RMD SINHGAD TECHNICAL INSTITUTES CAMPUS
RMD SINHGAD SCHOOL OF ENGINEERING
Department of Civil Engineering
List of Paper Published

Faculty	SARITA R. KHOT
1.Title of Research Paper	REPAIR OF DAMAGED REINFORCED CONCRETE BEAM EXTERNALLY BONDED WITH GFRP PLATES
Journal	INTERNATIONAL RESEARCH JOURNAL OF ENGINEERING AND TECHNOLOGY (IRJET)
ISSN No	e-ISSN: 2395 -0056,p-ISSN: 2395-0072
Abstract	Reinforced cement concrete with steel bars is an extremely popular construction material. Reinforced concrete is the most frequently used for many years to build a wide variety of structures from houses to bridges. Many reinforced concrete structures are suffering from various deterioration such as spalling of concrete, excessive deflection.etc. Undetected and unrepaired damage may lead to structural failure demanding costly repair and huge loss of lives. Now days it is very much essential to find alternative strengthening technique in terms of low cost and shorter duration for repair and rehabilitation. Therefore it is necessary to increase the service life and load carrying capacity of damaged original structures. In this study RC beams with various degree of damage, repaired with 100 mm single layer and double layer with GFRP are studied with reference to load carrying capacity and energy absorption capacity. In this study RC beams with various degree of damage repaired with 100 mm single and double layer plates are studied with reference to load carrying capacity and energy absorption capacity.

2.Title of Research Paper	AN EXPERIMENTAL STUDY ON SHEAR BEHAVIOR OF STEEL FIBER REINFORCED CONCRETE BEAM
Journal	INTERNATIONAL RESEARCH JOURNAL OF ENGINEERING AND TECHNOLOGY (IRJET)
ISSN No	e-ISSN: 2395 -0056, p-ISSN: 2395-0072
Abstract	The present study investigate the influence of Steel Fiber Reinforcement on the mechanical behavior of reinforced concrete beams in shear.The major test variables are the aspect ratio of steel fiber, shear reinforcement, shear span(a) to depth ratio(d).The test result show that the first crack shear strength increases as fiber is added and also ultimate shear strength increases and change the mode of failure. It is concluded that fiber reinforcement can reduce the amount of shear stirrups required and that the combination of fibers and stirrups meet the strength and ductility requirements. Key Words:Shear behaviour ,steel fibers, etc…

Faculty	Mrs. JAYA PRAVIN PATIL
Title of Research Paper	DRIFT ANALYSIS IN MULTISTORIED BUILDING
Journal	INTERNATIONAL JOURNAL OF ENGINEERING SCIENCES & RESEARCH TECHNOLOGY
ISSN No	**2277-9655**
Abstract	In Multistoried building design, lateral load ((i.e. wind or earthquake loads) are mainly responsible for drift which very often dictates in selection of structural system for high rid. To bring the maximum drift down to allowable limits, cross sectional of beams and columns have to increase in many case. For buildings having small number of storey, lateral load rarely affect of the building increase, the increase in size of structural members and possible rearrangements of the structure to account for lateral load. The lateral displacement in moment frames is the greatest among the other lateral load resisting systems investigated; the lateral displacement in dual frames is the least while the lateral displacement in shear wall systems is slightly higher than that of the dual system

Faculty	SUMIT RAMESH THAKUR
Title of Research Paper	EVALUATION OF DAMAGE INDEX OF HIGH RISE BUILDING USING NONLINEAR STATIC SEISMIC ANALYSIS
Journal	INTERNATIONAL JOURNAL OF EMERGING TECHNOLOGY AND ADVANCED ENGINEERING
ISSN No	2250-2459
Abstract	It is well known that the earthquake resistant design of buildings usually allows a building to experience repairable damage during moderate and large earthquakes. Sometimes, the damage of a building is probably unrepairable and even lead to structural collapse as locally or globally. So, to this end there is a renewed interest in damage analysis for researchers as well structural designers for the application in the seismic assessment and rehabilitation of existing buildings. In the last decades many methodologies on seismic hazards analysis and damage prediction are developed. Now a days there is large amount of high rise construction coming up in cities with large agencies involved in it. Therefore, a detail analysis of damage expected during earthquake should be estimated. In the present work review of four different damage models was studied viz. story damage index, approximate story damage index, modal flexibility damage index and Park and Ang Damage Index. By using above four damage models quantified damage indices for high rise RCC building presented. To estimate the expected damage to struct ures when subjected to earthquakes of different intensities a nonlinear static approach is used here.The structures ability to sustain an earthquake impact measured in terms of the expected s tate of damage of the structure. Damage may be quantified by using any of several damage indices defined as functions whose values can be related to particular structural damage states. A number of available Response-based damage indices are discussed and critically evaluated for their applicability in seismic damage evaluation. Damage indices are numerical representation of damage state of the structures.

Faculty	MR. MITTAPALLI DASHRATHA LASMIPRASAD
Title of Research Paper	USE OF MECHANICAL SPLICES FOR REINFORSING STEEL
Journal	IJIERT
ISSN No	ISSN 2391 3696
Abstract	Lap splicing requires the overlapping of two parallel bars. The overlap load transfer mechanism takes advantage of the bond between the steel and the concrete to transfer the load. The load in one bar is transferred to the concrete, and then from the concrete to the ongoing bar. The bond is largely influenced by deformations (ribs) on the surface of the reinforcing bar. Lap splices, then, can be considered structurally less reliable and design-constrictive, with many 'hidden' costs. As a result, usage of mechanical splices previously considered cost-prohibitive is on the rise. Also mechanical splice (Couplers) offer added benefits. The coupler splices are more reliable than lap splices because they do not depend on concrete for load transfer. Superior cyclic performance and greater structural integrity during manmade, seismic or other natural events are other advantages of mechanical butt splices. Mechanical splicing does away with the tedious calculations needed to determine proper lap lengths, and their potential errors. Because mechanical splices do not overlap, less rebar is used, reducing materials costs. This paper verifies the strength of different couplers and also an economic viability study. Different types of samples were tested under UTM and the reports are studied to calculate the economic cost comparison of the same.

Faculty	MR. RAHUL DATTATRAYA SHINDE
Title of Research Paper	INTRODUCTION OF ABS PLASTIC FORMWORK AS AN ALTERNATIVE OPTION TO TRADITIONAL FORMWORK SYSTEM
Journal	IJRET-INTERNATIONALJOURNAL OF RESEARCH IN ENGINEERING AND TECHNOLOGY
ISSN No	e-ISSN: 2319-1163, p-ISSN: 2321-7308
Abstract	In this paper, we are introducing an ABS plastic formwork system and talking about all the aspects of ABS plastic formwork. The large amount of deforestation has occurred in recent past causing environmental imbalance to our ecosystem. As a preventive measure to stop deforestation we should find alternative to wood formwork. In this point of view 'ABS PLASTIC FORMWORK' is only possible solution to this problem as it is recyclable, reusable and eco-friendly alternative. That's why we are introducing the plastic formwork to replace the traditional formwork. ABS Plastic formwork is a new innovation is formwork industry, It is famous for its light weight , speedy construction and In accuracy in work . Today almost over 350000 sq m of formwork is being used for constrution purpose all over the world. In our country ABS plastic formwork has been used on many construction projects and it has been proved to be economical.ABS plastic formwork has been widely used in gulf countries, europe, asia as well as all other parts of world. This technology is mostly suitable for huge housing projects to be completed in short period of time, where columns, beams, slab sizes are standard. This technology gives more accurate results and good quality of construction in optimum cost and minimum time.

Faculty	SNEHAL UTTAM BOBADE
1.Title of Research Paper	BLACK SPOT ANALYSIS ON PUNE BANGLOR NATIONAL HIGHWAY
Journal	IRJET
ISSN No	2395-0056(E),2395-0072(P)
Abstract	India is a country with ahigh population. It needs excellent transportation system for it to grow. As road transportation enables door to door transportation and has greater density and distribution all round our country, it becomes a primary factor in transportation which is responsible for the economic and social growth of our country Accidents on these roads obstruct the growth as it causes high economic loss and loss of life. Hence it is important to curb these accidents by identifying these accident prone zones and rectifying these spots. This article is based on black spot identification on Mumbai Bangalore Highway These black spots are identified by studying the accidental data collected from National Highway Authority of India by using methods Weighted Severity Index and Accidental Density Method. Key WordsAccidental black spots ,National Highway, Weighted ,Severity Index,Accidental Density Met.

2.Title of Research Paper	IDENTIFICATION OF ACCIDENTAL BLACK SPOTS ON NATIONAL HIGHWAY 4(NEW KATRAJ TUNNEL TO CHANDANI CHOWK
Journal	IOSR-JOURNAL OF MECHANICAL AND CIVIL ENGINEERING
ISSN No	e-2278-1684,p-2320-334x
Abstract	Transportation is responsible for the development of civilizations from very old times by meeting travel requirement of people and transport requirement of goods. In today's world, road and transport has become an integral part of every human being However it is observed that fatalities have shot up by half in the last 10 years About 1.2 million Indians were killed in car accidents over the past decade, on average one every four minutes, while 5.5 million were seriously injured.In India National highways comprise 1.7% of total road network, but carry about 40% of road traffic which contribute to 29% of total road trafficaccidents The 34 km stretch of Mumbai-Bangalore highway in the Pune city limits has seen 110 fatal accidents in the last three years claiming 111 lives. Thus the primary aim of the project is to identify the accident black spots on National Highway -4 spanning 14.5Kms from New Katraj Tunnel to Chandani Chowk and to suggest remedial measures. The projectconcentrates on infrastructure errors and their combination with other types.An accident black spot is a term used in road safety management to denote place where road traffic accidents have been historically been concentrated. For finding out various causes of accidents, different methodologies adopted and to find out remedial measures, international journal papers were referred. Methodology adopted includes collecting the secondary data from respective authority, conducting physical survey (primary data) and analyzing them by method of ranking and severity index, accident density method, weighted severity index. Locations appearing in all the three methods were termed as black spots. Further corrective measures were suggested. Keywords:Transportation,Road traffic accidents, Accident Black Spots, National Highway

3.Title of Research Paper	ACCIDENTAL STUDY ON PUNE SOLAPUR NATIONAL HIGHWAY
Journal	INTERNATIONAL JOURNAL OF SCIENCE AND RESEARCH
ISSN No	2319-7064
Abstract	National highways are considered as main veins for the development of country. It has been observed that more than 13 peoples are dying in the road accidents per hour all over the world. According to the world health organization (WHO), in its global status reports on road safety (2013), observers that road traffic injuries "theleading cause of death for young people aged 15-29".Government of India formulated Accidental Prevention Committee (APC) in the year 1997 for identifying accidental prone spots on the rural highways of the state and suggested the suitable remedial measures for reducing the accidents.In Maharashtra state Pune - Solapur highway witnessed large number of accidents since they became fully operational. According to road safety management the place where road traffic accidents have historically been concentrated is termed as an accidental black spot. While designing and planning of Pune - Solapure Highway the vision may be to construct accident free Highway and normal causes of accidents were properly taken into consideration. . Still numbers of accidents have occurred in resent past daily on national highways. Pune –Solapur highway is one of such highway which connects educational hub Pune with newly developing industrial corridor Solapur, Pune –Solapur highway having four lanes constructed and maintained by National Highway Authority Of India (NHAI). It has been observed form recent past numbers of fatal accidents are occurring on this highway because of which this highway becomes death trap Safety committee"HACK COMMITTEE"maintains record of accidents occurring on this highway. In present study the data of accidents on Pune Solapure highway has been collected. The various parameters responsible for accidents are categorized as accident location, nature of accidents, classification of accidents, causes of accidents and others. The papers include study and identification of accidental black spot on National Highways on above parameters by using method of ranking and severity index method, Accidental density method and weighted severity index method. Keywords: Accidental Black Spots, National Highways, Severity Index.

4.Title of Research Paper	BLACK SPOTS ANALYSIS ON PUNE SOLAPUR NATIONAL HIGHWAY
Journal	INTERNATIONAL RESEARCH JOURNAL OF ENGNEERING AND TECHONOLOGY
ISSN No	2395-0072
Abstract	Country like India with tremendous population requires excellent transportation system to grow. Transportation includes air transportation,land transportation,and water transportation.Thedoor to door service is provided by land transportation hence it is having importance for development of country. By considering total length of roads, India is second largest city with 4,865,000 Km of total road length.Highways and expressways are considered as main vein for the development of country. Maharashtra is one of the India's more advanced state and having relatively higher density of road network as well as motor vehicle as compared to other states.Pune – Solapur National highway is a four lane highway connecting many of its major manufacturing center, commercial and cultural centers and is one of such highway which connects educational hub Pune with newly developing industrial corridor Solapur, Pune –Solapur highway having four lanes constructed and maintained by National Highway Authority Of India (NHAI).It has been observed form recent past numbers of fatal accedents are occurring on this highway because of which this highway becomes death trap.. Accidental black spot is the spots where accidents had occurred historically many times.Safety committee"HAX COMMITTEE" maintains record of accidents occurring on this highway.By using this secondary data with the help of various methods like severity index and ranking method accidental black spots analysis is done on Pune –Solapure national highway So by using such analysis the basic case of accidents can be identified and according to that the remedial measures may be adopted to improve the performance of highways. KeyWords:Accidental Black spot, National Highway, severity index, Ranking method.

5.Title of Research Paper	IDENTIFICATION OF ACCIDENTAL BLACKSPOTS ON NATIONAL HIGHWAYS AND EXPRESS WAYS
Journal	INTERNATIONAL JOURNAL OF RESEARCH IN ADVENT TECHONOLOGY
ISSN No	E 2321-9637
Abstract	National highways and expressways are considered as main veins for the development of states in the country. On the other hand it has been observed that more than 13 peoples are dying in the road accidents per hour all over the world. Government of India formulated Accidental Prevention Committee (APC) in the year 1997 for identifying accidental prone spots on the rural highways of the state and suggested the suitable remedial measures for reducing the accidents. The Yeshwantrao Chavan Expressway (Mumbai - Pune Expressway) has witnessed large number of accidents since it became fully operational in April 2002. According to daily DNA, dated April 3, 2012, there were 11,057 accidents in 10 years of its existence.The PWD (Public Works Department) Government of Maharashtra state had undertaken the improvement of such accidental prone spots which generally designated as the black spots on highways. But little research has been done till day on prevention of accidents. The paper deals with study and identification of accidental black spots on Pune Solapur National Highway (NH9) and Mumbai-Pune Expressway by method of ranking. Keywords- Accidental Black Spots, Expressways, National Highways.

6.Title of Research Paper	GEOPATHIC STRESS ASPECT FOR SUSTAINABLE DEVELOPMENT OF BUILT ENVIRONMENT
Journal	INTERNATIONAL JOURNAL OF SCIENCE AND PUBLICATION
ISSN No	2250-3153
Abstract	Energy from subsurface of earth at specific location that has ability to change the normal functioning of human system is called as Geopathic Stress. Suitability of the site in ancient times is carried out by different tests (Bhumi Pariksha), architectures and civil engineers were very particular in selecting the site for dwelling but in recent past geopathic stress is rarely considered spatial planning. Recent studies have shown that it is one of the causes for inception of disease. Places on road affectedby this stress are prone to accidents.This paper highlights about the significance and need of considering Geopathic stress as one of the parameter for spatial planning. Research shows that the Geopathic stress from nadir direction changes the reaction time of the driver which in turn leads to road accidents. Thus, by considering the aspect of Geopathic stress for planning, a safe and sustainable development of infrastructure will of benefit to the mankind .Index Terms-Energy, Geopathic stress, Sustainable Development

Faculty	PRIYA NANDKISHOR BIDKAR
Title of Research Paper	EFFECT OF RECRON 3S FIBRES ON GGBS REPLACED CEMENT CONCRETE
Journal	INTERNATIONAL JOURNAL OF SCIENCE AND RESEARCH
ISSN No	2319-7064
Abstract	From last many decades, usage of concrete has increased on large scale all over the world. Concrete ingredients used are becoming more costly day by day and also demand for the same is increasing widely all over. These ingredients are also extinguishing with time and some of them are also polluting the surrounding environment on large scale. One of the main ingredients is cement, while production of cement CO2 is emitted out. Replacement of cement by a pozzalanic material named Ground Granulated Blast Furnace Slag, which is by product or waste product of steel manufacturing industries. Ground Granulated Blast Furnace Slag act as cost reducing ingredient and also increase many mechanical properties of concrete. Recron 3s fibers of 12mm size were also added to increase both compressive and tensile strength of concrete. This concrete is more environments friendly and will give more life to concrete. To maintain workability for lower water/cement ratio and to maintain the effect of admixture added, Superplasticiser is added by trial and error method. Mechanical properties of pozzalanic concrete using GGBS show that this concrete gives better compressive strength and increases durability of concrete. Recron 3s fibers also increases mechanical properties like compressive strength, flexural strength and split tensile strength of concrete. This page revives all details of the material, test to be conducted on concrete using the supplementary admixture and literature showing the advantages of using GGBFS and Recron 3s Fiber in concrete in different proportion.

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Faculty	MR.ROHIT BALASAHEB SHINTRE
Title of Research Paper	EXPERIMENTAL ANALYSIS OF GASIFIER USING MUNICIPAL SOLID WASTES
Journal	INTERNATIONAL JOURNAL OF ENGINEERING SCIENCE AND INNOVATIVE TECHNOLOGY
ISSN No	2319-5967
Abstract	MSW for every conversion has become important globally. The urbanization is creating MSW 0.2 to 0.6 Kg/capita. Most of the MSW is dumped for landfills and creates hazards to the environment, health and problem to the human beings. The disposal of MSW is being converted into secondary energy by incineration technology. This research reviews application of gasification for MSW to energy conversion. The MSW is first converted into pellets with controlled moisture upto 10 to 15%. The calorific value of MSW pellets measured by Bomb calorimeter at laboratory concludes the value to 3100 Kcal/kg.The paper further concludes the good formation of producer gas in gasifier of 8 kg/hr capacity. The gasifier efficiency achieved during experimentation is 70 to 85%.The use of gasifier for every conversion is therefore recommended.

Faculty	ASST. PROF. A.G.SHELAKE
1.Title of Research Paper	RESOURCES OPTIMIZATION IN CASTING OF SEGMENTS ON BRIDGE CONSTRUCTION
Journal	INTERNATIONAL JOURNAL OF ENGINEERING SCIENCES & RESEARCH TECHNOLOGY(IJESRT)
ISSN No	2277-9655
Abstract	Resources are the most important part of any construction project. Total cost of project is based on resources. For India the construction industry has contributed an estimated 6708 billion to the national GDP in 2011-12 which is a share of around 8%. This sector is both labour and machine intensive and provides employment to more than 35million people, which is around 27% population of India. So, optimization of resources plays a vital role in saving of valuable natural resources and cost which is required to generate them. So, in this paper concept of optimization is understood clearly and try to implement it on bridge construction site. The case study is selected as Hyderabad metro project. In this project concreting of precast segment of bridge is considered. The main objective of study is to optimize the resource utilization on concreting activity by applying some operational research techniques such as transportation model, assignment model, EOQ etc. The paper also discussed the concept of multi agent negotiation used on site. Construction projects are unique in nature because construction activities are varies from project to project. Thus, it is not possible to apply result of optimization from any particular case study to any other construction site but the idea or technique regarding optimization till remains same for other sites

2.Title of Research Paper	TOTAL QUALITY MANAGEMENT IN RESIDENTIAL PROJECT
Journal	INTERNATIONAL JOURNAL OF ENGINEERING SCIENCES & RESEARCH TECHNOLOGY(IJESRT)
ISSN No	2277-9655
Abstract	TQM means Total Quality Management. It means it is an art of managing the whole to achieve excellence. TQM is the integration of all functions and processes within an organization in order to achieve continuous improvement of the quality of goods and services . The goal is customer satisfaction. It is a application of quantitative methods and HR to improve all processes within a firm and satisfy customers needs. In residential building, quality is moderate. So it is quite useful to implement TQM . For implementing TQM in residential building, Quality Control tools like Cause and Effect Diagram, Check List and Histogram are very useful. In this project the main objective is to implement this Total Quality Management concept in residential building using QC Tools.

Faculty	SONAL BABASAHEB DESHMUKH
Title of Research Paper	SIMULATION OF CANAL FLOW
Journal	INTERNATIONAL MULTIDISCIPLINARY E JOURNAL
ISSN No	2277-4262
Abstract	Historically, the sharing out of water in irrigation-channel networks was poor in numerous plans of irrigation in the world. The models of simulation are hydraulic tools appropriated to understand the hydraulic behaviour of the systems of irrigation. Present document discusses various aspects of hydraulic simulation one-dimensional model, to assess its usefulness in hydraulic studies of irrigation channels. In the present study, the results of two of these models, HEC-RAS and Mike 11, being compared with parameters hydraulic noticed in 190 m of long experimental model channel in CWPRS, Pune. Simulation models for unsteady open channel flows have been commercially available for more than 4 decades. Most of these models are now available for personal computers and can be used to study the control of irrigation canals. There are a number of tradeoffs between simplicity and functionality as all models present difficulties and have limitations.