



# LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING

(AUTONOMOUS)

Accredited by NAAC & NBA (CSE, IT, ECE, EEE & ME)

Approved by AICTE, New Delhi and Affiliated to JNTUK, Kakinada

L.B.Reddy Nagar, Mylavaram-521230, Krishna Dist, Andhra Pradesh, India

## DEPARTMENT OF CIVIL ENGINEERING

### A GUEST LECTURE ON

“GGBS for Strong, Durable, Sustainable and Green Concrete Construction”

Event Type	Guest lecture
Date / Duration	27.11.2023
Resource Person	Mr.K.Raghava hari Narayana, Area Sales Manager- Andhra Pradesh,JSW Cement Ltd
Name of the Coordinator	Sri. M.Karthik Kumar, Assistant Professor
Target Audience	B Tech Civil 3 <sup>rd</sup> year students
Total no of Participants	66
Objective of the event	To bring awareness to students about the GGBS and their application of usage.
Outcome of event	This program is helpful for the students to understand the role of GGBS in green concrete construction.
Feedback / Suggestions	<ul style="list-style-type: none"><li>Realized importance of the subject in present day context</li></ul>

### Photographs



Mr.K.Raghava hari Narayana, Area Sales Manager JSW Cement Ltd, A.P Delivering the Guest Lecture on “GGBS for Strong, Durable, Sustainable and Green Concrete Construction”



Dr.J.Venkateswara rao, Professor and Head, Department of Civil Engineering, LBRCE addressing the Students



Session of Students



Certificate distribution to the students



Dr.V.Ramakrishna speaking to the students about program



Felicitation to the Dr.J.Venkateswara Rao ,Professor in Civil Engineering Head of Department by Mr.K.Raghava hari Narayana



Felicitation to the Dr.V.Ramakrishna ,Professor in Civil Engineering Department by Mr.K.Raghava hari Narayana



Felicitation to the Sri. K.Raghava hari Narayana, JSW cement ltd, A.P. by HOD Civil





Plantation in Department

## REPORT

The Department of Civil Engineering of Lakireddy Bali Reddy College of Engineering has organized a Guest Lecture on “GGBS for Strong, Durable, Sustainable and Green Concrete Construction” for Varadhi Club on 27<sup>th</sup> Nov, 2023.

The objective of the program is to create awareness to the 3<sup>rd</sup> year B. Tech Civil Engineering students.

1. To determine experimentally the consistency, initial setting time and final setting time of geopolymer pastes.
2. With the varying percentages of FA (Fly ash) and Ground Granulated Blast Furnace Slag (GGBS).
3. To study the influence of the varying percentages of FA.
4. To study the effect of alkali activator on the standard.
5. GGBS on the fresh properties of geopolymer pastes.
6. To study the fresh state properties and check its compliance consistency and setting times of geopolymer paste.

GGBS is obtained from iron manufacturing industries, when Silicate and aluminates impurities from ore and coke are combined with flux lowered the viscosity of slag. Molten iron is then tapped off, the remaining molten slag, which consists of mainly siliceous and aluminous residue, is then water-quenched rapidly below 800°C in order to prevent the crystallization of marinate and melilite, resulting in the formation of a glassy granulate. This glassy granulate is then dried and grounded into fine powder, which is known as ground granulated blast furnace slag (GGBS).

- Slump value of concrete increases as the percentage of GGBS increases up to 50% replacement and then decreases. The increase in slump value is due to the higher smoothness and fineness of slag increases the entrainment of air in the matrix, subsequently increasing the volume of paste.
- Water absorption of concrete decreases as the percentage of GGBS increases, it is concluded that the GGBS can be used to improve the water impermeability characteristics of structure. Hence the corrosion of reinforcement may be retarded & durability of R.C.C. structure may be increased.
- Use of GGBS in concrete saves money up to 40.82% over the conventional cement concrete. This is a significant saving of money. Hence GGBS concrete is more economical.

Mr.K.Raghava hari Narayana, Regional Head - Area Sales Manager- Andhra Pradesh, JSW Cement Ltd acted as the Resource person in the programme explained the basis of the topic with several illustrations and practical examples.

A total of 66 students from III B.Tech. Civil Engineering and faculty members from the civil engineering department participated in the Guest Lecture. Students interacted with the resource persons and have enjoyed the sessions. This program is helpful for the students to understand the details of GGBS for Strong, Durable, Sustainable and Green Concrete Construction. The resource persons were felicitated by Dr.J.Venkateswara Rao, Professor and Head, Department of Civil Engineering and also Dr.V.Ramakrishna, Professor,LBRCE in this regard.