



STUDENTS PROJECT FAIR

&

POSTER PRESENTATION

Organized by

Civil Engineering Department

**SAL Institute of Technology & Engineering Research, Opp.
Science City, Sola Bhadaj Road, Ahmedabad-380060**

Dated & Time:

12th April 2021, 10.00 AM

About the Institute:

Established in 2009 by Adarsh Foundation, SAL Group of Institute offering graduate and post graduate programs in Engineering, Pharmacy, MBA and Architecture, having 6 colleges and 11 branches. SAL Group of Institutes are affiliated to GTU and approved by AICTE, New Delhi. SAL Technical Campus is rated by The Times of India as No. 1, the best in private Engineering colleges in Gujarat. SAL Technical Campus is managed by technically and experienced and well qualified team members under leadership of Dr. Rajendra Shah (Chairman). The Campus has grown steadily and is imparting quality technical education to young engineers. It is the 1st and only institute in Gujarat ranked by QS- I gauge (UK).

About the Department:

The department of Civil Engineering offers Degree course in Civil Engineering and Post graduate program in Structural Engineering. The Department has state of the art well equipped laboratories including computer facilities. Our initiatives are aimed to provide high end technical education and build careers of our students. We give equal emphasis on fundamental studies, practical exposure and industrial orientation. The students also carry out their projects at the leading industries which give them exposures to live industrial problems/activities. Under the student exchange program, in collaboration with foreign universities students are given opportunity to avail global.

Background of event:

Implement innovative ideas to showcase your mind. So this fair has arranged to give exposure to final year students of civil engineering students to show their research and analytical thinking skill for betterment of society as well as human being.

Date	Time	Venue
12-04-2021	10.00 AM onwards	Online mode

Key points discussed in the event

1. Suggestion about the filing of the patents of innovative projects.
2. Suggestion to implement the projects to solve real life problems.

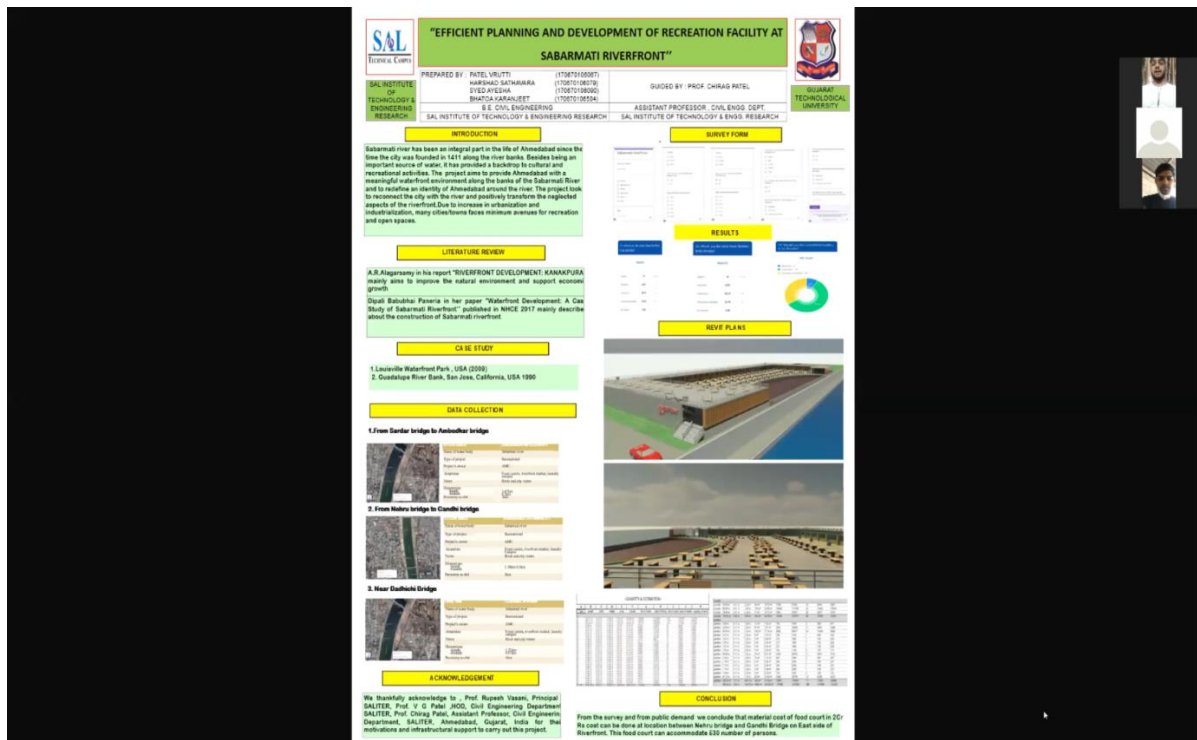
Key outcomes of the event

No of innovative solution was suggested for real life problems like water and wastewater filtration system, traffic solution, innovative concrete technology, revolving bridge, structural design using software and economical construction materials.

Expert list

Sr.no	Name of Jury Member (senior professor/ industrial expert)	Specialization/designation	Organization
1	Prof. Chirag Patel	Assistant Professor	SAL Institute of Technology and Engineering Research
2	Prof. B. Mohanty	Assistant Professor	SAL Institute of Technology and Engineering Research
3	Prof. Mitul Patel		SAL Institute of Technology and Engineering Research
4			

Photo Gallery



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FEASIBILITY ANALYSIS OF ENVIRONMENT FRIENDLY ZERO ENERGY APARTMENT



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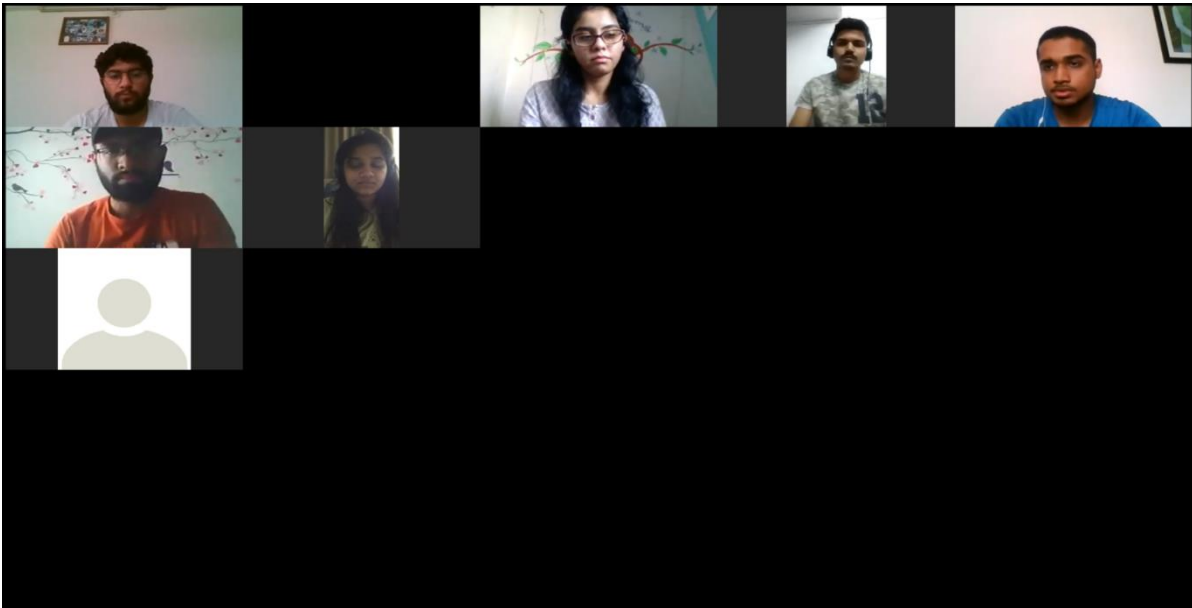
PREPARED BY: RACHHAR SHREYA (180673105014)
 PARMAR CHETAN (180673105535)
 PATEL DIVYA (180673105538)
 RAJPUT KAJAL (180673105531)

GUIDED BY: PROF. CHIRAG PATEL
 ASSISTANT PROFESSOR, CIVIL ENGG. DEPT.
 SAL INSTITUTE OF TECHNOLOGY & ENGG. RESEARCH




GUJARATI TECHNOLOGICAL UNIVERSITY

<p>INTRODUCTION</p> <p>The term Net Zero Energy Building is defined as the building with zero net energy consumption i.e., the total amount of energy used by the building on annual basis is roughly equal to the total amount of renewable energy created on the site.</p> <p>Buildings have a significant impact on energy use and the environment. Commercial and residential buildings account for about 33% of the total electricity in India.</p> <p>With rapid urbanization, there has been a steady exodus from rural parts of the country to urban areas, leading to increased energy consumption especially in the commercial sector.</p>	<p>OBJECTIVES</p> <p>Design of a building with energy consumption close to zero that is planned to be built!</p> <p>Reduced requirement for energy austerity</p> <p>Reduced total net monthly cost of living</p>	<p>DESIGN OF SOLAR PANEL (FOR 6 KW/ DAY POWER GENERATION)</p> <p>Output we required per day = 6 kilowatt</p> <p>For 1 kilowatt = 3 panels are required</p> <p>For 6 kilowatt = ?</p> <p>6 × 3 = 18 panels</p> <p>1 panel = 77" × 39" = 21 square feet</p> <p>144</p> <p>Area for 3 panels , 21 × 3 = 63 square feet</p> <p>Area for 18 panels , 21 × 18 = 378 square feet</p> <p>Hence 378 square feet area will covered by solar panels</p>	<p>VARIOUS NZEB LOCATED IN OUR COUNTRY</p>  <p>Indira Parkyashan Bhawan, New Delhi.</p>  <p>CEPT University, Ahmedabad.</p> 
<p>LITERATURE REVIEW</p> <p>Zero net site energy use: In this type of ZNE, the amount of energy provided by on-site renewable energy sources is equal to the amount of energy used by the building.</p> <p>Zero net source energy use:</p>	<p>SCOPE OF THE STUDY</p> <p>Reduced total cost of ownership due to improved energy efficiency</p> <p>Reduced risk of loss from grid blackouts</p> <p>These kinds of buildings are environmental friendly reducing the environmental hazards (eg. it would release zero carbon content that would help in controlling global warming).</p>	<p>PLAN OF RESIDENTIAL BUILDING</p>	




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SAL INSTITUTE OF TECHNOLOGY & ENGINEERING RESEARCH

ZERO ENERGY APARTMENT

PREPARED BY: PADIHYAR SHREYA (180673106014) PARMAR CHETAN (180673106535) PATEL DIVYA (180673106538) RAJPUT KAJAL (180673106551) B.E. CIVIL ENGINEERING SAL INSTITUTE OF TECHNOLOGY & ENGINEERING RESEARCH	GUIDED BY: PROF. CHIRAG PATEL ASSISTANT PROFESSOR, CIVIL ENGG. DEPT. SAL INSTITUTE OF TECHNOLOGY & ENGG. RESEARCH
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GUJARAT TECHNOLOGICAL UNIVERSITY

INTRODUCTION

The term Net Zero Energy Building is defined as the building with zero net energy consumption i.e., the total amount of energy used by the building on annual basis is roughly equal to the total amount of renewable energy created on the site. Buildings have a significant impact on energy use and the environment. Commercial and residential buildings account for about 33% of the total electricity in India. With rapid urbanization, there has been a steady exodus from rural parts of the country to urban areas, leading to increased energy consumption especially in the commercial sector.

OBJECTIVES

Design of a building with energy consumption close to zero that is planned to be built.
 Reduced requirement for energy austerity
 Reduced total net monthly cost of living

SCOPE OF THE STUDY


Reduced total cost of ownership due to improved energy efficiency
 Reduced risk of loss from grid blackouts
 These kinds of buildings are environmental friendly reducing the environmental hazards (eg. It would release zero carbon content that would help in controlling global warming).

DESIGN OF SOLAR PANEL (FOR 6 KW DAY POWER GENERATION)


Output we required per day = 6 kilowatt
 For 1 kilowatt = 3 panels are required
 For 6 kilowatt = ?
 $6 \times 3 = 18$ panels
 1 panel = $77' \times 39' = 21$ square feet
 144
 Area for 3 panels ,
 21×3
 = 63 square feet
 Area for 18 panels ,
 21×18
 = 378 square feet
 Hence 378 square feet area will be covered by solar panels

PLAN OF RESIDENTIAL BUILDING


VARIOUS NZEB LOCATED IN OUR COUNTRY



Indira Parajayaram Bhawan, New Delhi.



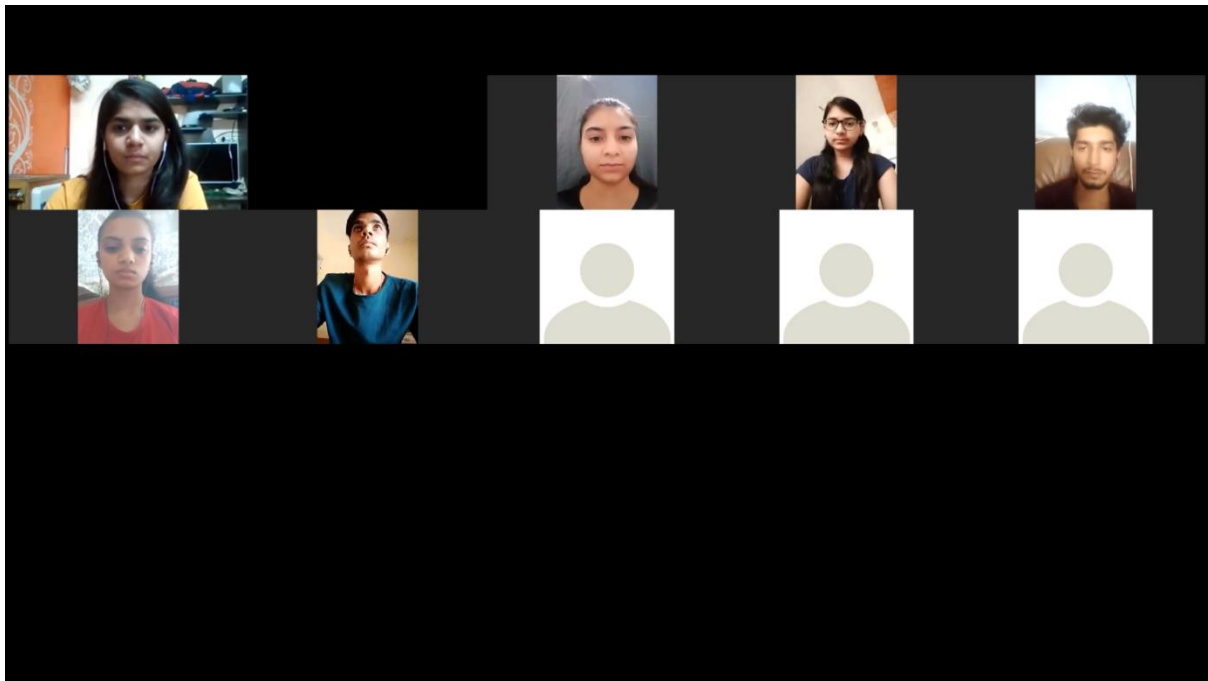
CEPT University, Ahmedabad.



Sun Camer Omegs, Bhopal.

LITERATURE REVIEW

Zero net site energy use:
 In this type of ZNE, the amount of energy provided by on-site renewable energy sources is equal to the amount of energy used by the building.
 Zero net source energy use:
 This ZNE generates the same amount of energy as is used, including the energy used to transport the energy to the building. This type accounts for energy losses during electricity generation and transmission. These ZNEs



SMART WATER QUALITY MONITORING SYSTEM

DAVEYA YUGALKUMAR 1806710611 GAJARI JAY 1806710618 KANUNIVISHAL 1806710619
 PARUL ANSHU 1806710623 NAGJILLA JAYESH 1806710622
 PROJECT GUIDE: PROF. RINKA BATHI
 CIVIL ENGINEERING DEPARTMENT WALTER

ABSTRACT

pollution is one of the biggest threat for the green globalization. In order to ensure the safe supply of the drinking water it is well known. In this paper we present a design and development of a low cost system for real time monitoring of the water. The system consist of several sensors is used to measuring physical and chemical parameters of the water. The sensor, PIC, Arduino, flow sensor of the system can be measured. The measured values from the sensors can be processed by a computer and send as a data to mobile. Finally, the sensor data can be stored on internet using Wi-Fi gateway.

INTRODUCTION

Water is one of the most important resources for the human life. It is essential for the survival of all living organisms. However, the availability of clean water is becoming a global challenge. The increasing population and industrial activities are causing water pollution, which is a major threat to the health and environment. In order to ensure the safe supply of drinking water, it is essential to monitor the water quality continuously. This paper presents a design and development of a low cost system for real time monitoring of the water quality. The system consists of several sensors that measure physical and chemical parameters of the water. The sensor data is processed by a computer and sent to a mobile phone. Finally, the sensor data can be stored on internet using Wi-Fi gateway.

Objective

The main objective of this project is to design and develop a low cost system for real time monitoring of the water quality. The system should be able to measure the pH, temperature, and conductivity of the water. The system should also be able to store the data on internet using Wi-Fi gateway.

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PROJECT NAME - SOLID WASTE MANAGEMENT IN METRO CITY

Topic ID - 122802 | Guide By - Mrs. Bhaik. Ishikawa

1. Square Classes - 1806710611 | 2. Square Classes - 1806710612 | 3. Square Classes - 1806710613 | 4. Square Classes - 1806710614 | 5. Square Classes - 1806710615

Introduction

Waste management is a critical aspect of urban planning and public health. In metro cities, the volume of waste generated is significantly higher than in rural areas. This project aims to study the current waste management practices in metro cities and propose effective solutions to manage the increasing waste volume.

Literature Review

The literature review covers various aspects of solid waste management, including the types of waste, the methods of waste management, and the composition of solid waste. It highlights the challenges faced by metro cities in managing their waste and the need for sustainable and efficient waste management systems.

Methods of Solid Waste Management

The methods of solid waste management are categorized into several types, including landfills, incineration, composting, and recycling. Each method has its own advantages and disadvantages, and the choice of method depends on the local conditions and resources.

Composition of Solid Waste

The composition of solid waste varies significantly between different types of waste. The study identifies the major components of solid waste, such as organic waste, paper, plastic, and metal, and their respective proportions in the total waste stream.

Results and Discussion

The results of the study show that the current waste management practices in metro cities are largely inefficient and unsustainable. The study identifies the major challenges and proposes several effective solutions to improve the waste management system.

Conclusion

The study concludes that a sustainable and efficient waste management system is essential for the health and environment of metro cities. The proposed solutions, including the use of composting, recycling, and incineration, can significantly reduce the volume of waste and improve the overall waste management system.

Results of the Project Expo:

Rank	Title of Project	Enrolment No.	Name
1	Design & construction of low cost ozonated air purifier	170670106014	Saurabhsinh Chavda
		170670106016	Parth Chopare
		170670106037	Sarathi More
		170670106042	Manthan Pandya
		170670106064	Rushvi Patel
2	Comparative study of different types of Eco-friendly bricks from waste materials	170670106074	Dhrumi Rao
		180673106003	Parth Bhavsar
		180673106010	Kalpiti Gaudani
		180673106029	Aayushi Radadiya
		180673106520	Hiren Gohel
3	Efficient planning and development of recreation facility at Sabarmati Riverfront	180673106530	Parthey Mehta
		180673106547	Sagar Prajapati
		170670106504	Bhatoa Karanjeetsingh
		170670106079	Sathavara Harshad Ayesha Sharique
		170670106090	Patel Vrutti Vasantbhai
		170670106067	

Performance Summary

Identify the overall level of effectiveness in fulfilling society responsibilities by this project.

How effective was the project fair in fulfilling the specified role(s) and responsibilities in Society?

[√]Very effective

Effective

Not effective

Provide performance feedback on each of the key competencies listed below. *Comments are optional unless performance in that area was not as effective as it should have been.*

Theme of Projects

Level of effectiveness:

Very effective

Effective

Not effective

Comments/performance examples

Carry forward projects for start-up

Level of effectiveness:

Very effective

Effective

Not effective

Comments/performance examples

IDP/UDP Coordinators:

1. Prof. Chirag Patel

2. Prof. B. Mohanty