during 13-19 December, 2022.

Publication: ELSEVIER

Technical Support

Manav Rachna International Institute of Research and Studies

(Deemed to be University under section 3 of the UGC Act,1956)

Manav Rachna Campus Rd, Gadakhor Basti Village, Sector 43, Faridabad, Haryana 121004