

TECHNICAL TRENDS

Department of First Year Engineering - Technical Magazine



EDITORS

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Technical Trends is a platform for students and Teachers to showcase their talent in the areas of research, environmental awareness and latest technologies. The department of First Year Engineering, has a great advantage of being multidisciplinary, challenging and unique, leading to diverse projects from students and faculty. The “TECHNICAL TRENDS” magazine is published every year with the purpose of spreading technical awareness, enhancing a technical environment and acknowledging the efforts of the those who value knowledge sharing. Let the better version of ourselves triumph.

Our Inspiration



Shri. Shahu Chhatrapati Maharaj
President, AISSM Society's

From Principal's Desk



Dr. D S Bormane
Principal AISSMS COE, PUNE

AISSMS College of Engineering was established with a vision “Serving to society through technical education”. AISSMS COE has bagged the Best College Award 2022 which itself speaks volumes of academic excellence by being consistent in producing University gold medallists and top rankers in different branches of engineering. The research publications, technical competitions and practical applicability of concepts showcased by the faculty members and students from vivid branches of Engineering is commendable. College has number of very high-end analytical, computational and experimental facilities at the disposal of students. More concentration is laid upon the Engineering Research activities and their use for students and society welfare. I am confident that the College is in a position to deliver the best theoretical and practical training to the students and offer the best talent to the employers. I wish all the best to the aspiring students, employers and all other

All India Shri Shivaji Memorial Society's College of Engineering

Vision:

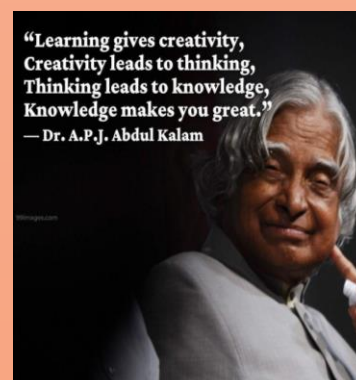
Service to Society through quality education.

Mission:

- ☐ Generation of national wealth through academics and research.
- ☐ Imparting quality technical education at cost affordable to all strata of the society.
- ☐ Enhancing quality of life through sustainable development.
- ☐ Achieving the distinction of highest preferred engineering college by stake holders.
- ☐ Carrying out high quality intellectual work.

Goals:

- ☐ To inculcate learning habits
- ☐ To create an environment to make the students creative and innovative
- ☐ To promote project based learning.
- ☐ To strengthen industry – institute interaction.
- ☐ To ensure continuous improvement in quality.
- ☐ To develop entrepreneurship skills.
- ☐ To nurture the spirit of team work.
- ☐ To catalyse all – round development of students.
- ☐ To develop technologies for sustainable development.



From FE Head of Department's Desk.....



Prof. V. R. Patil
Head, First Year Engineering Dept.

First Year Engineering plays a vital role in forming the students into potential engineer. Nurturing and moulding the students into strong technical leaders along with enhancing their employability through imparting quality values has been the driving force in this department. The teaching –learning methodology used by faculty members boosts the students’ thinking potential and lifts their critical analysing skills. Students are given the freedom to express their thoughts and exhibit their knowledge through various platforms, one such being “TECHNICAL TRENDS”

The faculties have excellent academic records and are highly regarded amongst students. The various subjects offered to students in First Year, though common to all branches. The Self –motivated and dedicated staff work rigorously to prepare them for the technical Know How’s of their respective department. The activities like Expert Lectures, Site Visits, Technical Events, Sports and Cultural Events, Soft Skills widens their horizon and avert them from being monotonous with academics. To conclude, the department assures a very healthy, amicable but a competitive ambience for our future engineer.

Department of First Year Engineering

Introduction:

As the students are now geared to Explore the vast ocean that invariably Allures them and have gamut of Rainbows to be coloured, we too as the department also have certain specific Vision & Missions to be accomplished in the precincts of the department.

Vision:

Impart students with pre-requisites of technical know how's to expedite.

Mission:

- ☐ Embed crucial thinking and analytical reasoning ability required by respective disciplines/courses/branches.
- ☐ Cultivate students to deal with stress and anxiety imposed by academics and social milieu.
- ☐ Nurture students to emulate and inculcate the judicious nature demand by the multifaceted world.

Short Term Department Goals:

- 1 Modernization of Laboratories
- 2 Improvement in University Results
- 3 Emphasis of ICT for improvisation of Teaching –Learning Methodology
- 4 Strengthening Collaborative Research across various Institutes, Colleges, Industries, etc.,
- 5 Motivating all the PG faculty for pursuing PhD

Long Term Departmental Goal:

- 1 Development of e-classrooms
- 2 Promote every student to higher class
- 3 Embed the quest for knowledge amongst faculty
- 4 Resource generation through Consultancy & Research
- 5 Comprise of Counselling and Mentoring Cell for students & faculty.



Sneha Agawane
FE Computer

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FACULTYS' PUBLICATIONS

INVESTIGATION ON SOLID STATE PYROLYTIC DECOMPOSITION OF BIMETALLIC FUMARATE AND TARTRATE PRECURSORS OF CO (II), NI (II) AND ZN (II) WITH MANGANESE

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Abstract: The complexes of Co (II), Ni (II), and Zn (II) with manganese were synthesized by co-precipitation techniques such as fumarates and tartrates. The formation of these dicarboxylate complexes characterized by elemental analysis, infrared spectroscopy, and X-ray powder diffraction studies. The thermal decomposition behaviors of these complexes were investigated using thermal analysis (TGA, DTG, and DTA) and d. c. electrical conductivity measurements under normal atmosphere. Based on conductivity measurements and isothermal studies, a probable mechanism for the decomposition was proposed. After dehydration, the anhydrous complexes decompose to yield respective carbonate intermediate in the temperature range 200 – 350 C. Decomposition of this carbonate species to the formation of the respective spinel in the temperature ranges 350 – 500 C. The infrared spectra and X-ray powder diffraction studies were made for the identification of intermediate products. The X-ray diffraction studies of the end product indicate that spinel such as CoMn₂O₄, NiMn₂O₄, and ZnMn₂O₄ formed as a final product. The electrical conductivity measurements were found to give additional information on the solid-state reaction as compared to that obtained from conventional thermal techniques (such as TGA, DTG, and DTA).

Keywords: Spinel, Co-precipitation synthesis, Thermal decomposition, Fumarates and tartrates complexes, Electrical conductivity.

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*Look Profound Into Nature, and Afterward You Will
Comprehend Everything Better
- Albert Einstein*

ON SHARP CHEBYSHEV POLYNOMIAL BOUNDS FOR A GENERAL SUBCLASS OF BI-UNIVALENT FUNCTIONS

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Abstract: In the present paper, we introduce a subclass $\mathcal{B}^H\Sigma(\nu, \sigma, \rho)$ of the bi-univalent function class Σ , which is defined in the open unit disk U using the Chebyshev polynomials along with subordination. Further, we obtain sharp bounds for the initial coefficients a_2, a_3 and the Fekete-Szegő functional $a_2 - \delta a_3^2$ for the functions belong to this subclass.

Keywords: analytic function; bi-univalent function; subordination; Chebyshev polynomial; Fekete-Szegő problem.

M.S.C. 2010: 30C45, 30C50.

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COEFFICIENT ESTIMATES FOR CERTAIN SUBCLASSES OF M-FOLD SYMMETRIC BI-UNIVALENT FUNCTIONS ASSOCIATED WITH PSEUDO-STARLIKE FUNCTIONS

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Abstract: In the present investigation, we introduce the subclasses $\Lambda_{\Sigma}^m(\eta, h, \varphi)$ and $\Lambda_{\Sigma}^m(\eta, h, \delta)$ of m -fold symmetric bi-univalent function class Σ_m , which are associated with the pseudo-starlike functions and defined in the open unit disk U . Moreover, we obtain estimates on the initial coefficients $|b_{m+1}|$ and $|b_{2m+1}|$ for the functions belong to these subclasses and identified correlations with some of the earlier known classes.

Keywords and phrases: analytic function, univalent function, bi-univalent function, m -fold symmetric function, m -fold symmetric bi-univalent function, pseudo-starlike function.

Earthline Journal of Mathematical Sciences, ISSN (Online): 2581-8147, Volume 6, Number 2, 2021, Pages 209-223

ON SOME SUBCLASSES OF M-FOLD SYMMETRIC BI-UNIVALENT FUNCTIONS ASSOCIATED WITH THE SAKAGUCHI TYPE FUNCTIONS

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Abstract: In the present investigation, we introduce the subclasses $\Lambda^{\wedge}\Sigma_m(\sigma, \varphi, \upsilon)$ and $\Lambda^{\wedge}\Sigma_m(\sigma, \gamma, \upsilon)$ of m -fold symmetric bi-univalent function class Σ_m , which are associated with the Sakaguchi type of functions and defined in the open unit disk. Further, we obtain estimates on the initial coefficients b_{m+1} and b_{2m+1} for the functions of these subclasses and find out connections with some of the familiar classes

Earthline Journal of Mathematical Sciences ISSN (Online): 2581-8147 Volume 8, Number 1, 2022, Pages 1-15 <https://doi.org/10.34198/ejms.8122.115>.

ON COEFFICIENT INEQUALITIES OF CERTAIN SUBCLASSES OF BI-UNIVALENT FUNCTIONS INVOLVING THE SALAGEAN OPERATOR

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Abstract: In the present investigation, with motivation from the pioneering work of Srivastava et al. [28], which in recent years actually revived the study of analytic and bi-univalent functions, we introduce the subclasses $\Gamma_{\Sigma}(n, \beta)$ and $\Gamma_{\Sigma}(n, \alpha)$ of analytic and bi-univalent function class Σ defined in the open unit disk $\mathbb{U} = \{z \in \mathbb{C} : |z| < 1\}$ and involving the Salagean derivative operator D^n . Moreover, we derive estimates on the initial coefficients $|a_2|$ and $|a_3|$ for functions in these subclasses and pointed out connections with some earlier known results.

Keywords: -analytic function, univalent function, bi-univalent function, coefficient estimate, Salagean differential operator

Filomat 35:4 (2021), 1305–1313 <https://doi.org/10.2298/FIL2104305P>

SHARP COEFFICIENT INEQUALITIES FOR CERTAIN SUBCLASSES OF BI-UNIVALENT BAZILEVIC FUNCTIONS

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Abstract: In the present paper, we introduce the subclasses $\beta_1 \Sigma(\mu)$, $\beta_1 \Sigma(\mu, \gamma)$ and $U\Sigma(\mu, \gamma)$ of bi-univalent Bazilevic functions which are defined in the open unit disk D . Further, we obtain sharp estimates on initial coefficients a_2, a_3, a_4 , and also sharp estimate on the Fekete-Szegő functional $a_3 - ka_2^2$ for the functions belong to these subclasses.

Key words and phrases: Analytic function, univalent function, bi-univalent function, star-like function, Bazilevic function.

Commun. Korean Math. Soc. 37 (2022), No. 1, pp. 113–123 <https://doi.org/10.4134/CKMS.c200468>

ESTIMATION ON INITIAL COEFFICIENT BOUNDS OF GENERALIZED SUBCLASSES OF BI-UNIVALENT FUNCTIONS

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Abstract In the present investigation, we introduce the two subclasses $S_{\alpha} \Sigma(\gamma, \rho, \lambda, \mu, \xi, \delta)$ and $S\Sigma(\gamma, \rho, \lambda, \mu, \xi, \delta; \beta)$ of normalized analytic bi-univalent functions defined in the open unit disk and associated with the Ruscheweyh's operator. Further, we obtain bounds for the second and third Taylor-Maclaurin coefficients of the functions belong to these subclasses. We also provide relevant connections with earlier investigations of other researchers.

Keywords: Analytic function, Univalent function, Convolution, Coefficient bounds, Bi-univalent function. 2010 MSC: Primary 30C45; Secondary 30C50.

*Int. J. Nonlinear Anal. Appl. In Press, 1–9 ISSN: 2008-6822 (electronic)
<http://dx.doi.org/10.22075/ijnaa.2022.23092.2613>*

“Progress is impossible without change, and those who cannot change their minds cannot change anything.”

–George Bernard Shaw

ON SHARP BOUNDS OF FEKETE-SZEG "O FUNCTIONAL FOR A CERTAIN BI-UNIVALENT FUNCTION CLASS ASSOCIATED WITH QUASI-SUBORDINATION

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Abstract: In the present paper, we introduce a certain subclass $K_{\Sigma}^Q(\lambda, \gamma, \chi)$ of bi-univalent functions defined in the open unit disk by means of quasi-subordination. Sharp bounds of the initial coefficients $|a_2|$, $|a_3|$ and the Fekete-Szeg"o functional for functions belong to the class $K_{\Sigma}^Q(\lambda, \gamma, \chi)$ are obtained. Some consequences of these results gives sharp bounds for the subclasses involving subordination, quasi-subordination and majorization.

Keywords: Analytic function · Bi-univalent function · Coefficient bound · Subordination · Quasi-subordination · Fekete-Szeg "o functional

Mathematics Subject Classification: 30C45, 30C50

Afrika Matematika (2022) 33:71 <https://doi.org/10.1007/s13370-022-01007-7>

WATER QUALITY ASSESMENT OF RIVERS IN INDIA - A REVIEW

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Abstract: Water is one of the vital needs of all living beings. All life depends on water and exists in nature in many forms like ocean, river, lake, etc. India is facing serious problem of natural resources scarcity, especially that of water in view of population growth and economic development. Rapid industrialization and indiscriminate use of chemical fertilizers and pesticides in agriculture are causing heavy and varied pollution in aquatic environment leading to deterioration of water quality and depletion of aquatic biota. The quality of water is usually described according to its physical, chemical and biological characteristics. Hence it becomes necessary to find the suitability of water for drinking, irrigation and industry purpose. The important parameters which decide the quality of water are pH, color, COD, BOD, DO, nitrogen compounds, etc. This paper aims to compare the studies on river water quality assessment and suggest the measures to improve upon it.

Key words: River water quality assessment, Urbanization, Aquatic biota, Industrialization.

Dickensian journal volume 22, issue 5, 2022

THE DESIGN AND COST ANALYSIS OF NET ZERO ENERGY RESIDENTIAL

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Abstract: Zero Energy Buildings is very crucial because they produce Energy that is beneficial for the environment and cost effective for the owners of the house. These types of buildings generate Equivalent amounts of input and output energy leading to a self-sustaining house with zero net energy. For this project, we are taking efforts to utilize and apply the engineering design we learned in 3-4 years of engineering in order to build a zero-energy building that meets a certain customer Zero Energy Buildings are very crucial because they produce Energy that is beneficial for the environment and cost effective for the owners of the house. These types of buildings generate Equivalent amounts of input and output energy leading to a self-sustaining house with zero net energy. For this project, we are taking efforts to utilize and apply the engineering design processes we learned in 3-4 years of engineering in order to build a zero-energy building that meets a certain customer need analysis. Working in team of four we each researched and familiarized ourselves with the topic of Zero Energy Buildings (ZEB). We Used the information we acquired by doing some research to Design, a ZEB mode that explores several passive-solar design Strategies for facilitating the most heat retention with the need's analysis.

Keywords: Net Zero Energy Residential Building, NZEB, Cost Analysis, Solar Energy, Payback Period, Electric Load, Energy.

International Research Journal of Engineering and Technology (IRJET) Volume: 08 Issue: 07 | July 2021 www.irjet.net

METHOD FOR DETERMINATION OF FLEXURAL BEHAVIOUR OF REINFORCED CONCRETE BEAMS

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Abstract: The present invention relates to method for determination of flexural behaviour of reinforced concrete beams. The method includes testing of three beams which are designed as under reinforced beam (URB), balanced reinforced beam (BRB) and over reinforced beam (ORB). The present method also involves observing the load carrying capacity, moment carrying capacity, and crack pattern, failure of the beam either ductile or brittle. The under reinforced beams (URB) and balanced reinforced beams (BRB) failed in flexure exhibited ductile behavior. Whereas, over reinforced beams (ORB) failed in shear.

Indian Patent Journal No. 21/2022 dated 27/05/2022

STUDY ON UTILIZATION OF NATURAL FIBRE AS A COMPOSITE MATERIAL IN CEMENT MORTAR TILES

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⁵ Assistant Prof, Civil Dept. AISSMS COE PUNE

Abstract: In order to optimize the cost of construction, engineers have always been on the lookout for efficient which require minimum maintenance and labour to install. Fibre has potential as a raw material for the production of flooring materials like carpet and tiles. The main objective is produce cost effective flooring tiles without compromising their quality by replacing cement up to 15% using natural fiber. On the basis of pervious results, a composite with a fibre volume of 12% was considered to be the optimum composite. A comparison of material cost indicated that this composite tile was substantially cheaper than the ordinary cement concrete tile. The experimental investigations uptill now have concluded the use of coconut fibres in composite cement tiles by replacing some percentage of cement with coir fibre. The project associated with partial replacement of cement with natural fibre for the production of cement flooring tiles. The various tests are performs as per the Indian standard specifications for tiles. Fibres proves to be a better replacement for cement considering in natural availability. The tiles are easy to manufacture and install. The fibre composite cement tiles are compared with the normal tiles and result obtained. These types of tiles reduce the cost and waste generated, easily recycle the wastes and reuse them in innovative way by modern techniques.

Keywords: Cement mortar tiles, coir fibre cost effective, high strength, flooring tiles.

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PREPARATION OF HIGH STRENGTH CONCRETE USING MULTI BLEND MINERAL ADMIXTURE

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Abstract: The present invention relates to preparation of high strength concrete using multi blend mineral admixture. The concrete composition contains cement and multi blend mineral admixture. The multi blend mineral admixture comprises 30 to 40 % by wt. of fly ash and 0 to 10 % by wt. of silica fume.

Indian Patent Journal No. 21/2022 dated 03/06/2022

DEVELOPMENT OF A MATHEMATICAL MODEL ON TRAFFIC MANAGEMENT FOR MAJOR JUNCTIONS IN PUNE CITY

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Abstract: Traffic Congestion or traffic jams is one of the major issues in most metropolitan cities like Pune. This paper presents the development of mathematical model and traffic management for critical junctions in Pune city. In this research, correlation and regression model is developed by knowing the factors causing traffic congestion. Initially, traffic at various junctions at peak hours is counted and the factors causing congestion are found. These factors are then rated by the effect they have on congestion. Then, with the help of SPSS (Statistical Package for Social Sciences) Software by IBM, correlation and regression models are developed by taking these ratings as input; also calculating this data by the standard analytical method. We studied traffic at major junctions in Pune city and developed the relationship between the factors causing traffic congestion and then provided proper remedial solutions focused on the junctions taken into consideration.

KEYWORDS: Congestion, correlation and regression models, remedial solutions.

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COMPARATIVE STUDY FOR SHEAR STRENGTHENING OF BEAMS BY USING BASALT FIBERREINFORCED POLYMER, CARBON FIBER REINFORCED POLYMER AND BANANAFIBER REINFORCED POLYMER

Utkarsh Pawar¹ and P R Satarkar²

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Assistant Professor, Dept of Civil Engineering, AISSMS COE, SPPU Pune, Maharashtra, India ²

Abstract: Reinforced concrete constructions are sensitive to extreme loadings such as earthquake disasters and unintentional accidents in structural and civil engineering. There is a growing demand to enhance the fatigue effectiveness of reinforced concrete structural components, particularly beams, as well as extend their fatigue life. The process of enhancing existing structures to make them more earthquake resistant is known as retrofitting. This study discusses the use of modern materials in retrofitting reinforced concrete structures, which is a recent advancement in the field of reinforced concrete structure strengthening. Fiber reinforced plastics are more efficient than traditional retrofitting procedures, as demonstrated in this study. The primary aim of this study is to recommend the best fiber reinforced polymer for shear strengthening. Shear beam strengthening employing basalt fiber reinforced polymer, carbon fiber reinforced polymer and banana fiber reinforced polymer is part of this work. Codal provisions are used to calculate the properties of each fiber reinforced polymer. By comparing the results, the optimum fiber reinforced polymer for shear beam strengthening is recommended.

Keywords: Retrofitting, fiber reinforced polymer, shear strengthening, basalt fiber, carbon fiber, and banana fiber.

National Conference on Innovation in Engineering and Technology - (NCIET 2022) - Proceeding

LINEAR ANALYSIS OF PRECAST RETAINING WALL

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Abstract: Precast construction are those structures in which the structural components are standardized and produced in facilities at a location outside the building and subsequently transported to the required site. Such components are made using modern mass production methods so that a large number of buildings can be constructed at little expense in a short period of time. In past studies it found that the most of work is done on RCC retaining wall subjected to soil pressure only. Hence proposed here alternative to RCC wall to precast wall subjected to nonlinearity using time history analysis. The enhanced type of traditional casting methods is interlocking blocks. In this type of system, a block is designed to be locked to the other block without the use of mortar. The analysis done in the ANSYS, and it is clearly seen that the deformation of the retaining wall made up of precast interlocking block is less than that of RCC wall which is quite safe enough. RCC wall is compared to precast wall for total deformation, normal stress, maximum principal stress and it concluded that all results for the precast wall is less than RCC wall by average 10-15%, so precast wall is recommended. The concept, design and application of interlocking precast block design will prove effective example for sustainable approach towards construction.

Keywords: Precast Retaining wall, ANSYS, Time History Analysis.

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INVESTIGATION ON SEISMIC PERFORMANCE OF OUTRIGGER STRUCTURE FOR HIGH RISE BUILDINGS

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Asst Professor, Dept of Civil Engg, AISSMS COE, SPPU Pune, Maharashtra, India ²

Abstract: As of today's growing population, tall buildings are now being built, with various sorts of high-rise buildings in terms of lateral resisting systems. Outriggers are one of the most effective lateral load resisting techniques for increasing the stiffness and seismic capabilities of a building. Shake table tests are effective ways of determining a building's seismic capacity in seismic engineering. Due to the limited size and capacity of existing shake tables, scale structural models will be required. However, to know the real effect of a building and because of the limited capacity of shake table, we can use software to analyze building's seismic performance. In this paper, an investigation of the seismic performance of past experimental work has been performed in the software Etabs, and to validate the result same method has been applied. A software tool was used to do modal analysis on the prototype structure, and the experimental data was compared with the software results to acquire a better understanding of the building's seismic performance. In past experimental study, free vibration test was carried out to know the time period of the structure. In order to observe the same result, modal analysis is performed in software to find out modal period and the damping ratio was calculated manually. After comparing the software result and experimental values of time period and damping, it was clear that the software application and the experimental findings were in good concordance.

Keywords: shake table test, high-rise building, outrigger, ETAB.

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EFFECT OF VARYING CONCENTRATION OF NAOH ON GEOPOLYMER CONCRETE

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Abstract: Various experiments were conducted on infusing of fly ash mixed with NaOH solution and on mixing procedure for preparing geopolymer. Infusing of SiO₂ and Al₂O₃ was investigated by mixing fly ash with NaOH solution for different time intervals and leachates were analyzed in terms of silica and alumina contents. In the separate mixing process of mortar, sodium hydroxide solution is mixed with fly ash for the first 10 min; after that sodium silicate solution is added into the mortar or concrete mixture. In normal mixing, fly ash, NaOH and sodium silicate solutions were fused and mixed at the same time. The geopolymers are cured at 65 C for 48 h. The experimental results have proven that the solubility of fly ash depends on concentration of sodium hydroxide and also duration of mixing with NaOH. For the mixing procedure, separate mixing will give slightly better strength for mortar than normal mixing. Comparatively High strength geopolymer mortar mix of 70 to 75 MPa is obtained when the mixture is formed by using 10 M NaOH.

Keywords: Infusing Waste processing, Industrial minerals Cementation.

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STUDY AND IMPROVEMENT OF STRUCTURE BY USING SELF HEALING CONCRETE

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Abstract: Self-Healing Concrete is a very new concept in the construction industry and not many people are familiar with it. Due to the low tensile strength of concrete, cracks are a regular occurrence in concrete. These fissures reduce the durability of concrete by providing a convenient conduit for the passage of liquids and gases that may potentially contain harmful compounds. If micro-cracks become large enough to reach the reinforcement, not only will the concrete be harmed, but the reinforcement will also be corroded. As a result, it's critical to keep the crack width under control and to cure the cracks as quickly as feasible. Since the expenses involved in maintaining and repairing concrete structures are typically expensive, this research study focuses on developing low-cost self-healing concrete. Self-healing of cracks in concrete will indeed enhance the service life of concrete structures, making the material not only more sustainable but also more durable.

Keywords: Self-healing concrete, flyash, cracks, comprehensive strength, cost effective.

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STUDY OF STRUCTURAL IRREGULARITIES IN DIFFERENT SEISMIC ZONES USING RESPONSE SPECTRUM ANALYSIS

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Abstract: The Indian Standard code IS-1893: 2002 (Part-I) defines various types of structural irregularities. The code suggests a special approach of study for irregular structures. The earthquake effect leads to the damage the property and many people loss their life. So, we've to understand the structural performance under seismic load before construction. In this study varying plan irregularities which are often inevitable thanks to building requirements and architectural imperatives, and having a serious impact on building costs are investigated. The objective of the project is to carry out Response spectrum analysis of two RCC buildings is to be done in four different seismic zones of India (i.e., Zone-2, Zone-3, Zone-4, and Zone-5). ETABS model of G+10 RCC with Varying Geometry plan is considered in this analysis. The analysis is done using Extended Three-Dimensional Analysis of Building System software. Various response parameters like lateral force, story drift, Displacement are often determined. The evaluation of response of structures subjected to lateral loading with the help of frequency and the magnitude of stress resultant, is also included in the scope of this paper.

Keywords: Plan irregularity, Vertical geometric irregularities Response spectrum method, ETABS, Structural Irregularities, Lateral Loading, Non-Linear Analysis, Storey Drift, Storey Displacement.

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REVIEW PAPER ON EFFECTIVE METHODS FOR THE RETROFITTING OF REINFORCED CONCRETE STRUCTURES

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Abstract: Existing structures are retrofitted to make them more bearable for earthquakes, earth motion, and other natural disasters. Many existing reinforced concrete elements throughout the world are in desperate need to be rehabilitated, repaired, or replaced due to degradation caused by a variety of causes such as corrosion, lack of detail, and failure of beam-column joint bonding, among others. The construction industry has embraced Fibre Reinforced Polymer (FRP) composites as a promising alternative for repairing and strengthening RCC structures. This study observes reinforced concrete beams that have been externally retrofitted with FRP. The goal of this research is to summarise the behaviour beams after they have been retrofitted with FRP. The main objective of the research is to repair structurally weak elements and make them useful in flexure and shear.

Keywords: Retrofit, FRP, GFRP, RPC, Jacketing method

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ANALYSIS OF INITIAL ROTATIONAL STIFFNESS FOR DIFFERENT SECTION OF SEMI-RIGID CONNECTION

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Abstract: Structural frames are designed for gravity loads. For rigid connections, the entire 100% intensity of the beam section is not used, this is because the end support moment of the beam at the end is always greater than the mid span moment. The end moment value of the beam is reduced by using a semi-rigid connection. In this paper we have analyzed semi rigid connections for different sections. The results of the study indicate that the formula in the paper appropriately stated the initial rotational stiffness of the top and seat angle connections. The type of semi-rigid connection is usually chosen based on stiffness of connection. In this paper initial connection stiffness (R_{ki}) of an unstiffened top and set angle with double web angle semi-rigid connection of G+3 steel structure is calculated and result obtained is validated with the Liu Wei and Shu Ganping [1,2]

Keywords: semi rigid connection, top and seat angle with double web angle, initial rotational stiffness.

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ANALYSIS OF CONCRETE GRAVITY DAM: A REVIEW

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Abstract: A dam is a structure that is constructed over a stream or river to keep water from flowing downstream. The dam can be employed for irrigation, controlling flood, generating electricity. The dam failure can cause the huge damage to human life, infrastructure, ecosystem and habitat are destroyed, etc. Gravity dams are thick concrete constructions with a geometric design, mass, and strength that ensure their stability. Stability requirement of concrete gravity dam are, a) the dam shall be safe for sliding, b) the dam shall be safe for overturning, c) the dam shall be safe in crushing. The primary goal of this research is to undertake a thorough examination on the analysis of the concrete gravity dam and its material used for construction. The review is conducted after studying previous published papers. The review includes the analysis of concrete gravity dam by FEM by using FEA software, analysis of the dam by conventional method, fracturing process in the dam material, effect of soil structure interaction, anti-seepage grout materials etc.

Keywords: Concrete gravity dam, stability checks, fractures in concrete, FEA of dam

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THERMAL ANALYSIS OF MASS CONCRETE OF GRAVITY DAM USING FINITE ELEMENT METHOD

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Abstract: Mass concrete is used extensively in modern construction, particularly in hydraulic and hydroelectric projects. Every year, more than 10 million cubic meter of mass concrete is poured in hydraulic and hydroelectric engineering in India. Furthermore, mass concrete is frequently used in harbour engineering and large machine foundations. In this study, the various lift heights and lift intervals were determined in order to attain the minimal temperature inside the mass within the allowable limit. Lift heights of 1m are used for various lift intervals of 120hr, 144hr, and 168hr. The maximum temperature in the concrete mass are computed using conventional methods. Heat generation and temperature field in mass concrete are studied using Ansys software, which employs the finite element approach to solve the problem. The application allows you to check the temperature of different concrete ages. It is feasible to check the temperature for various concrete qualities using software by analyzing them on different concrete days. As a result, it was feasible to conclude that the concrete's qualities have a direct impact on the temperature evolution phenomenon.

Keywords: Mass concrete, Lift height, Lift interval, Finite element analysis.

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ADARSH KAMBLE
FE (COMP)

HYDROXYCOUMARIN ENCAPSULATED SULFONATOTHIACALIX [4] ARENE: ¹H NMR, STEADY STATE FLUORESCENCE AND THEORY

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Abstract: Encapsulation of 4-hydroxy coumarin (4HC) within the p sulfonatothiacalix[4]arene has been investigated employing the steady state fluorescence, ¹H NMR titration experiments combined with ωB97x-D based density function theory. Theoretical calculations have shown that in the 4HCcTSCX4 complex the guest encapsulates partially within the cavity of the macrocycle via CH...π interactions while the lactone ring excludes the cavity binds to sulfonate portals of the host by hydrogen bonding interactions. Natural transition orbital analyses were used to assign electronic transitions in 4HCcTSCX4 complex and its 7HC analogue. The first allowed vertical excitation at 266 nm in the complex arises from a transfer of electron density on the lactone ring of 4HC to aromatic ring of the macrocycle. Further the C=O vibration at 1791 cm⁻¹ in the infrared spectra of 4HC downshifts to 1724 cm⁻¹ upon complexation with the TSCX4. The noncovalent interactions reduced density gradient method was employed to characterize non-bonding interactions in the complex in conjunction with quantum theory of atoms in molecules. Steady state fluorescence measurements reveal that addition of TSCX4 in DMSO to 4HC results in quench-ing of the 397 nm band. Furthermore, the Stern-Volmer quenching constant of the complex determined to be K_{sv} = 2.19 × 10⁴ M⁻¹ has static and the upward curvature concave towards the I₀/I axis in Stern-Volmer plots thus was noticed. The recorded excited state lifetime of complex led to the bimolecular quenching constant k_q to be 1.98 × 10⁴ M⁻¹s⁻¹. Upon complexation the hydroxyl protons (H_b) in 4HC undergo large deshielding as opposed to aromatic protons of TSCX4 macrocycle which emerge with up-field signals in the measured ¹H NMR spectra. The noncovalent binding manifests in NOESY spectrum of the 4HCcTSCX4 complex. The association constant of the complex obtained from the UV-Vis and steady state fluorescence correlate well with those from ¹H NMR titration experiments which establish that the inclusion complex is stable.

Keywords: Steady state fluorescence, ¹H NMR, Stern-Volmer plot, Time Correlation Single Photon Counting, Density functional theory

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***“One of the first conditions of happiness is that the link
between man and nature shall not be broken.”***

—Leo Tolstoy

MEDIAREC: A HYBRID MEDIA RECOMMENDER SYSTEM

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Abstract: This paper discusses about a hybrid recommendation platform for Movies, Books and Songs in one roof. A recommender system is a subgroup of information filtering systems that helps in predicting the “rating” or “Preference” that a user would give to any item. It also helps users to get media of their choice based on their experiences of self and other users in a productive and efficacious manner without wasting time in useless browsing. Previous approaches in recommender system (RS) include content based filtering and Collaborative filtering. These approaches have a particular limitation as like the necessity of the user history as they visit. So as to overcome such dependencies, the Hybrid Recommendation System is introduced. It uses both Collaborative based filtering system and Content based filtering system for recommending media. In this way, the system performance will be greatly improved through the integration of these two.

Keywords: Media Recommender System, Movies, Books, Songs, Recommender, TFIDF, Cosine Similarity, Pearson Correlation, KNN, K-Means Clustering.

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IMPROVED SURVEILLANCE SYSTEM: MASK DETECTION, SOCIAL DISTANCE MONITORING AND TEMPERATURE SENSING

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Abstract: The global pandemic of Covid-19 caused by novel corona virus has severely impacted the world. About 577 million cases have been reported worldwide^[7]. Wearing face masks, proper sanitization and social distancing are the safety protocols to be followed strictly during this period. In this system, we propose a system where mask detection, hand sanitization, proper social distancing and temperature of the individual will be monitored. The model will be implemented by using Socket programming, Raspberry Pi Pico/ Arduino uno, CCTV cameras. Thus, the proposed system helps the society in lowering the spread of Corona Virus.

Keywords: Image Processing, Mask Detection, Social Distance Monitoring, Artificial Intelligence, Computer Networks, Internet of Things, etc.

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KINEMATIC AND DYNAMIC ANALYSIS OF HATCH QUICK OPENING/CLOSING MECHANISM FOR CANISTER

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Abstract: The efforts required in achieving the desired output can be effectively and economically be decreased by the implementation of better designs. A system and method for actuating a hatch door. Ammunitions are commonly transported to battlefields within canisters to avoid environmental exposure and cushion against vibrational damage. A vertical launcher system (Canister) that consists of a hatch door at the top of the hold of the vertical launcher system. This door mechanism enables both opening and closing of the door. For quick opening and closing of hatch door a four-bar mechanism has been designed. A crank-rocker inversion of four-bar mechanism is designed for opening and closing of hatch door of canister. The hatch door opening closing mechanism is simple and easy in operation. The significance and purpose of this work is to provide smooth and quick opening and closing of hatch door during a launch system and also ensure to safeguard the article stored inside the canister launching system.

International Journal of Creative Research Thoughts (IJCRT) www.ijcrt.org

SIX SIGMA TOOLS AND SHAININ DOE TECHNIQUES

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Abstract: The quality is related with producing the product right in first attempt. The focus of industries is now shifting from just customer satisfaction to customer delight. To achieve such quality, it is necessary to reduce the variation in the product performance and process specifications. To achieve the tight variability and high process capability, industries are adopting various quality management techniques such as FMEA, BPR, Six Sigma, Design of Experiments etc. Six Sigma is one of the most popular quality management techniques among the all, whose focus is on improving the performance excellence by reducing the process variation. The implementation of six sigma in industries needs rigorous application of various quality tools and great knowledge of statistical tools. Very few studies focus on the successful implementation of six sigma in the small and medium enterprises. The most important reason behind the failure of six sigma is its complex methodology and poor organizational culture. This paper attempts to simplify the methodology used in six sigma using some other tools as used in the much simpler and powerful but less popular Shainin approach to design of experiments. The various simple and powerful tools used in Shainin methodology are Isoplot, Multi-Vari Analysis, Component search, B versus C etc. These tools, when applied along with six sigma methodology, can help in achieving the great success to the organization. Keywords: Six Sigma Tools, Shainin DOE, Suspected Sources of Variation, Paired Comparison.

Keywords: Six Sigma Tools, Shainin DOE, Suspected Sources of Variation, Paired Comparison

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STUDENTS' TECHNICAL ARTICLES

FINGERPRINT BASED VEHICAL STARTER

Yash Ugare, Shriyog Shindkar ,Omkar Vartak, Devendra Varule, Prathmesh

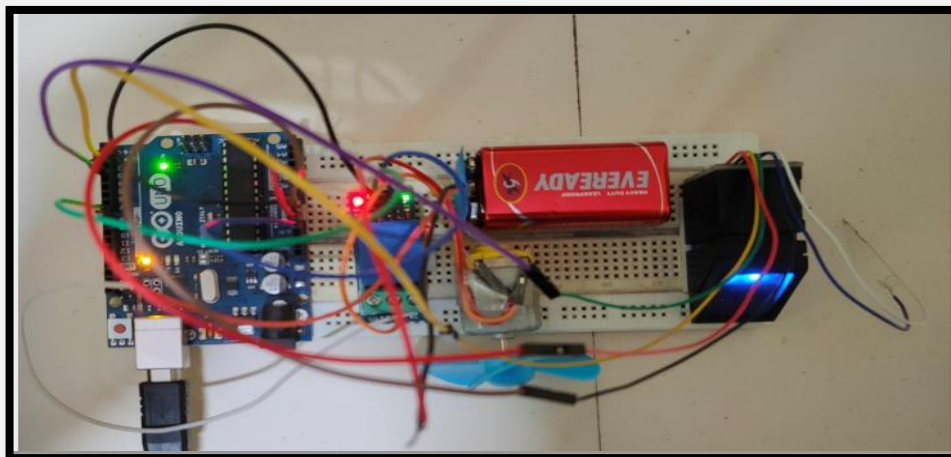
Devadiga,Yash Waghmare

FE Electronics and Telecommunication

Because of increasing number of theft cases of the two wheelers there is a need to enhance the security level of the bikes. Traditional and commonly used key locks available in the bikes are well known to the thieves and thus it can be easily unlocked by the professional thieves. With the help of master key it becomes very easy to unlock the lock of the bikes by the thieves. This creates the demand of such type of lock which is new and provides an additional security level. The new and modern lock must be unique in itself i.e. it must be only unlocked by special and specific key. This type of feature is available in the biometrics locks i.e. the lock which can only be locked and unlocked by the human body features. Biometrics can include: face recognition, voice recognition, fingerprint recognition, eye (iris) recognition. Of all these type of special biometric recognition techniques the fingerprint recognition is the most widely used because fingerprint of every person on the

Earth is unique and can provide good reliability. Also the implementation of the fingerprint recognition system is easy and cheap than the other ones. Thus fingerprint recognition locking system can provide better reliability than the traditional locks and also is cheaper and easy than the other biometric locking system. Thus here we are proposing a model which utilizes the concept of fingerprint recognition in the motorcycles to enhance the security level of the vehicle. Some other related work to this model is also reviewed in the next Section. The paper is divided in 5 sections. First section provides introduction about the idea of the paper. Second section is dedicated to the literature review which provides the related work done about the proposed idea. Third section gives the comparison between the existed models based on the literature review. Fourth section is about the design implementation of the idea and the fifth section is the conclusion.

ASSEMBLY:



TESTING:

- Signals are generated by the Arduino to appropriate module circuit.
- The Arduino reads the state of the input buttons which could be either a 1 or 0.
- The signal Arduino gets from the input button tells what to work on at that time.
- The fingerprint sensor sent the data to the Arduino that will transfer to PC to be identified. Then identified fingerprint will active the relay on the engine. The data are taken from the fingerprint sensor processed in the fingerprint recognition system.
- The result became an input to the Arduino and give a command to relay which activates the engine.
- The result of this experiment has an accuracy of 100 % in training phases and the accuracy of testing is 100 %. From the result can be concluded that the proposed system is relatively reliable since it has a good accuracy of 100 % for training and accuracy phases respectively.

HOW DOES THE FINGERPRINT BASED VEHICAL STARTER WORK?

Typically, Fingerprint recognition technology allows access to only those whose fingerprints that are pre stored in the memory. Stored fingerprints are retained even in the event of complete power failure or battery drain. These eliminates the need for keeping track of keys or remembering a combination password, or PIN. It can only be opened when an authorized user is present, since there are no keys or combination to be copied or stolen, or locks that can be picked. The fingerprint based lock therefore provides a wonderful solution to conventionally encountered inconveniences. Biometric system includes various types such as face recognition, voice recognition, fingerprint recognition, eye recognition. Among these techniques the fingerprint recognition is the most widely used. This is because fingerprint of every person on the earth is unique and can provide good reliability compared to the other conventional methods. Fingerprint biometrics are easy to implement. The two significant parts of fingerprint biometric system is Identification and Authentication. A fingerprint sensor is an electronic device used to capture a digital image of the fingerprint pattern. The captured image is called a live scan. This live scan is digitally processed to create a biometric template which is stored and used for matching. Optical fingerprint imaging involves capturing digital image of the print using visible light. This type of sensor is, in essence, a specialized camera. The top layer of the sensor, where the finger is placed, is known as the touch surface. Beneath this layer is a light-emitting phosphor layer which illuminates the surface of the finger. The light reflected from the finger passes through the phosphor layer to an array of solid-state pixels which captures a visual image of the fingerprint.

SAND FILTER AND SEPARATOR

Sukruti Patil, Aishwarya Rajput, Sangram Rajput, Tejas Sawant
FE Civil B

In recent years, the use of sand filter machine has gradually increased. But, most of them are quite large and difficult to be move. Besides that, the price to own it is quite expensive. With that, there are a large number of construction workers who have to exert their energy to making sand filters by themselves in the traditional way. However, there are some problems that come with using the traditional sand filter. Among these are, the construction workers have to exert their energy to build the sand filter. In addition, refined sand will mix with foreign matter when refined sand falls to the ground. Therefore, we have created a product that can facilitate the construction work of the construction site. Our main goal of creating sand filter machines is to reduce the workload of construction workers when they want to filter or use sand filters. It runs using an electric motor that will shake the filter. We just need to put the sand on the filter and the sand will be filtered with the shake that produced. The sand filter machine is equipped with a funnel as a way for fine sand to fall. All we have to do is put the wheelbarrow next to the sand filter and the sand will drop into the wheelbarrow. It is different with the traditional sand filter where the refined sand falls, we have to put it in the wheelbarrow. It will use more of construction workers energy. Most important is that the filter machine is easy to move around in construction as it is equipped with two suitable wheels. It will make it easier for construction workers to filter sand in one place or another places.

ADVANTAGES

1. The Sand filter and Separator will reduce the workload on labours and improve the quality of sand.
2. The sand filter will filter only good quality sand and very fine particles. If any big stones or granules are found in the sand, after filtering, there will only be fine sand
3. To make transportation of sand on site easy and convenient.
4. Fast and better results than the conventional methods

DISADVANTAGES

1. Uses electricity or operational on batteries which is not an environmental-friendly option.
2. At a time only 20-25kgs of Sand can be filtered and separated.

VEHICLE RUNNING ON HYDRO POWER

Aniruddha, Ashish, Anurag, Jiten, Amit

FE Mech (A)

As we can observe fuels are getting expensive and causing global warming. Many scientists are searching for a substitute for these conventional fuels which can be cheap and eco-friendly. In the world where we witness a steep gradient in the advancement of technologies, the health of the atmosphere is worsening by the manufactured effects of global warming. Many scientists have tried to harvest energy from water. Hydroelectric power plants are one example. But we can use it as fuel for vehicles. For a car to completely run-on renewable source of energy, debarring the facilities of any form of operational engine can radically alter the automobile industry.

ADVANTAGES

1. Eliminates harmful exhaust emission that pollute the environment and contribute to global warming.
2. Remove carbon deposits and prevent future carbon build up.
3. Reduce the operating temperature of the engine and waste heat into the environment.
4. You will notice a calmer, quieter and much smoother engine operation and smoother gearshifts. This is due to the effect of water has on the combustion cycle inside your engine.

DISADVANTAGES

1. Energy gained in this process is very less compared to the other fuels.
2. Electrodes used in this electrolysis process are expensive.
3. As this idea is new in the market it doesn't have any assembly line is not yet ready so the manufacturing can be costly and time consuming.

APPLICATIONS

1. for transportation of personal and commercial use.
2. Can be replaced as fuel instead of other conventional fuels.
3. Countries which do not have sufficient oil reserves can switch this alternative method.



Sakshi Amrutkar

FE COMP

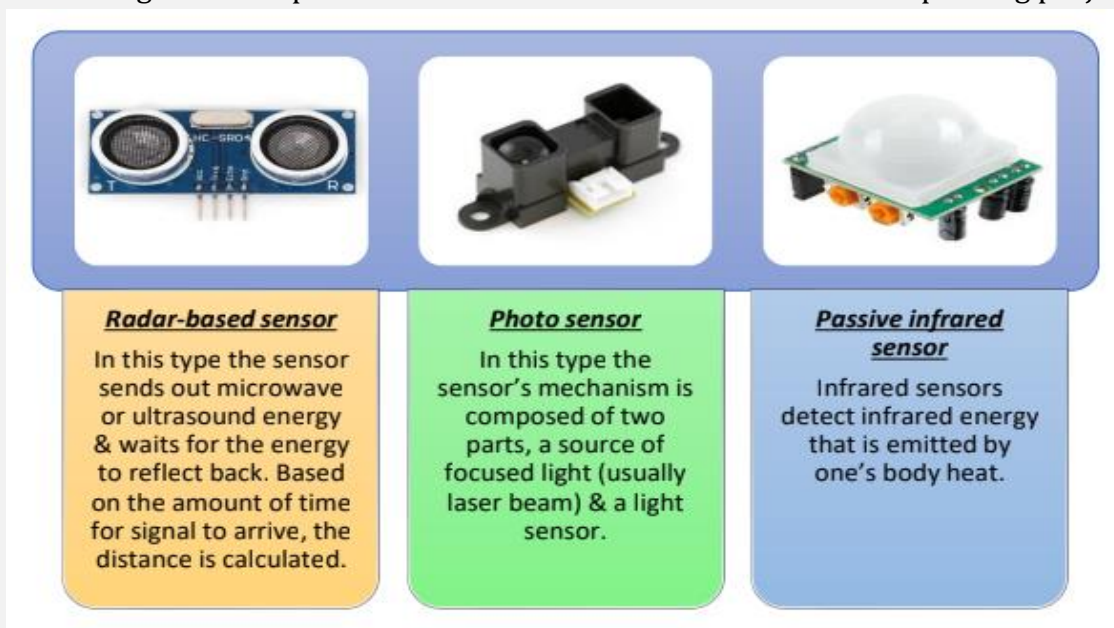
TOUCHLESS AUTOMATIC DISPENSER

Om Khaire ,Anjali Pujari , Prashil Rangari, Pratham Raybole
FE Mech (B)

COVID – 19 pandemic has influenced human life in various sectors. Various attempts were made to reduce the viral transmission by work from home, social distancing, & also including hygiene. As COVID – 19 was transferrable through touch or contact, using hand sanitizers to keep your hand clean was made compulsory, but dispensing of sanitizer from bottle & storage would require manual intervention. And so far, most of the hand sanitizers do not operate automatically. This article aims to make Touchless Automatic Dispenser which finds it way in hospitals, public places, school/colleges, & much more to reduce the risk through fomite infection. Here, the Infrared Sensor has variable proximity & sends trigger signal to the relay module. The relay module then triggers the solenoid valve for the given time (variable), as the result a result the liquid dispenses through solenoid valve.

METHODOLOGY

The following are the aspects to be taken into consideration for accomplishing project:



ADVANTAGES

- An automatic liquid dispenser unit
- No physical contact required to operate
- Saves water / liquid
- User settable time
- Adjustable sensing distance

DISADVANTAGES

- Needs electrical power to operate
- May not be suitable for acid/chemicals dispensing

WORKING

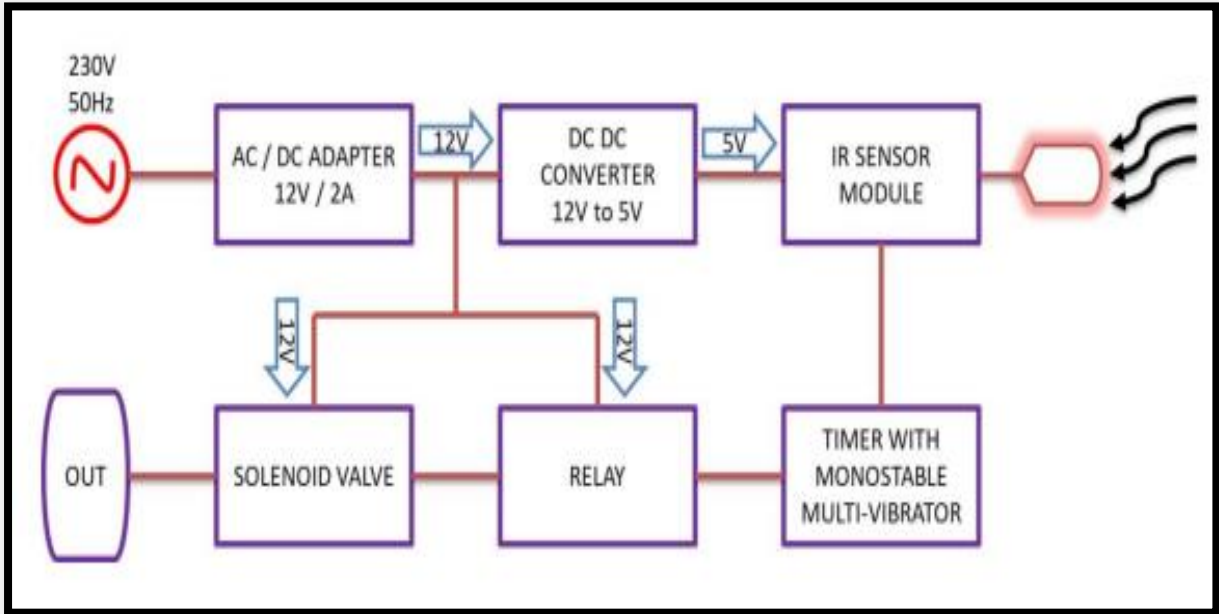


Fig: Block Diagram of the Circuit

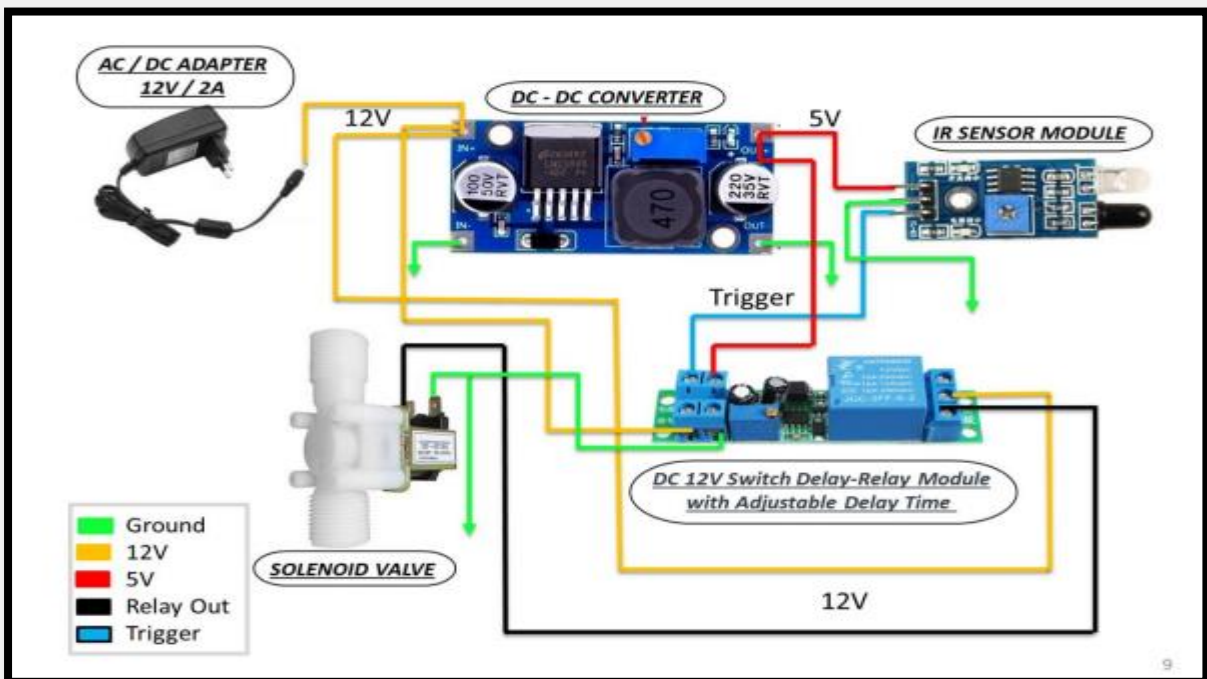


Fig: Circuit Diagram

COST ESTIMATION

Components	Cost (In Rs.)
DC – DC Converter 12V to 5V	90
IR sensor Module	40
DC 12V Switch Delay – Relay Module	150
Solenoid Valve	350
Wires, spacers, nut & bolts	30
AC/DC Adapter 12V/2A	250
DC Pin M/F	30
PCB (4" x 6")	60
Pipe Joints	60
Transparent Pipe	30
Transparent Box	60
Total Cost	1150

CONCLUSION

As the project says that non-contact dispensing is very important to prevent the spreading of pathogens and finally, hand hygiene is most important & must be a part of our everyday life. In this report, an automatic touchless dispenser was demonstrated. The circuit diagram was discussed, which clarifies the connections between the components. The relevant diagrams of the components used & the original device was presented in sequential order for better understanding.

WATER PUMP CONTROLLER

Deokate Shivam Sunil, Sonvane Prathmesh Dipak, Sorate Nikhil Ramesh, Tadavi Avesh
Amol
FE Civil (B)

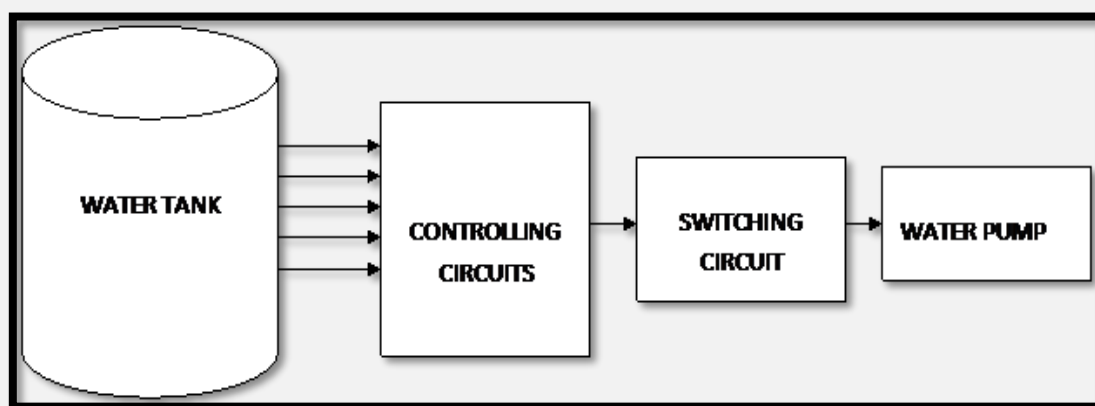
An experimental setup which consists of a motor pump which is switched ON when the over tank is about to overflow. Metallic contacts sensors head tank is about to go dry and switched OFF when they are used. When water comes in contact with these sensors, the circuit gets completed and signal is generated. This signal is fed to logic circuit to get correct actuator signal. The logic gate used is NAND gate. They have concluded by saying that this system is very beneficial in rural as well as urban areas. It helps in the efficient utilization of available water sources. If used on a large scale, it can provide a major contribution in the conservation of water for us and the future generations.

AIM

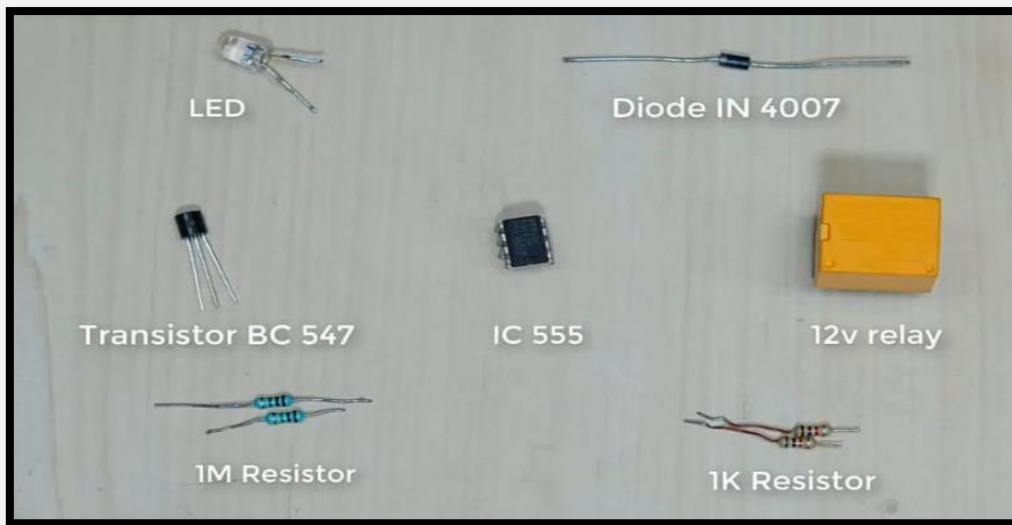
The main aim of this work is to build a controlling circuit that controls the water pump motor. The motor gets automatically switched on when water in the overhead tank (OHT) falls below the lower limit. In this project sensors are placed at different level of the tank and with the aid of this sensors, the micro-controller monitor the level of the liquid at any particular point in time.

METHODOLOGY

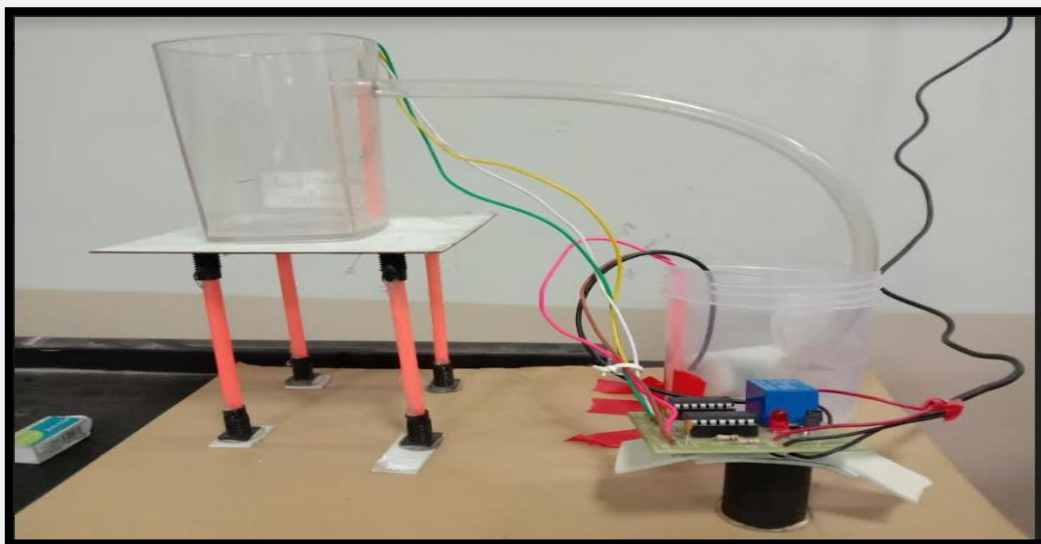
In order to achieve the aim, set out, some water supply scheme was studied. The system was designed using proven electrical and electronic principles with focus on reducing complexity, hence reduced high cost and energy requirement.



“Knowledge is power. Information is liberating. Education is the premise of progress, in every society, in every family.” – Kofi Annan



Different Parts used for model



Water Pump Controller

AI IN MEDICAL SCIENCE & LIFE

Bhavesh Patil, Tejas Panchal, Aditya Kharade, Aarya Patil
FE (ELECTRICAL)

AI in healthcare apps means using large amounts of data through AI-powered tools such as machine learning algorithms to perform specific tasks automatically and produce more efficient remote healthcare operations and delivery outcomes. These outcomes result in successful patient recovery, monitoring, positive drug research outcomes, assistance in administrative tasks, or educational resources and simulators.

As a result, patients now have access to medical services in their homes and can play an active role in their treatments and conditions. Doctors can ease their workload and have a 360-degree view of each patient while also having access to learning tools, simulators, and calculators. Pharma companies also benefit from AI by using it to develop new drugs, test existing ones, manage personnel, or for educational purposes. Moreover, AI is merging with mobile devices to bring breakthroughs to the mobile healthcare sector. Hence, healthcare app developers are responsible for successfully creating the matrimony between AI and mobile technologies.

Additionally, AI's cost savings benefits are an essential driver for its implementation in healthcare apps. According to Accenture, clinical health AI tools can create \$150 billion in annual savings for the US healthcare economy by 2026. A large part of these cost reductions stems from AI's ability to change the healthcare delivery model from a passive to a proactive approach; thus, helping medical professionals and pharma focus on health management and prevention rather than disease control. This approach, primarily brought on by AI applications, can result in fewer hospitalizations and less expensive treatments. Likewise, AI-based mobile technology will have a pivotal role in public health management via constant monitoring, ensuring earlier and more efficient diagnoses, personalized treatments, and more effortless follow-ups.

ADVANTAGES

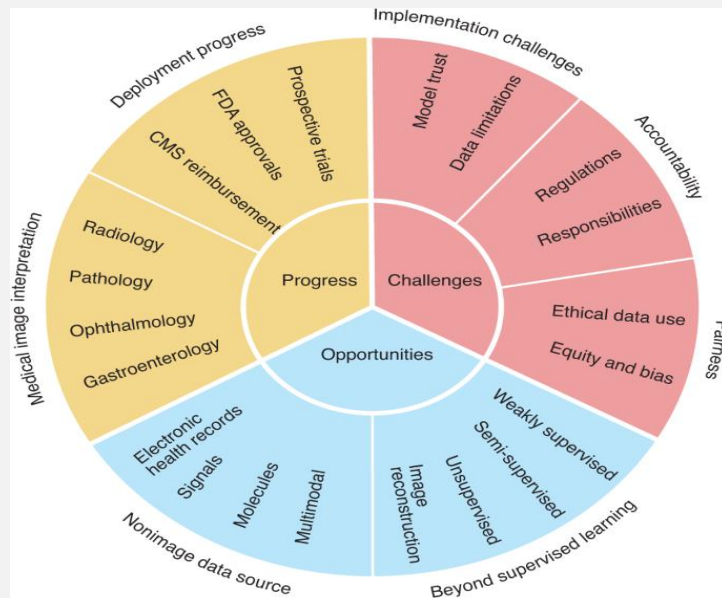
- Provides Real-Time Data. A critical component of diagnosing and addressing medical issues is acquiring accurate information in a timely manner.
- Streamlines Tasks.
- Saves Time and Resources.
- Assists Research.
- May Reduce Physician Stress.

DISADVANTAGES

- Needs Human Surveillance. Although AI has come a long way in the medical world, human surveillance is still essential.
- May Overlook Social Variables.
- May Lead to Unemployment.
- Inaccuracies Are Still Possible.

- Susceptible to Security Risks.

DESIGN OF AI IN MEDICAL FIELD



WORKING

Primary care physicians can use AI to take their notes, analyze their discussions with patients, and enter required information directly into EHR systems. These applications will collect and analyze patient data and present it to primary care physicians alongside insight into patient's medical needs.

HOW DOES MACHINE LEARNING WORK IN MEDICINE?

In the branch of artificial intelligence (AI) called 'machine learning', computer software learns from experience. The results teach medical researchers and clinician's new ways of studying diseases, making medicines and treating patients

- Accurate Cancer Diagnosis.
- Early Diagnosis of Fatal Blood Diseases.
- Customer Service Chatbots.
- Virtual Health Assistants.
- Treatment of Rare Diseases.
- Targeted Treatment.
- Automation of Redundant Healthcare Tasks.
- Management of Medical Record

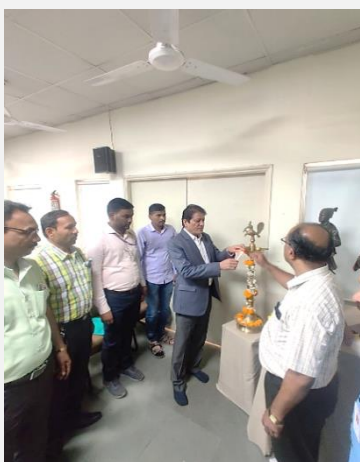
“PROJECT BASED LEARNING EXHIBITION & PARENTS MEET 2021-22”

The Inaugural Ceremony of “PROJECT BASED LEARNING EXHIBITION & PARENTS MEET 2021-22” Organized by the Department of First Year Engineering AISSMS College of Engineering, Pune, was held on 20th July 2022. For better learning experience, along with traditional classroom teaching and laboratory learning; project-based learning has been introduced with an objective to motivate students to learn by working in group cooperatively to solve a problem. Project-based learning (PBL) is a student-centric pedagogy that involves a dynamic classroom approach in which it is believed that students acquire a deeper knowledge through active exploration of real-world challenges and problems. Students learn about a subject by working for an extended period of time to investigate and respond to a complex question, challenge, or problem. It is a style of active learning and inquiry-based learning. (Reference: Wikipedia).

The department of First Year Engineering has taken initiative to organize the Exhibition of all projects undertaken by the students under the subject head Project Based Learning. The parent's meet was also conducted on the same day with the presence of 40 parents. This event was coordinated by Prof. S. S. Patil (PBL Coordinator), Prof. V. R. Patil, Dr. D. V. Nighot, Head, First Year Engineering Department.

INAGURATION CEREMONEY

The program commenced by enlightening the lamp and garlanding of the statue of Shri Chhatrapati Shahu Maharaj and Shri Chhatrapati Shivaji Maharaj. Dr. D. S. Bormane, Principal, AISSMS COE, Parents, Prof. V R Patil, Dr. D V Nighot Head, First Year Engineering Department and all faculty members and non-teaching staff and students graced the program by their presence in CITP Seminar Hall. The anchoring for this auspicious program was gracefully accomplished by Mrs. Merilyn D'Cruz. The Department of First Year Engineering was introduced by Prof. V R Patil, followed by a brief introduction of the institute and the importance of PBL in First Year Engineering curriculum by Dr. D S Bormane, Dr. D V Nighot addressed the parents and the students resolved the queries of the parents.



Inauguration by Dr. D.S Bormane Principal AISSMS COE Pune and Parents



Inauguration and address to the gathering Dr. D. S. Bormane and Prof. V. R Patil



Parents sharing feedback



Head FE Dept, Dr. D. V Nighot interacted with parents and close of Inauguration Ceremony



Parents enjoying refreshment

PBL EXHIBITION HALL INAGURATAION BY PARENTS

The inaugural program marked its conclusion by 01:30 pm. After that all staff with parents visited to exhibition hall for seeing the talent of their ward. Total 125+ projects were available for exhibition. These entire projects were organised in five seminar halls (348,442,443,344,404). The program was further continued by the inauguration of the PBL Exhibition halls by the traditional ribbon cutting ceremony by parents.



PBL Exhibition Halls inaugurated by Parents

EXHIBITION VIEW





Parents viewing the Exhibition and interacting with the students



Judges and Teachers viewing the Exhibition and interacting with the students

PRIZE DISTRIBUTION

Expert committee was appointed for drawing rank for prize distribution. Expert committee members visited to each hall and assessed entire project and submitted report. Total 11 expert members allotted for 05 exhibition halls. The expert committee

recommended five best projects among 125 projects along with two consolation prizes sponsored by Dr. D Y Dhande & Dr. D V Nighot- Mr. V R Patil (Each Rs. 500/-).

Again at 4:00pm all Principal, faculty members, parents, students, committee members, gathered together in CITP hall for Prize Distribution Ceremony. The name of winners announced by Mrs. M S Nikam are as follows:

S.No.	Rank	Prize (Rs.)	Project Title	Name of Winner
1	First	2000/-	Demonstration of Thermal Power Plant	Aniket M Bhosale & team
2	Second	1500/-	Touchless Automatic Dispenser	Pratham Raybole & team
3	Third	1200/-	Electric Cycle	Aditya Sonavane & team
4	Fourth	1000/-	Water Pump Control	Prathamesh Sonavane & team
5	Fifth	800/-	The Social Dilemma	Om Jagtap & team
6	Consolation	500/-	Hydropower Vehicle	Ashish Anthony & team
7	Consolation	500/-	Online e-commerce platform	Vari Kiran & team



First Prize team for Demonstration of thermal power plant given by Principal Dr. D.S. Bormane
Second Prize team for Touchless Automatic Dispenser given by Prof. V. R Patil



Third Prize team for Electric Cycle given by Dr. D.V Nighot
Fourth Prize team for Water Pump Control given by Dr. S. K Upasani



Fifth Prize team for Demonstration of thermal power plant given by Prof. S.P Bhosale
Consolation Prize team for Hydropower Vehicle given by Dr. A.B Patil



Principal's concluding remarks and Vote of Thanks

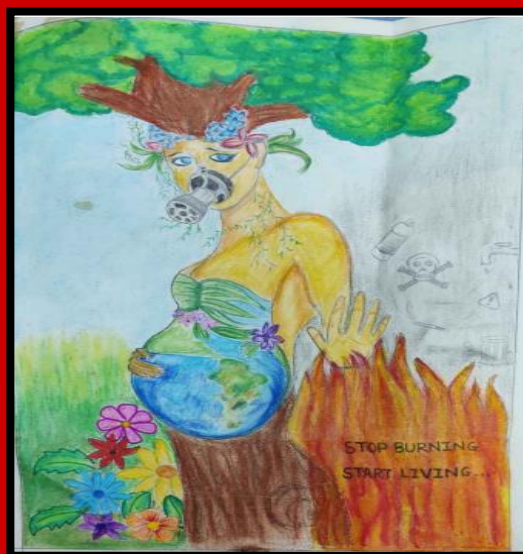
The Valedictory Function was anchored by Mrs. M. A. D'Cruz. The prize winners were announced by Mrs. M. S. Nikam. The program was then concluded with vote of thanks by the Coordinator of the PBL Exhibition, Mr. S. S Patil.

Report Prepared By
Prof. S. S. Patil

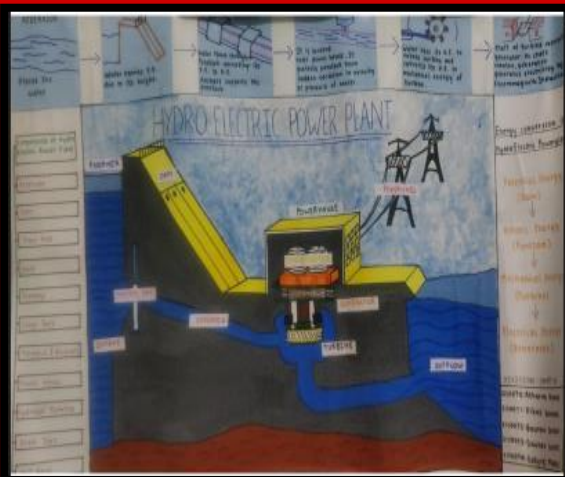
POSTERS ON ENVIRONMENTAL ISSUES



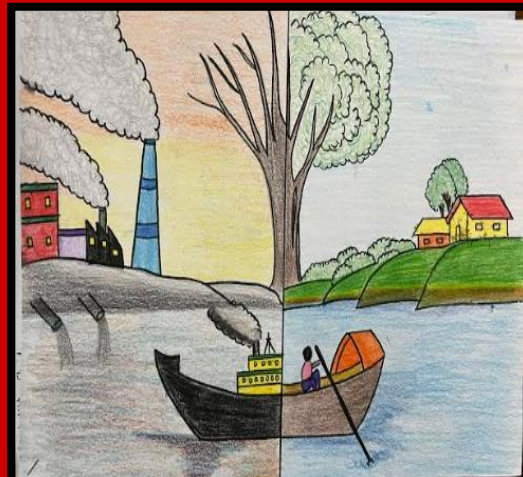
MANSI,SAGAR, RIYA, KETAN (FE CIVIL)



AMAR, SAKSHI,BHAGYESH,NITIN(FE CIVIL)



ATHARVA,VIKAS,GAURAV,SAURAV,SATYRAJ (FE COMP)



HARSH SHINDE (FE MECH)



SANIKA,ARYAN,ANIKET,ARYAN,ADITYA,SHIFA,S MITA (FE COMP)



ANIKET,NAVNATH,TUSHAR,KRUSHNKANT,T EJAS,NISHANT (FE COMP)



ISHANI,TITIKSHA,AKSHADA,SANIKA,GAYATRI
(FE COMP)



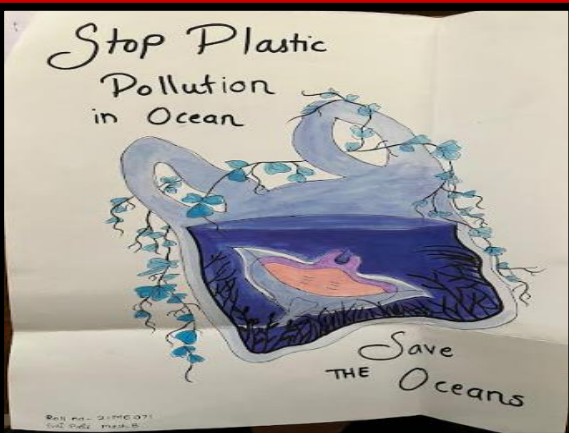
MAYANK,RITESH,ANURAG,ATHARVA,ANIKET
TVISHVESH,SANKET,ANIKET (FE COMP)



ATHARVA,KUNAL,ANIKET,SUDESH,AJINKYA,KAU
STUBH,HARISH (FE COMP)



ADARSH,BALASAHEB,ABHISHEK,PRAJWAL,B
HAGYESH,MARTIN (FE COMP)



SAI PATIL (FE MECH)



PRATHAM RAYBOLE (FE MECH)



NISHANT PATIL (FE MECH)



ANISH TAMBE (FE MECH)



SUYASH PATIL (FE MECH S/W)



PRAJAKTA SHENDKAR (FE MECH)

BEST OUT OF WASTE



KRUSHNA TAYADE (FE CIVIL)



DARSH GUNDECHA (FE ELECTRICAL)



SNEHIT SAVADI (FE CIVIL)



MANAV PAVAR (FE CIVIL)



GALIB SHAIKH (FE CIVIL)



AISHWARYA RAJPUT (FE CIVIL)



ATHARVA, ROHIT (FE CIVIL)

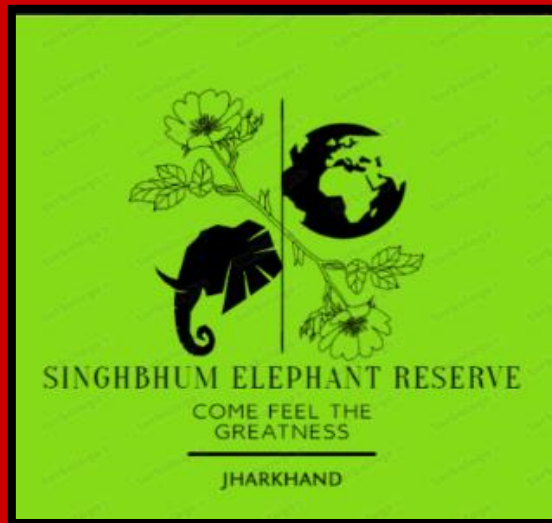


SEJAL BOBADE (FE E & TC)

WILD LIFE SANCTUARY LOGOS



ATHARVA VIRKAR (FE COMPUTER)



AKANSHA BHANDARE (FE COMPUTER)



NISHANT ADHAV (FE COMPUTER)



ATHARVA BHOSALE (FE COMPUTER)



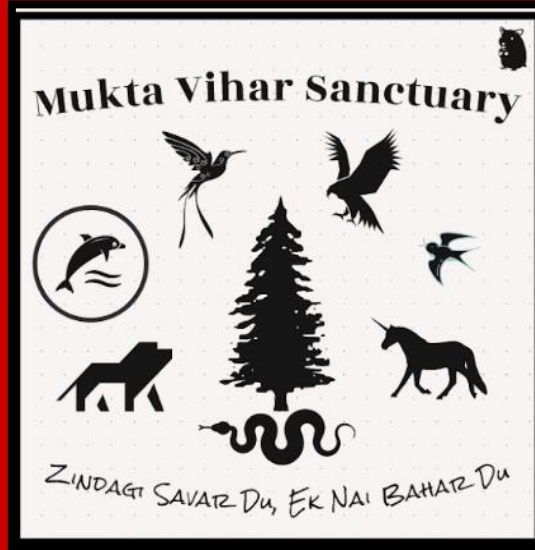
OJASVIN BORAWKE (FE COMPUTER)



ANIKET DARADE (FE COMPUTER)



ANURAG DESHMUKH (FE COMPUTER)



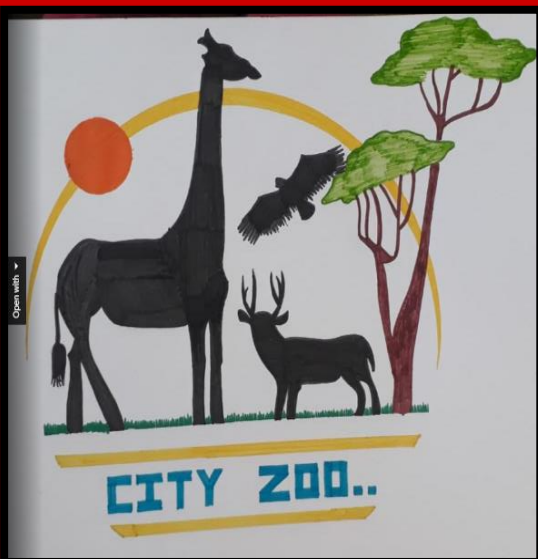
PARTH DONDHE (FE COMPUTER)



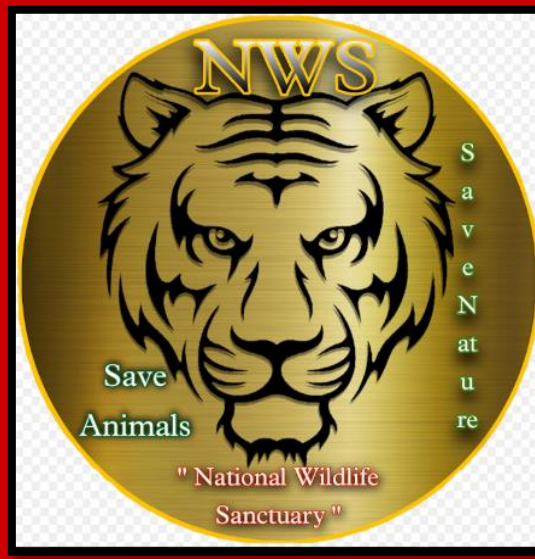
MAYANK DIWATE (FE COMPUTER)



SMITA FULARI (FE COMPUTER)



VAISHNAVI HARIHAR (FE COMPUTER)



BALASAHEB HINGE (FE COMPUTER)



AKSHADA KAKADE (FE COMPUTER)



MANALI JADHAV (FE E&TC)



ATHARVA VIRKAR (FE COMP)



NEHA KOLAMBE (FE COMP)



PRAJWAL KHEDKAR (FE COMP)



ATHARVA KHATAVKAR (FE COMP)