

List of Contents

Sl. No.	Content	Page No.
1	List of Contents	1-2
2	The Editorial Board	3
3	Dean's Message	4
4	Principal's Message	5
5	HoD's Message	6
6	Foreword	7
7	Design of Flyover	8
8	Analysis And Design of an Industrial Steel Structure	9
9	Experimental Study on Bagasse Ash to Improve the Durability Properties of Recycled Aggregate Concrete	10
10	Experiment on Use of Bagasse Ash to Improve the Mechanical Properties of Recycled Coarse Aggregate	11
11	To Study the Effect of Replacement of Electronic Waste as Aggregates in Concrete	12
12	Assessment of Properties of Reinforced Foamed Concrete Blocks	13
13	Previous Concrete	14
14	Experimental Study on Geopolymer Concrete Based on Bagasse Ash	15
15	Experimental Study on Durability of GPC By Partial Replacement of Sugarcane Bagasse Ash	16
16	Use of Bagasse Ash in The Production of Paver Blocks	17
17	Use of Waste Plastic in Bituminous Road Construction	18
18	To Locate the Critical Portion in Plan Symmetry and Plan Asymmetry Buildings Subjected to Seismic Force	19
19	Study on Partial Replacement of Cement by Poultry Waste	20
20	An Experimental Study on Bond Shear Strength of Brick Masonry Triplet by Partially Replacing Cement by Bagasse Ash	21
21	An Experimental Study on Mechanical Properties of Plain Cement Concrete Reinforced With Sisal Fibre	22
22	An Experimental Study on Behavior of Cement Concrete by Partially Replacing Coarse Aggregate by Ceramic Waste.	23
23	Artificial Recharge Structures for Piriapatna Taluk Using Geoinformatics	24

24	Identification of Variable Source Area	25
25	Verification of Water Budget Equation for A Small Catchment Created at MITM	26
26	Impact of Industrialization on Ground Water - A Case Study on Kushalnagar Industrial Area	27
27	Analysis of Groundwater and Soil due to the Impact of Pesticides Used In Agriculture	28
28	Reuse And Recycle of Wastewater	29
29	Utilization of Waste Cooking Oil In Derivation of Biodiesel	30
30	Green Building Concept and Rain Water Harvesting	31
31	Study on Effect of RAP on Resilience Modulus of Subgrade	32
32	Study on Effect of RAP on Permeability of Subgrade	33
33	Seismic Response of RC Framed Structures With Vertical Irregularity.	34
34	Seismic Response of RC Framed Structures With Vertical Irregularity.	35
35	Repair of Potholes Using Cold Mix Asphalt	36
36	Preparation of Concrete Blocks Using Construction And Demolition Waste	37
37	Partial Replacement of Red Soil by Rice Husk Ash in Brick	38
38	Assessment of Water Quality Index in Lake	39
39	A Study on Water Pollution Abatement of Kukkarahalli Lake	40
40	Analysis of Slope Stability Using Geogrids	41
41	Analysis of Geocell Reinforced Slope Stability Using Plaxis	42

The Editorial Board

Publisher: Dr. B. G. Naresh Kumar, Principal MITM

Editor – in – Chief: Dr. C. Ramakrishnegowda, Head of Civil Engg., MITM

Managing Director: Mr. Aniruddha A. M., Asst. Prof. of Civil Engg., MITM

Editors

- 1. Mr. M. Chandrashekar, Asso. Prof. of Civil Engg., MITM**
- 2. Mr. Yashwanth M. K., Asso. Prof. of Civil Engg., MITM**
- 3. Mr. Avinash Gornale, Asso. Prof. of Civil Engg., MITM**
- 4. Mr. Gururaj M. H., Asst. Prof. of Civil Engg., MITM**
- 5. Mr. Punith N., Asst. Prof. of Civil Engg., MITM**
- 6. Mr. K. Vinayraj, Asst. Prof. of Civil Engg., MITM**
- 7. Dr. S. P. Madhu, Asso. Prof. of Civil Engg., MITM**
- 8. Mr. Pradeep B., Asst. Prof. of Civil Engg., MITM**
- 9. Mr. Somesh M. U., Asst. Prof. of Civil Engg., MITM**
- 10. Mr. Shankaregowda, Asst. Prof. of Civil Engg., MITM**
- 11. Ms. Bhavyashree B. N., Asst. Prof. of Civil Engg., MITM**
- 12. Mr. Chandrashekar Gowda K. N., Asst. Prof. of Civil Engg., MITM**
- 13. Mr. J. C. Ashok Kumar, Asst. Prof. of Civil Engg., MITM**
- 14. Mr. Achyuth K. N., Asst. Prof. of Civil Engg., MITM**
- 15. Mr. Varun S., Asst. Prof. of Civil Engg., MITM**
- 16. Mrs. Ashwini D., Asst. Prof. of Civil Engg., MITM**
- 17. Mr. Manjunatha N. R., Asst. Prof. of Civil Engg., MITM**

Dean's (Research) Message



“Industrialize or perish” is a world famous quote stated by Sir M. Visvesvaraya. I am always fascinated towards Civil Engineering because the world is being built by humans and that too more specifically by civil engineers. Every civilian (Public) thinks that an engineer means a ‘Civil Engineer’ who constructs something useful to the society.

Many Engineering graduates who come out of the college will have a dream and ambition to create a new world. Some of them will succeed partially and creates history. However syllabus, subjects, teacher and duration of the course work would be same for all of them. Each student is expected to carry out a project and every student feels that he is doing something unique and **in fact it is unique**. However at the end of the engineering course, the time and effort spent towards this project would have lost its interest and becomes faded.

The efforts made by Civil Engineering department of MIT Mysore is highly appreciable in recording and documenting each and every project being carried out by students so that in future in case the same projects finds its relevance, then adaptation would be comfortable.

I also learned that every student is asked to present a paper in IEEE or other standard formats so that candidates will learn documenting their unique works. All the best to the entire civil department team members.

Dr. S. Murali
(President, MET)

Principal's Message



At MITM, students have ample opportunities to fulfill their academic, cultural, sports and social potential. The department of civil engineering of MITM is focused on helping students gain the knowledge and skills to build a successful career in the industries they serve. The department also works hard to ensure students memorable time by providing high levels of support and the best facilities available. With this the students get trained to become responsible citizens and develop a global mindset that will give them an edge in an increasingly connected world.

Apart from the best learning facilities, MITM Civil also provides enormous opportunities in sports and co curricular activities to the students who are interested and all this is executed without missing a beat in their academics. The unwavering support of the management and dedication and service of the faculty members are responsible for the remarkable progress of the students and the institution.

All these things are the result of multiple activities that are conducted for the students and staff throughout the year.

This “**Proceedings of the Conference on Project Works 2018 – 19**” being brought out by the department is an attempt to make the students put their works in the form of journal papers and record the same. I wish this exercise would help the students in future to a great extent.



Dr. B.G.NareshKumar

HoD's Message



The department of civil engineering of MIT Mysore has established itself as the pioneer in its field and efforts are consistently put in the direction of creating civil engineers with unmatched technical skills and social responsibilities. The department which started functioning in the year 2010-11 has begun to taste the success of its hard work and sincere efforts, in the form of standout results being achieved in every semester. The feathers in the crown are the three VTU ranks and a gold medal achieved thus far. The students of civil engineering of MIT will never shy away from any co-curricular activities that come their way. They take part in many major sports and cultural events and keep bagging prizes in recognition of their talent. Also, the department has a distinguished consultation bureau which has an expertise in the fields of soil investigation, investigation of structural members, tests on concrete and other highway & building materials. On the whole, the aim of all such efforts is to produce a ‘**Complete Civil Engineer**’, acceptable and employable universally.

With the intention of preparing the future engineers for the ever progressing world, the publication of their work at the UG level is made mandatory. I believe that this “**Proceedings of the Conference on Project Works 2018 – 19**” will act as a perfect gate way in serving the purpose.


Dr. C. Ramakrishnegowda

Foreword



“I would like to teach till my last breath”, “Be good, do good, good will be done to you” –these are the usual sentences one hears from the Principal and the HoD very often. This is the culture imparted by the Gurus to the faculty of the department. As a Sanskrit saying suggests “yathaa raja tathaa praja”, the well qualified and committed staff is following the footprints of the Mentors and transferring the knowledge to the students and helping them transform into an asset to the society and the field of Civil Engineering.

A rigorous grind of academic activities has not pushed aside the need for co curricular activities in the campus. The staff is oriented to give their best to the students and the students are reciprocating the same. This “**Proceedings of the Conference on Project Works 2018 – 19**” is the result of the efforts of the faculty and the final year project batches. Understanding the importance of publications in the field of research and education, an attempt is made to record all the 36 works carried out as a requirement to complete the degree by our students during the academic year 2018 - 19 in the form of a standard journal. The abstracts of the works are in this edition and the full text shall be made available by the project coordinator on request.

Though this preliminary step may include in it a few mistakes, I assure through this foreword that the future shall only get better. I thank the Managemnt, Principal and HoD for giving me this Opportunity.

Mr. Aniruddha A. M.
(Asst. Prof. & Project Coordinator)

DESIGN OF FLYOVER

¹Chandrashekar M, ²C Akshata, ³Deepak Kumar M, ⁴Darshan S Raj, ⁵Santhoshkumar K

¹Associate Professor, ²³⁴⁵UG Scholar,

¹Department of Civil Engineering,

¹Maharaja Institute of Technology, Mysore, India

Abstract: Flyovers have been constructed since early seventies. They are mainly constructed for the purpose of traffic congestion elimination. For the short and medium span bridges, flyovers-concrete composite construction is gaining popularity. This paper is purely based on the design of a composite flyover. The manual analysis and design were carried out using different theories. The required drawings were plotted using AUTO CAD Software.

Index Terms –Interior panels, Main Girders, Cross girders, Stiffeners, Shear connectors, Abutment, Pier, Footing

ANALYSIS AND DESIGN OF INDUSTRIALSTEEL STRUCTURE

¹Chandrashekar M, ²Chaithanya H M, ³Rajesha M K, ⁴Syed Sakib, ⁵Chiranthan B

¹Associate Professor, ²³⁴⁵UG Scholar,

Department of Civil Engineering,

Maharaja institute of technology, Mysore, India

Abstract- Structural engineering is an important part of civil engineering. The principal objective of this project is to analyze and design of an industrial steel structure. An industrial shed having a dimension of 100m X 25m is considered and Howe truss is provided. This project is all about analysis of loads and forces acting on the members and their design. Loads considered on the structure are dead load, live load and wind load, these loads are calculated using Indian standard code IS-1987 part 1, part 11 and part 111 respectively and the section properties of the members are obtained by steel table. The foremost basic of structural engineering is the design of basic components of an industrial structure such as roof truss, gantry girder, bracket, column, column base and pedestal. All the structural components are designed manually and compare the result with software Stadpro.V8i and detailing of structure is done using Autocad 2007.

Keywords- Howe truss, gantry girder, stadpro.V8i

EXPERIMENTAL STUDY ON BAGASSE ASHTO IMPROVE THE DURABILITY PROPERTIES OF RECYCLED AGGREGATE CONCRETE

¹Yashwanth M K, ²Nishath tazeen, ³Md Sayeed Ali M, ⁴Medha C ⁵Ranjan Y.S

¹Associate Professor, ^{2,3,4,5} UG Scholar,

¹Department of Civil Engineering,

¹Maharaja institute of technology, Mysore, India

Abstract- The ever increasing need of development in infrastructure has led researchers and scientists to search for locally available alternate materials that can replace the constituents of concrete partially and are eco-friendly and contribute towards waste management. The total quantum of waste from construction industry is estimated to be 12 to 14.7 million tons per annum out of which 7-8 million tons are concrete wastes which can be used as partial replacement for coarse aggregates that is as recycled coarse aggregates (RCA) in concrete and also India being the second most sugarcane producing country in the world, also produces a substantial amount of Sugar Cane Bagasse Ash (SCBA) which is a fibrous waste product of sugar industry and can be used as an alternate binding material in concrete. This would not only help in waste management but also result in saving in cement production equivalent to the alternative binding material used in concrete decreasing the amount of harmful greenhouse gases produced in the process of cement production. In this study, the effects of BA content as partial replacement of cement on physical, mechanical and durability properties of concrete will be investigated. The properties of concrete to be studied include workability, compressive strength, water absorption and sorptivity. The literature results showed that strength and durability properties are increased, maximum up to the replacement of bagasse ash 10% with 30% recycled aggregate.

Keywords- Recycled coarse aggregates, bagasse ash.

AN EXPERIMENTAL STUDY ON BAGASSE ASH AS PARTIAL REPLACEMENT FOR CEMENT IN MECHANICAL PROPERTIES OF RECYCLED AGGREGATE CONCRETE

¹Yashwanth M K, ²Siddaraju T, ³Manojsoge, ⁴Supriya y j ⁵Sanjay B R

¹Associate Professor, ^{2,3,4,5} UG Scholar,

¹Department of Civil Engineering,

¹Maharaja institute of technology, Mysore, India

ABSTRACT— the experimental study deals with the assessing the potential of bagasse ash partial replacement for cement in recycled aggregate concrete (RAC) .the natural course aggregate (NCA) is partially replaced with 30% of recycled course aggregate (RCA), and cement is partially replaced with 10%&15% of bagasse ash (BA), the fresh hardened properties and micro structural analysis of reference mix (RM), RAC, and bagasse ash blended concrete were conducted. The result recorded that the fresh properties of RAC and bagasse ash recycled aggregate concrete (BRAC) decreased as compared to RM. The hardened property such as compressive strength, tensile strength decreased with replacement of RCA in RAC and also decreased with increase in %ge of bagasse ash replacement as compared to RM .the micro structural analysis result revealed that formation of interfacial transition zone (ITZ) and voids in RAC AS compared with RM, Thus ITZ &voids were filled by the replacement of cement with BA in RAC

Key word –recycle aggregate concrete, bagasse ash, fresh properties, hardened properties, micro structural analysis

TO STUDY THE EFFECT OF REPLACEMENT OF ELECTRONIC WASTE AS COARSE AGGREGATES IN CONCRETE

¹Yashwanth M K, ²Ashwin Ramesh, ³Basavesh S.K, ⁴Bhuvan S, ⁵Pallavi M

¹Associate Professor, ^{2,3,4,5} UG Scholar,

¹Department of Civil Engineering,

¹Maharaja institute of technology, Mysore, India

Abstract- Solid waste management is one of the major environment concern in the world with scarcity of space for land filling and due to its ever increasing cost, waste utilization has become as attractive alternative to disposal. Now a day's from electric and electronic equipment (WEEE's) is currently considered to be one of the fastest growing waste streams in the world per year. The disposal of which is becoming a challenging problem. For solving the disposal of large amount of E-waste material, reuse of E-waste in concrete industry is considered as the most feasible application. E-waste is used as one such alternative for coarse aggregate. Owing to scarcity of coarse aggregate for the preparation of concrete, partial replacement of coarse aggregate is attempted. The work was conducted on M-20 grade mix. The replacement of coarse aggregate with E-waste in the range of 10%, 12% and 15%. Finally the concrete mix specimens are obtained from the replacement of these materials is compared with control concrete mix. The test results showed a significance improvement in the compressive strength in the E-waste concrete compared to conventional mix and can be effectively used in the concrete. The reuse of E-waste results in waste reduction and resource conservation.

Keywords- Electronic waste, Coarse aggregates.

ASSESSMENT OF PROPERTIES OF REINFORCED FOAM CONCRETE BLOCKS

¹AvinashGornale, ²Mrunalini Raj, ³Dheeraj Simha MK, ⁴Ruman Musab⁵Moin Hussain

¹Associate Professor, ^{2,3,4,5}UG Scholar,

¹Department of Civil Engineering,

¹Maharaja institute of technology, Mysore, India

Abstract- Masonry infill walls of reinforced concrete framed structures are commonly used for non-engineer and engineer building. For this establishment, exterior walls and interior partitions are made of masonry for producing a cost effective solution for building purposes. Although walls are usually considered as a non-structural element of reinforced concrete frame structures, the masonry infill walls contribute significantly to the seismic building performance. This paper presents the experimentally study on out of plane lateral load carrying capacity of foam concrete block of both reinforced and unreinforced masonry wallet.

Keywords- foam concrete, wallet, lateral load

PERVIOUS CONCRETE

Avinash Gornale¹, Faisal Ahmed², Guruprasad B², Prajwal Mavinkatti², Vijayalakshmi K²

¹ Asst. Prof., ² Students, Dept. of Civil Engineering, MITM, Behind Belwadi, K R mills, S.R.Patna(Taluk) Mandya.

Abstract: Pervious concrete is a Form of light weight Porous concrete obtained by eliminating the sand from the normal concrete mix. The advantages of this type of concrete are lower density, lower cost due to lower cement content, lower thermal conductivity, relatively low drying shrinkage, no segregation and capillary movement of water. It has better insulating characteristics than conventional concrete because of the presence of large voids. The research on pervious pavement materials has begun in developed countries such as the US and Japan since 1980s. Pervious concrete pavement has been used for over 30 years in England and the United States. Pervious concrete is also widely used in Europe and Japan for roadway applications as a surface course to improve skid resistance and reduce noise. Using selected aggregates, fine mineral, admixtures, organic intensifiers and by adjusting the concrete mix proportion, strength and abrasion resistance can improve the pervious concrete greatly.

In this study we prepare a tiles using pervious concrete.

EXPERIMENTAL STUDY ON BAGASSE ASH BASED GEOPOLYMER CONCRETE

Gururaj M H¹, Abhishekgouda p patil², Manoj gowda KM³, Shashank K S⁴, Thejashwini V⁵

¹Assistant Professor, Department of Civil Engineering, Maharaja Institute Of Technology Mysore,
Karnataka, India.

^{2,3,4,5} U.G. Students, Department of Civil Engineering, Maharaja Institute Of Technology Mysore,
Karnataka, India.

ABSTRACT: This investigation is focused on the partial replacements of Portland cement by Sugarcane Bagasse Ash in concrete. Sugarcane Bagasse is a fibrous waste product of sugar refining industry causing serious environmental pollution, which calls for urgent ways of handling the waste. Bagasse ash mainly contains aluminum ion, silica, iron & calcium oxides. The ash therefore becomes an industrial waste and poses disposal problems. In this paper the influence of partial cement replacement with Sugarcane Bagasse ash in concrete subjected to different curing environments has been studied by Experimental investigation. The variable factors considered in this study were concrete grade of M30 & curing periods of 3 days, 7days, 28 days of the concrete specimens.. Bagasse ash has been chemically & physically characterized & partially replaced in the ratio of 0%, 5%, 10%, 15%, 20%. Fresh concrete tests like compaction factor test and hardened concrete tests like compressive strength at the age of 3 days, 7days, 28 days was obtained.

KEYWORDS: Alkaline solution, Concrete, Sugar Cane Bagasse Ash (SCBA), partial Replacement of Cement, Strength.

An Experimental Study on Geo-Polymer Concrete by Partial Replacement of Cement by Sugarcane Bagasse Ash

Prof, Gururaj M H¹, Rohan S², Sanjeevini Y C³, Siddesh J S⁴, Akshay Kumar S⁵

¹Assistant Professor, Department of Civil Engineering, Maharaja Institute Of Technology, Mysore,
^{2,3,4,5} U G Students, Department of Civil Engineering, Maharaja Institute Of Technology, Mysore,

ABSTRACT: Sugarcane bagasse is a fibrous waste product of sugar refining industry. This product causes severe environmental pollution, which calls for urgent ways of handling the waste. Bagasse ash mainly contains aluminum ion silica, iron & calcium oxides. The ash therefore becomes an industrial waste and poses disposal problems.

In this project objective is to study the influence of partial replacement of sugarcane bagasse ash to Portland cement in concrete subjected to different curing environments. Experimental Durability study on Geo-Polymer concrete in H₂SO₄ and NaCl solution. The variable factors considered in this study were concrete grade of M30 & Durability test considered as short term Durability. The Percentage of Bagasse ash in concrete partially replaced in the ratio is 5%, 10%, 15% and 20%. Bagasse ash has been chemically & physically characterized

KEYWORDS: Ordinary Portland cement, Sugar Cane Bagasse Ash (SCBA), Specimen Preparation, Testing, Fine and Coarse Aggregates, H₂SO₄ and NaCl solution

USE OF BAGASSE ASH IN THE PRODUCTION OF PLASTIC PAVER BLOCKS

¹Latha P, ²Bhumika PJ, ³Vishwas BR, ⁴Yashwanth AR, ⁵Santhosh D N

¹Assistant Professor, ²³⁴⁵UG Students, ¹Department of Civil Engineering,
Maharaja Institute of Technology Mysore, Belavadi , Mandya.

Abstract:

ABSTRACT: The aim of this project is to study the possibility of using plastic waste as a binding material instead of cement in the manufacturing of paver blocks. At present nearly 56lakhs tones of plastic waste are produced in India per year. The degradation rate of plastic waste is also a very low process. Hence the project is useful in reducing plastic waste in useful way. In this project we have used plastic waste (PET 30%), Bagasse ash (20% to 45%) and quarry dust (25% to 50%). The measurements of physical and mechanical properties show that plastic waste paver blocks and these proportion in plastic gives better results than concrete paver blocks. The compressive strength for plastic paver block cubes was determined as BIS and IRC standards. The usage of plastic waste and bagasse ash in manufacturing of paver blocks leads to lesser environmental hazards than conventional concrete, which leads to reduce the pollution and global warming. In addition, its shows the economical benefits in terms of construction and maintenance cost by replacing cement with bagasse ash in concrete paver blocks.

USE OF WASTE PLASTIC IN BITUMINOUS ROAD CONSTRUCTION

¹ Latha P, ²Shwetha M.K, ³Swathi S, ⁴Adarsh K, ⁵Reive Griffith James G,

¹Assistant Professor, ^{2 3 4 5} UG Scholar,

¹Department of Civil Engineering,

¹Maharaja institute of technology, Mysore, India

Abstract: Development The growing population and industrialization is leading to the increase in the waste plastics. Water bottles, containers, chocolate covers, packing strips, etc, are increasing day to day which leads to the increase of waste plastic. This waste plastics leads to various environmental pollution and air pollution. Dumping of it causes soil pollution that causes the soil to lose its fertility. Burning of it causes air pollution by emitting harmful gases to the atmosphere. The waste plastic can be used as a coating over aggregates and used in road construction. Now a days this technology is used in bituminous road construction and this method is economical, eco-friendly and enhance pavement performance. The experimentation at several institutes indicated that the waste plastic, when added to hot aggregate will form a fine coat of plastic over the aggregate and such aggregate, when mixed with the binder is found to give higher strength, higher resistance to water and better performance over a period of time. Use of plastic along with the bitumen in construction of roads not only increases its life span and smoothness but also makes it economically sound and environment friendly. Plastic waste which is used as modifier of bitumen to improve some of bitumen properties will also reduce the use of nonrenewable source that is bitumen to some extent. According to the studies carried out the use of waste plastic in bituminous mixes can reduce the need of bitumen by 10-15%. Plastic increases the melting point of bitumen and hence mixing can be done in an easierway.

Index Terms –Waste Plastic, Bitumen, Aggregates, Recycled coarse aggregates, Plastic-Bitumen- Aggregate Mix

To Locate the Critical Portion in Plan Symmetric and Plan Asymmetric Buildings Subjected to Seismic Force

¹B G Nareshkumar, ²Punith N, ³Madhuri S, ⁴Priyanka C

¹Professor, ²Assistant Professor, ³UG Student, ⁴UG Student

¹Civil Engineering Department,

¹MIT Mysore, Mandya, India

Abstract : Nowadays, seismic analysis of structures has a great scope in civil engineering field. In this work seismic analysis of structures with plan irregularities and with varying diaphragm is considered. In this work two structures are considered, those are L-shape and C-shape, all are with six stories, and up to eight models are taken two for membrane rigid and membrane semirigid and other two for shell rigid and shell semirigid for each structure. The paper mainly concentrates on parameters like bending moment and lateral displacement of the models. For analysis ETABS 2015 software is used and non-linear static method known as pushover analysis is used as method of seismic analysis.

Index Terms - Push over analysis, Plan irregularity, ETABS, Seismic behavior, Diaphragm rigidity

Study on Partial Replacement of Cement by Poultry Waste in Concrete

¹Prof.Punith N, ²A P Puneeth Raj, ³Vidhyashree A B, ⁴Vinay Kumar P J, ⁵Yashas P

¹Assistant Professor, ^{2,3,4,5}UG Scholar,

¹Department of Civil Engineering,

¹Maharaja institute of technology, Mysore, India

Abstract: Ordinary Portland cement the major construction material works out to be costly and causes environmental problem by emitting 5% to 8% of global CO₂. To overcome this problem utilization of agricultural and industrial waste which would not only be economical but may also results in foreign exchange earnings and environmental pollution control in India the concept of smart city is growing very fast as main emphasis is on green and sustainable development. Several researches and even Portland cement industry are investigating alternative to produce green buildings. Currently the attempt is to utilize the large amount of poultry waste, the waste from poultry form as supplementary replacement material. This poultry waste obtained by poultry forms is studied for pozzolonic property and their suitability as binders.

In this research, poultry waste is used in concrete since it has high silica content and other comparable cement constituents. Mechanical properties such as compression strength and split tensile strength of M20 grade concrete is tested for various percentages of poultry waste from 5%-10% by weight of cement and it is compared with the conventional concrete.

Index Terms – Poultry waste, Hardened property, Concrete technology.

EXPERIMENTAL STUDY ON BOND SHEAR STRENGTH OF BRICK MASONRY TRIPLET BY PARTIALLY REPLACING OF CEMENT BY BAGASSE ASH

1 Prof. Vinay Raj K, 2 Shubha R Shekhar, 3 Prajwal M, 4 Nisarga L, 5 Rakesh S

1 Assistant Professor, 2 3 4 5 UG Students,

1 Department of Civil Engineering, 1 Maharaja institute of technology, Mysore, India

Abstract:

Brick Masonry is a material built with brick units and mortar. Brick masonry is the most used masonry and it is a conventional type. Brick masonry is very good at taking compressive load but very weak in taking lateral loads. Masonry is a material built with brick units and mortar. Behaviour of masonry greatly depends on the characteristics of masonry units, mortar and the bond between them. Bond strength is dependent on many interrelated factors that can directly affect bond development or indirectly affect bond strength. The resistance of masonry to tensile or shear loads depends on the bond between mortar and masonry units. The bond between brick and mortar plays an important role in the ability of masonry to resist loads. One of the most important properties of mortar is bond strength, and it is critical that this bond be complete, strong, and durable. This paper presents an outcome of a study conducted on shear bond strength of masonry. It was also investigated to develop a possible relationship between shear and tensile bond strength. An experimental program was conducted to determine the impact of bond strength on compressive strength of masonry. Bond shear strength was determined by testing brick triplets and shear bond strength by testing triplets as recommended in relevant standards. Since the bagasse ash has the pozzolanic property it can be used as Cementitious material. The bond strength of masonry may increase by partially replacing of cement bagasse ash as compared to bond strength of conventional masonry. The deformation characteristics of individual brick and mortar can be determined and found to be different due to the composite action between the brick and mortar joint. The outcome of this research will have a higher benefit to the construction industry where masonry structures form a substantial portion.

Index Terms – Brick Masonry, pozzolanic, Triplet.

EXPERIMENTAL STUDY ON MECHANICAL PROPERTIES OF PAIN CEMENT CONCRETE REINFORCED WITH SISAL FIBRES

¹Prof.K.Vinay Raj, ²K.S.Pooja, ³D.S.Puneeth,⁴M.G.Harsha, ⁵M.D.Prajwal

¹Assistant Professor, ^{2,3,4,5}UG Scholar,

¹Department of Civil Engineering,

¹Maharaja institute of technology, Mysore, India

Abstract: Cement concrete lends itself to a variety of innovative design as it can be cast to any desired shape. It possesses many desirable properties like high compressive strength, stiffness, low thermal and electrical conductivity. But its characteristics such as weak in tension and brittleness at failure have limited its use for various applications. These limitations are overcome by placing steel bars in concrete, in regions where concrete is subjected to tension loading. Even though the concept of RCC has eliminated one of the major weaknesses of concrete (inability to resist tensile forces), it still falls short in many desirable properties like toughness, tension, ductility, controlling of cracking and energy absorption. In order to achieve all these properties, it is essential to distribute the reinforcement uniformly throughout the cross section. Such a way of reinforcing the brittle concrete matrix is possible by adding short fibers of small diameter.

In this research, sisal fibers are used in concrete since it has ultimate tensile strength and exceptionally durable in lower maintenance with minimal wear and tear. Mechanical properties such as compression strength and split tensile strength of M30 grade concrete is tested for various percentages of fibers from 0.3%, 0.6%, 0.9% and 1.2% by weight of cement and it is compared with the conventional concrete. Length of fibers is taken as 30mm obtained from literature survey.

Index Terms– Sisal fibers, Hardened property, Concrete technology.

EXPERIMENTAL STUDY ON PARTIAL REPLACEMENT OF COARSE AGGREGATES BY CERAMIC WASTE TILES IN CEMENT CONCRETE

¹Prof.K.Vinay Raj, ²Hasan Danish, ³Affah Mahmood, ⁴Shreya Ashok S., ⁵Krupa C.

¹Assistant Professor, ^{2,3,4,5}UG Scholar,

¹Department of Civil Engineering,

¹Maharaja institute of technology, Mysore, India

Abstract: Due to the day to day innovations and development in construction field, the use of natural aggregates is increased tremendously and at the same time, the production of solid wastes from the demolitions of constructions is also quite high. Because of these reasons the reuse of demolished constructional wastes like ceramic tile came into the picture to reduce the solid waste and to reduce the scarcity of natural aggregates for making concrete.

Experimental investigations like workability, Compressive strength test, Split tensile strength test, Flexural strength test for different percentages of waste crushed and after 7 and 28 days curing period has done. It has been observed that the workability increases with increase in the percentage of replacement of crushed tiles increases. The strength of concrete also increases with the ceramic coarse tile aggregate up to 20% percentage.

Index Terms–Crushed tiles, Compressive strength, Flexural strength, Split Tensile strength.

Artificial Recharge Structure For Periyapatna Taluk Of Karnataka State, India Using Geoinformatics

Dr. S. P. Madhu, Inchara.K¹, Divya.R², Rakshitha.J³, Sharath.H.P⁴

Department of Civil Engineering, Maharaja Institute Of Technology, Mandya-571477, India

Abstract

With the increasing use of groundwater for various activities the fast decline in groundwater takes place. In order to prevent the aquifer from fast depletion, the artificial recharge is resorted to. Keeping this in mind to avoid fast decline in groundwater levels in various parts of Periyapatna Taluk, Mysore District, Karnataka, a study has been undertaken to identify the favourable areas for artificial recharge and suggest suitable recharge structures to augment the aquifer system. The analysis was carried out using Remote Sensing data and GIS techniques. The various thematic maps such as Geomorphology, Geology, Soil, Slope, Land use, Drainage, Drainage density, Lineament density were used in the analysis. The maps were prepared using IRS-1C LISS III satellite data. Criterion tables were generated considering the importance of different themes and necessary ranks and weights were assigned to each theme. Using ARC/INFO GIS software, the above themes have been integrated and the areas suitable for artificial recharge have been identified. Various litho units such as Charnockites, granites and gneisses, schist's of Achaeans age were mapped. The study area is traversed by 3 sets of joints-trending in N-S, NE-SW and E-W direction. There are 4 sets of lineaments in the study area trending in NNE-SSW, NNW-SSE, NE-SW & E-W. Major geomorphic units delineated are Hills, Plateau, Piedmont zone, Plain, Reservoirs, River/stream and settlements. Different land forms under each geomorphic unit are also mapped. Conventionally, remote sensing, photo geological, hydrogeological and geophysical methods are deployed to select suitable sites for implementing artificial recharge scheme. Further, the effectiveness of recharge may be studied by monitoring the structures. Each lithological units and geomorphological landforms are mapped during limited field visits and digitized using Visual Image Interpretation (VIIT) and Digital Image Processing (DIP) on Satellite Remote Sensing data through GIS's software. The final results highlight the potentiality of GIS application in mapping of groundwater prospect zones and its periodic monitoring and exploration in Southern tip of Karnataka State. Considering the terrain conditions and favourable zonation, the suitable artificial recharge structures such as percolation pond, check dam, recharge pit, recharge shaft, contour trench, nalla bund, recharge tube wells and subsurface dyke were recommended. These recommendations were communicated to district administration for implementation.

Keywords: Artificial Recharge Structure; Periyapatna Taluk; AHP; Geoinformatics.

IDENTIFICATION OF VARIABLE SOURCE AREA

¹Prof. Aniruddha A M, ² Rakshitha C, ³ Sohini M, ⁴ Mahesh M, ⁵ Abhay Akshay A S

¹Assistant Professor, ^{2,3,4,5}UG Students,

¹Department of Civil Engineering, Maharaja Institute of technology, Mysore, India

Hydrology is one of the little tough areas in civil engineering to deal with. The intricacies involved in various hydrological processes make it a subject of interest to the researches. The long standing theories related to hydrology explain a lot of such processes and provide an insight to the field of hydrology. On the contrary, the field hydrological processes may follow or may not follow the theory; to check this is a challenge. The present work focuses on finding out the quick contributing areas to flow in a micro catchment. The famous hortonion overland flow theory has been checked by many hydrologists over the past few decades and found it inapplicable to forested mountainous catchments. This group has obtained data on rainfall and flow of three micro catchments in the Western Ghats region from the water resources centre of the national institute of engineering Mysore. It has tried to calculate the area of the catchment that contributes to flow in response to rainfall very quickly and thus the title identification of variable source area.

Key Words: Variable Source Area, Precipitation, Runoff, Event.

Verification of Water Budget Equation for A Small Catchment Created at MITM

¹Prof. Aniruddha A M, ² Meghana M., ³ Mahadeva Prasad P., ⁴ Ranjitha M. R., ⁵ Sandeep M., ⁶ Aishwarya Nayak L., ⁷ Dilima Domnic, ⁸ Rakesh M. P., ⁹Srilakshmi R.

¹Assistant Professor, ²³⁴⁵⁶⁷⁸⁹ UG Students,

Department of Civil Engineering, Maharaja Institute of technology, Mysore, India

About 60% of total agricultural land (142mha) in India is dependent on rainfall hence there is a need for quantified estimation of rainfall for proper usage of rain water. The project team decided to create a catchment model and to design a setup that would simulate rainfall that replicate the natural rainfall in the occurrence. The specific objectives are as follows (i) Creating a watershed model, (ii) Making arrangements for (a) Artificial rainfall simulation (b) Measurement of precipitation using simple rain gauge (c) Measurement of flow using V notch (d) Measurement of infiltration using peizometer (e) Measurement of evaporation (f) Checking water budget equation. The methodology followed was (a) creation of catchment model (b) Measurement of hydrological parameters (c) Creation of catchment model. The idea is to verify the water budget equation on the created catchment for the data collected through proper arrangements.

Key Words: Artificial Rainfall Simulation, Catchment, Water Budget Equation.

INDUSTRIAL IMPACT ON GROUND WATER FOR DRINKING PURPOSES IN KUSHALNAGAR INDUSTRIAL AREA OF KODUGU DISTRICT, KARNATAKA, INDIA USING GEOINFORMATICS

¹B.PRADEEP, ²C.TEJASWINI, ³G.K.VISHAL GOWDA, ⁴P.M.ANURAG, ⁵S.PREM KUMAR

¹Assistant Professor, ^{2,3,4,5} UG Scholar,

¹Department of Civil Engineering,

¹Maharaja institute of technology, Mysore, India

Abstract: In this project, the physicochemical analysis of various physico-chemical parameters of Ground water is carried out for assessment of ground water quality. Total of 10 samples were collected from 10 locations of kushalnagartaluk, kushalnagar industrial area. These 10 water samples were collected from sampling points whose connection was given to bore wells. Various physico-chemical parameters of groundwater tested were pH, alkalinity, sulphate, nitrate, total hardness, total dissolved solid, calcium, chloride, fluoride, magnesium, iron, electrical conductivity. For geo-referencing of study area, Topo sheet No 48P/15,48P/14 of scale 1:50000 of KUSHALNAGAR- [Latitude (North) 12.44° and Longitude (East) 75.97°] was used. The quality of groundwater is assessed in the study area based on water quality index model. The software such as Google Earth Pro and ArcGIS 10.5 were used for the generation of Study Area Map, spatial variation maps of various physico-chemical parameters of ground water quality map. The final results highlight the potentiality of GIS application in mapping of ground water prospect zones and its periodic monitoring and exploration in kushalnagar.

Index Terms –Physico-Chemical Analysis, Water Quality Index, Correlation, Lineament

IMPACT OF CHEMICAL EEFLUENTS OF GROUNDWATER AND SOIL IN PERIYAPATNA TALUK, MYSORE DISTRICT, KARNATAKA STATE, INDIA USING GEOINFORMATICS

¹B.PRADEEP,²S.M.DEEPTHI,³D.N.PRAJWAL,⁴P.S.SHREYAS,⁵H.U.VISHAL

¹Assistant Professor, ^{2,3,4,5} UG Scholar,

¹Department of Civil Engineering, ¹Maharaja institute of technology, Mysore, India

Abstract

In this project the physicochemical analysis of various parameters of soil and groundwater is carried out for assessment of ground water quality and soil quality. Total seven samples of groundwater and soil were collected from seven locations, Haranahalli, Panchavalli, Kundenahalli, Sulagodu, Dooddanerale, Kanagal, Kitturu, of Periyapatna Taluk. These seven samples were collected from sampling points whose connection was given to bore wells and from adjacent agricultural land. For geo-referencing of study area, toposheet no 48P/15, 48P/16, 57D2, 57D3, 57D4 of scale 1:50000 [latitude 12' 20" N and longitude 76' 06" E] was used. The software **Google Earth Pro** and **ArcGIS 10.5** were used for generation of study area map, spatial variation map of various physicochemical parameters of soil and groundwater.

Assorting Isolation Methods with Three Options for Biodiesel Production from Waste Cooking Oil

Somesh M U¹, Syed Mohammed Saqlain², Yashaswini K C³, Adarsh Shetty H N⁴ and Gangadhar L S⁵

Department of Civil Engineering, MIT Mysore, Karnataka– (KN) INDIA

Abstract--Biodiesel creation is deserving of preceded with the study and streamlining of generation strategies because of its earth advantageous qualities and its inexhaustible nature. From a waste-administration viewpoint, the creation of biodiesel from utilized cooking oil is ecologically useful since it gives a cleaner method for discarding these items than is ordinarily the situation. Biodiesel delivered by base-catalyzed trans-esterification of vegetable oil is generally performed in clump reactors where the required vitality is given by warming joined by mechanical blending. Utilizing this strategy, the best yield rate was acquired utilizing a methanol/oil molar proportion of 6:1, potassium hydroxide (1%), and 65°C temperature for 60 minutes. On the other hand, ultra-sonication can give a viable method to accomplish the required blending while at the same time giving the important enactment vitality. It was presumed that trans-esterification by low recurrence ultrasound (20 kHz) offered a lot of favorable circumstances over the ordinary established technique. It turned out to be effective (biodiesel yield up to 98-99%), just as time and vitality sparing (emotional decrease of response time to 5 min, contrasted with one hour or additionally utilizing ordinary clump reactor frameworks, and a surprising decrease in static detachment time to 25 min, contrasted with 8 hours). The third alternative examined was the utilization of microwave light. The use of radio recurrence microwave vitality offered a quick, simple course to this important biofuel with favorable circumstances of upgrading the response rate and improving the partition procedure. The approach took into consideration the utilization of high FFA content feedstock, including utilized cooking oil, subsequently diminishing the expense of creation, which establishes a noteworthy obstacle towards broad commercialization of biodiesel.

Keywords: Biodiesel, trans-esterification, enhancement, ultra-sonication, microwave.

PARTIAL REPLACEMENT OF CEMENT BY RICE HUSK ASH

¹SOMESH M U, ²ARPITHA A E, ³CHETANA T M, ⁴GURURAJ T S, ⁵THANMAI M R

¹Assistant Professor, ^{2,3,4,5} UG Scholar

¹Department of civil engineering,

¹Maharaja Institute Of Technology, Mysore, India

Abstract : Increase in the demand of conventional construction materials and the need for providing a sustainable growth in the construction field has prompted the designers and developers to opt for ‘alternative materials’ feasible for use in construction. For this objective, the use of industrial waste products and agricultural byproducts are very constructive. These industrial wastes and agricultural by products such as Fly Ash, Rice Husk Ash, Silica Fume, and Slag can be replaced instead of cement because of their pozzolanic behavior, which otherwise requires large tract of lands for dumping. In the present investigation, Rice Husk Ash has been used as an admixture to cement in concrete and its properties has been studied. An attempt was also done to examine the strength and workability parameters of concrete. For normal concrete, mix design is done based on Indian Standard (IS) method and taking this as reference, mix design has been made for replacement of Rice Husk Ash. Four different replacement levels namely 5%, 10%, 15% and 20% are selected and studied with respect to the replacement method.

RECYCLE AND REUSE OF WASTEWATER

¹Somesh M U, ²Lakshmikanth M S, ³Divya B, ⁴Shivaprasad D E, ⁵Vishwas H B

¹Assistant Professor, ^{2,3,4,5}UG Students,

¹Department of Civil Engineering, ¹Maharaja institute of technology, Mysore, India

Abstract: The membrane bioreactor (MBR) has emerged as an efficient compact technology for municipal and industrial wastewater treatment. MBR has emerged as an efficient compact technology for municipal and industrial wastewater treatment. A rice bran filter made of locally available materials was developed to treat wastewater. The applicability of this filter to MBR for wastewater treatment was examined in this study. Cylindrical-shaped filter was made with the combination of clay and rice bran and make it dough by mixing them. The filter was submerged in cylindrical column reactors. Wastewater was fed into the reactors continuously, and the effluent from the filter was obtained by gravitational pressure with different mixed liquor (ML) heights and BOD loads. Efficient activated sludge separation and high organic removal performance were obtained. Water characters and removal efficiencies were observed in the aeration and non-aeration zones. The obtained result was satisfactory and performed for up to few days of operation without clogging of the filter.

In this research, an attempt has been made to recycle and reuse of wastewater and study water quality parameters of water samples collected at canteen of Maharaja Institute of Technology Mysore. Parameter to assess water quality are Colour, taste, odour, total dissolved solids, pH, total hardness, to verify whether water is potable or not. Emphasized was given to compare experimental data with Bureau of Indian Standard (BIS) and WHO Standard.

Keywords – MBR, Clay, Rice Bran, Water parameters, Total dissolved solids, pH, BOD and COD, BIS standard.

STUDY ON EFFECT OF RECYCLED ASPHALT PAVEMENT ON RESILIENCE MODULUS OF SUBGRADE

¹Shankaregowda, ²Dr. C Ramakrishnegowda ³S Pavana , ³Bharath U Agadi,
³C G Adarsh Gowda, ³B M Harish Gowda

¹Assistant Professor, ²Professor, ³UG Students,

¹Department of Civil Engineering, ¹Maharaja Institute of Technology Mysore, Belavadi , Mandya

Abstract: Due to awareness to greener environment, use of recycled asphalt material has become popular in asphalt pavement industry. The use of recycled asphalt pavement (RAP) materials in sub-grade soil can be an additional scope of utilizing RAP. This study investigates the effect of RAP on the resilient modulus (M_R) of sub-grade soil mixed with RAP materials. Resilience Modulus is the ratio of deviator stress to the resilient strain. This paper presents the physical properties of subgrade soil and the recycled asphalt pavement. A series of percentage of RAP mixes with a selected subgrade soil evaluated through a series of laboratory tests including the Triaxial Test.

As a first step of the current study, sub-grade soil with moisture and different percentage of RAP and moisture were thoroughly mixed with soils. Then, the M_R of these RAP mixed soils were determined using the AASHTO T 307 (1999) at constant confining pressure in the laboratory. Result shows that the M_R of RAP mixed with soil increases. The M_R values and characteristics of the sub-grade soil and RAP mixed sub-grade soil, as determined by the current study, can be used for sub-grade design and stabilization using RAP for better pavement design.

Keywords: Reclaimed Asphalt Pavement (RAP), Resilience Modulus (M_R), Deviator Stress, Resilient Strain.

STUDY ON EFFECT OF RECLAIMED ASPHALT PAVEMENT ON PERMEABILITY OF SUBGRADE

1 Mr.Shankaregowda, 2 Dr.Ramakrishnegowda, 3 Kavana N, 3 Nithesh B N, 3 Rachana M, 3 Shashank P Gowda
1 Assistant Professor, 2 Professor, 3 UG Students
1 Department of Civil Engineering,
1 Maharaja Institute of Technology Mysore, Belavadi, Mandya

Abstract: The suitability as sub-grade soils with the aim to determine the geotechnical basis for the observed state of the highway pavement failure. The work was carried out in two major stages; field sampling and laboratory analysis. Field sampling involved the study of physical and geological settings of the area, sample collection which include description and preparation for laboratory tests. Laboratory analysis involved permeability test, grain size distribution analysis, consistency limit test, compaction test, linear shrinkage and clay mineralogical analysis. The results showed that all the sub-grade soils belong to group A-2-4 of the Highway Research Board classification system they are thus good to fair as subgrade materials. The stability of the pavement in stable locations is thus due to good drainage in the locations. Therefore, the practice of designing road pavement without adequate drainage system should be abolished to reduce or prevent contact between water and subgrade soils.

Key words –Permeability, Reclaimed Asphalt Pavement

SEISMIC PERFORMANCE OF SOFT STOREY AND VERTICAL GEOMETRIC IRREGULAR STRUCTURES

¹Bhavyashree B N, ²Ayyappa.C.A, ²Chandini.T.M, ²Dayananda murthy.C, ²Sahana.G.K

¹Assistant Professor,
¹Department of Civil Engineering,
¹Maharaja Institute of Technology Mysore, India

Abstract - Soft storey collapse is one of the reasons for failure of framed structures during an event of an earthquake. Such irregularities are highly undesirable in the buildings built in earthquake prone areas. In such buildings, the stiffness of the lateral load resisting systems at that storey is quite less compared to other storey's. In high rise building or multi storey building, soft storey construction is a typical feature because of urbanization and the space occupancy considerations. These provisions reduce the stiffness of the lateral load resisting system and a progressive collapse becomes unavoidable in a severe earthquake for such buildings due to soft storey. This storey level containing the concrete columns which were unable to provide adequate shear resistance, hence damage and collapse are most often observed in soft story buildings during the earthquake. In the current study the focus is on the investigation of the effect of a soft storey and vertical geometrical irregularity on the masonry infill structure. In a vertically irregular structure, failure of structure starts at a points of weakness. This weakness arises due to discontinuity in mass, stiffness and geometry of structure. The structures having this discontinuity are termed as Irregular structures. . For example structures with soft storey were the most notable structures which collapsed. So, the effect of vertically irregularities in the seismic performance of structures becomes really important. Height-wise changes in stiffness and mass render the dynamic characteristics of these buildings different from the regular building. For the present study ETABS software is used for modeling and analysis of structural members.

Keywords - RC frames, Soft storey, ETABS, Vertical geometrical irregularity.

SEISMIC BEHAVIOR OF RC FRAMED STRUCTURE WITH HORIZONTAL IRREGULARITY

¹Bhavyashree B N, ²Dhanyashree A S, ³Akash R, ⁴Premsai S R, ⁵ Ashok M

¹Assistant Professor, ²³⁴⁵UG Scholar

¹Department of Civil Engineering,

¹Maharaja Institute of Technology Mysore, India

ABSTRACT: Nowadays building with irregular configuration is more prone to seismic action. Previous earthquake experiences have demonstrated that buildings with plan irregularity suffer significant damages. Hence it is necessary to identify the performance of the structure to withstand against disaster for both new and existing one. The present paper made an attempt to study the vulnerability of re-entrant corners in a building. Variety of cases of re-entrant corners has been considered for the parametric study. In this regard, different shapes of building of five storey heights have been considered and analysed using equivalent static method. In order to understand the performance, this model has been compared with a rectangular building.

Key words: seismic, re-entrant corners, equivalent static method, bracing etc

REPAIR OF POTHOLES USING COLD MIX ASPHALT

¹Chandrashekar Gowda K.N, ²Manjunatha A.R, ³Suhas C, ⁴Tejas J.

¹Assistant Professor, ^{2 3 4} UG Scholar,

¹Department of Civil Engineering,

¹Maharaja institute of technology, Mysore, India

Abstract: Taking note of almost 3,600 deaths reported last year alone due to potholes on roads across the country, the supreme court said it was "unfortunate" that some states were disputing the data .development of potholes on roads and streets of india after the onset of monsoons is a common phenomenon.quite often, potholes are repaired with antiquated techniques such as placing soil or bare aggregate in the pothole because no hot mix asphalt is available during monsoons..

In this research, An economical, generic, readymade stockpile cold patching mix has been proposed, which is manufactured in a batch type hot mix plant using local aggregates also this mix does not require any preparation of the pothole such as squaring and applying tack coat; the mix is simply taken out of the 50-kg bag, leveled with a rake, hit with a hand rammer by ordinary laborer (no roller), some light sand or grass/leaves is sprinkled on surface to prevent pick up by vehicle tyres, and opened to traffic right away. If there is water in the pothole, simply sweep off the extra water. The patch will outlast the adjacent road area. The mix has a storage life of at least 6 months, so it can be prepared in advance and used as needed to repair potholes as soon as they develop throughout the year.

Index Terms – Pothole, Readymade Stockpile Cold Patching Mix, Hot Mix Asphalt.

PREPARATION OF CONCRETE BLOCKS USING CONSTRUCTION AND DEMOLITION WASTE

¹Prof.Chandrashekar Gowda K N, ²Sachin, ³T.N.Kusuma, ⁴K.S.Chethan, ⁵G.Abhishek Gowda

¹Assistant Professor, ^{2,3,4,5}UG Scholar,

¹Department of Civil Engineering,

¹Maharaja institute of technology, Mysore, India

Abstract:

Conservation of natural resources and preservation of environment is the essence of any development. The problem arising from continuous technological and industrial development is the disposal of waste material. If some of the waste materials are found suitable in concrete making, not only cost of construction can be cut down, but also safe disposal of waste materials can be achieved.

Recycled aggregates will be evaluated towards a worthy alternative for natural aggregates. Therefore suitable applications with added value should be found for these kind of recycled aggregates that usually end up in low grade applications. This project discusses the potential use of construction and demolition waste in stabilized concrete blocks for masonry work as aggregate's replacement for virgin aggregates. The project is aimed to achieve a waste-to-product approach, thus contributing to close the loop of material use. The goal is that it is possible to produce concrete blocks with a high percentage of recycled mixed construction and demolition waste.

Index Terms – Recycled aggregates, Stabilized concrete blocks, Construction demolition waste.

PARTIAL REPLACEMENT OF RICE HUSK ASH IN BRICK

¹Prof.ASHOK KUMAR J C, ²Manjunath B, ³Mahesh , ⁴Vinay, ⁵Tejaswini DM

¹Assistant Professor, ²³⁴⁵UG Scholar,

¹Department of Civil Engineering,

¹Maharaja institute of technology Mysore, India

Abstract:-Reuse of waste generated from industrial and agricultural activities as building materials appears to be viable solution to problem of pollution and waste disposal. In India it has been estimated that nearly 30% of the daily production turns on waste during the manufacturing, transportation and usage. From decades burnt clay bricks have been used in the building construction and it helps to reduce the energy consumption of buildings due to its excellent thermal insulation property. As a result of this, there is still an existing demand for clay bricks and huge quantity of soil is being exploited for its production. Wide use of ceramic tiles, marbles, etc. results in the production of huge quantity of ceramic powder, marble dust which are found to be difficult for disposal. Also rice milling industries generates rice husk ash which is also considered as a waste product. This study focuses on the investigation of properties of clay brick produced by the partial replacement of the clay with rice husk ash(RHA), in varying percentages of 0%, 5%, 10% and 15%. Properties such as compressive strength, water absorption, initial rate of absorption, efflorescence, bulk density and apparent porosity of modified clay bricks are determined.

Key Words: Reuse, waste materials, Brick properties, Industrial waste, Environmental pollution

Assessment of Water quality Index in Giribetta lake, Mysore

¹Achyuth K.N, ²Deekshith.M, ³Kruthika Raj.R, ⁴Sampath Kumar S, ⁵Nandan N

¹Assistant Professor, ^{2,3,4,5}UG Scholar,

¹Department of Civil Engineering,

¹Maharaja institute of technology, Mysore, India

Abstract: Water quality index is essential tool for determining the quality of surface and sub surface water bodies upon which decision making process helps in designating the class of usage of water for different purpose. The study conducted on determining water quality assessment of selected physico-chemical parameters in Giribetta lake at various sampling points on by monthly basis reveals that the water quality index is poor mainly due to the presence of organic matter (BOD) and nitrate caused due to the deposition of pollutants from the nearby sources into the lakes, Thereby degrading overall water quality status of the lake intended mainly for usage of the irrigation purpose. Hence there is a need of concern for in depth studies in determining the other contaminants in lake. Hence there is a scope of rejuvenation of the lake.

Keywords: WQI, Physico-chemical parameters, Giribetta Lake.

A STUDY ON WATER QUALITY ABATEMENT OF KUKKARAHALLI LAKE

¹Prof.Achyuth K.N, ²Ranjana.P, ³Kubera C, ⁴Ramesh V

¹Assistant Professor, ^{2 3 4} UG Scholars

¹Department of Civil Engineering, ¹Maharaja Institute of Technology, Mysuru, India

Abstract: Wastewater treatment is a need of concern for wastewater quality management due to the rapid urbanization .Without proper management it is difficult to obtain a hygienic and good environment around us but in recent days wastewater are allowed to waterbodies ,and water let into lakes are often neglected and not treated properly, as a result the aquatic life and the properties of lakes are affected. The study and design of wastewater and treatment involves onsite investigation of the kukkarahalli lake and the future scope of adaptation of treatment plant was notified.

The wastewater was collected and subjected for water quality analysis. Based on the Physico-chemical characteristics of the wastewater, Decentralized Wastewater treatment Units were designed and this type of treatment if implemented plays an essential role in improving wastewater properties and quality and this can be utilized for secondary purposes and thereby helps in the abatement and control of pollution in the lake and helps in restoration of lake.

Index terms – Kukkarahalli Lake, Water Quality Analysis, DEWATS system.

ANALYSIS OF ANCHORED GEOGRID REINFORCED SLOPE BY PLAXIS.

Asst. Prof .Ashwini.D, Mohammed Yunus Rehman, Sujeeth .P, Varshitha.L, Amrutha.S

Department of Civil Engineering, MIT College of Engineering , Mandya, India

ABSTRACT: In the earlier times, the problematic sites were usually ignored as there were abundant areas consisting of good quality soil. But now a days, rapid urbanization and industrialization are urging people to make use of these problematic sites. Laterite soils have the characteristics of losing its shear strength with time and are highly erosive. Excavated slopes in such lateritic formations pose serious erosion and slope stability problems, especially due to seepage pressure from stagnated water at top. This study is basically conducted to analyze slopes- both failed slopes and existing slopes. Study of slope failures or investigation of recent landslides will be conducted, and the causes of failure and remedial measures which could have been taken will be suggested. Similarly, stability check for existing slopes will be done computed using Plaxis (2D).

Key words: Slope, Seepage, Slope failure.

SLOPE STABILITY ANALYSIS BY GEOGRIDS USING PLAXIS

Varun S¹, Chirag M², Praveen Kumar S², Sowndaryagowda S. R², Varshitha M²

¹Assistant Professor and ²Student,

Department of Civil Engineering, Maharaja institute of Technology, Mysore

Abstract: In the earlier times, the problematic sites were usually ignored as there were abundant areas consisting of good quality soil. But now a days, rapid urbanization and industrialization are urging people to make use of these problematic sites. This study is basically conducted to analyse failed slopes and increase its stability and factor of safety by using geogrid. Study of slope failures or investigation of recent landslides will be conducted, and the causes of failure and remedial measures which could have been taken will be suggested. Similarly, stability check for existing slopes will be done and then factor of safety and failure slip circle will be computed using plaxis software.

KEY WORDS: Slopes, Factor of safety, geogrids, plaxis
