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| S. No | | | Page No. |
|---|---|---|---|
| 1. | **Authors:** | **Amit R. Nishad, Rahul R. Patle, Ariba K. Hamidi, Mangesh Urade** | |
| | **Paper Title:** | **Application of Sugarcane Bagasse Ash as Replacement of Cement Specifying Various Properties of Concrete** | |

**Abstract:** Sugarcane bagasse ash is a by-product of sugar factories found after burning of sugarcane bagasse which itself is an extracted material. India alone generates approximately 90 million of bagasse as a solid waste from the sugarcane industry every year. The disposal of this material is already causing environmental problems around due to unavailability of sufficient land for disposal. About 3 tones out of 10 tones sugarcane crushed is the ash obtain after burning. This accumulation of waste is not only causing problem for disposal but also affect the environment adversely. It becomes necessary to find the solution for disposal of sugarcane bagasse ash. In this paper bagasse ash sample was collected from Purti Power plant (Bela) which was sieved through 125 micron IS sieve size. Ordinary Portland Cement was replaced by the bagasse ash sample in the percentage of 0%, 10%, 20% and 30% for M25 mix. The properties of concrete such as workability i.e. slump cone and compaction factor test, compressive strength along with the test on bagasse ash individually such as moisture content, volatile matter, carbon content, consistency test, initial and final setting time were tested. The cubes casted for compressive strength result were tested for 7 days, 14 days as well 28 days of tank curing. The outcomes in the test signifies that it will be beneficial to use the sugarcane bagasse ash as a replacing material of cement up to 20% of its replacement.

**Keywords:** Bagasse Ash, Compressive Strength, Replacement of Cement, Properties of Concrete, Ordinary Portland Cement

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2. Piyush Kumar and Anil Pratab Singh, "Light Weight Cement-Sand and Bagasse Ash Bricks", "International Journal for Innovative Research in Science & Technology| Volume 1 | Issue 12 | May 2015 ISSN (online): 2349-6010
3. Sagar Dhengare, Dr. S. P.Raut, N.V. Bandwal, Anand Khangan "Investigation into Utilization of Sugarcane Bagasse Ash as Supplementary Cementitious Material in Concrete", International Journal of Emerging Engineering Research and Technology, Volume 3, Issue 4, (April 2015).
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1-5

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| 2. | **Authors:** | **Ariba K. Hamidi, Amit R. Nishad, Rahul R. Patle** | |
| | **Paper Title:** | **Study on Compressive Properties of Partial Replacement of Cement in Mortar by Sugarcane Bagasse Ash** | |

**Abstract:** As the increase in demand for construction material goes on increase, it becomes difficult to fulfill such amount of supply of construction materials also causing increase in their rate respectively. To overcome such a problem the main focus of researchers is to utilizing industrial or agricultural waste materials as a raw material which replaces the quantity of cement. Utilization of these wastes will not only be economical but also results in environmental pollution control. Some of the industrial waste materials are blast furnace slag, fly ash and silica fume which are being used as supplementary cementing materials. On the other hand, Sugar cane bagasse ash is a fibrous waste product of the sugar industry. This waste product is already causing serious environmental pollution, which results in urgent solution of disposal. Here bagasse ash is mainly contains aluminum ion and silica which can be used as an alternative binding material. In this research paper the bagasse ash powder used is obtained from Purti Power plant (Bela) and sieved through 90 micron IS sieve size. Bagasse ash is partially replaced with ordinary Portland cement in the ratio of 0%, 5%, 10%, 15%, 20% and 25% by weight in mortar. The properties of fresh mortar like compressive strength are determined after 7 days, 14 days and 28 days for M10¬ mix. It has been found that the replacement of cement by sugarcane bagasse ash can be effectively utilized for the purposed like plastering, filling the space between bricks, footway, etc.

**Keywords:** Bagasse Ash, Compressive Strength, Replacement of Cement, Mortar, Ordinary Portland Cement

**References:**

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1. Shrinivasan and K. Sathiya "Experimental Study on Bagasse Ash in Concrete", International Journal for Service Learning in Engineering, Vol. 5, No. 2, pp. 60-66, Fall, ISSN 1555-9033, (2010).

6-9

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2. IS 383 -1970 “Specifications for Coarse and Fine Aggregates from Natural Sources for Concrete”, Bureau of Indian Standards, New Delhi.

**3.**

**Authors:** **Mishal Raj, Prity Satbhaya, Prachir Chauhan, Lalitha Devi**

**Paper Title:** **Controlling a Vehicle Remotely with Voice Acknowledgement using GSM Network**

**Abstract:** This venture shows the specialized development of an independent vehicle controlled by GSM correspondence arrange. The planned GSM based sun oriented fueled vehicle could be worked from anyplace under GSM arrange which is controlled by sun oriented vitality utilizing 5 watt photograph voltaic (PV) board, put away into three comparable 4V rechargeable batteries. And the activity initiates when a call created from a PDA which is auto gotten by the other telephone stalked in the vehicle engine driver. Over a span of the call, if a catch such as two, four, six or eight, is squeezed a tone comparing to the catch squeezed is then heard at the opposite end of the transmission which is called Dual Tone Multiple Frequency (DTMF) tone. The got DTMF tone in the wireless at the vehicles end is handled through an arrangement of transfers. These handed-off signs are then sent to the engine driver IC (L293D) that drives engine forward, invert, right or left. In particular as the auto will keep running by sun based vitality, so the vehicle can be go to a long distance not agonizing over the charge of the battery, since it collects the more prominent part of the vitality required from the outside PV board that assimilates and changes over daylight to produce the driving force, however there will be DC battery as a reinforcement.

**Keywords:** GSM, DC Battery, IC (L293D), (DTMF), (PV) Board,

**10-12**

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**4.**

**Authors:** **Ashutosh Jain, Sunita Jana, Sneha Shiju, Tejas Kumar**

**Paper Title:** **Study of Tesla Turbine**

**Abstract:** This record shortens a bladeless turbine arranged by Nikola Tesla. In the first place this improvement, which can in like manner be used as a pump, is generally depicted. By then we consider a logical model of Tesla turbine. Conditions speaking to fluid stream in this model are modified, however are still non-straight. To disentangle them deductively, we dismiss non-straight terms. By then we survey the numerical response for previously streamlined non-straight conditions. Finally, changes of special framework are shown and their possible use. Examination of this sort of stream issue is a key segment in the perfect arrangement of Tesla drag-type turbines for geothermal, waste warm, essentialness social affair, or daylight based elective imperativeness applications. In various plate turbines, quick stream enters digressively at the outer scope of round and empty scaled down scale channels confined by solidly separated parallel circles, spiraling through the channel to an exhaust at a little traverse or at the point of convergence of the plate. Past examinations have generally made models in perspective of streamlining admirations of the stream in these conditions. Change of rotor drag in this kind of turbine updates essentialness change profitability. Show desires exhibit that overhaul of plate drag by crucial scaled down scale sorting out of the circle surfaces can in a general sense fabricate turbine profitability. Exploratory calculations with the model demonstrate that turbine efficiencies outperforming 75% can be proficient by getting ready for perfect extents of the managing dimensionless parameters. The same parametric examples in execution are stood out from test data for a scaled down scale A Computational Fluid Dynamics (CFD) exhibit is then appeared differently in relation to both the investigative and exploratory turbine efficiencies.

**Keywords:** (CFD), Tesla Drag-Type Turbines for Geothermal, Waste Warm,

**13-15**

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