# Civil Info

*Civil Engineering*
*News Letter Volume-II Issue-II*
*Oct- Jan (2015-2016)*


## *A view to remember*

*Class Work starts on 20.07.2015 onwards for Second and for Third students from 29.06.2015.*
*Class Work for final year students has started on 13.07.2015.*


*Editorial & Design Team:*

Faculty:

Ms.K.P.Manjusha,

*Students:*

S. Venkata Ranganadha

*Contact:*

diet.cehod@gmail.com


*"One man's "magic" is another man's engineering. "Supernatural" is a null word."*

**The quasi-static explicit finite element method (FEM) and element free Galerkin (EFG) method are applied to trace the post-buckling equilibrium path of thin-walled members in this paper. The factors that primarily control the explicit buckling solutions, such as the computation time, loading function and dynamic relaxation, are investigated and suggested for the buckling analysis of thin-walled members. Three examples of different buckling modes, namely snap-through, overall and local buckling, are studied based on the implicit FEM, quasi-static explicit FEM and EFG method via the commercial software LS-DYNA. The convergence rate and accuracy of the explicit methods are compared with the conventional implicit arc-length method. It is drawn that EFG quasi-static explicit buckling analysis presents the same accurate results as implicit finite element solution, but is without convergence problem and of less-consumption of computing time than FEM.**

***List of Toppers:***

| Batch | Year/Sem | Name of topper | % |
|---|---|---|---|
| 2012-2016 | IV-I | 1. K.RASAGNYA (128T1A0137)<br>2. J.TEJESH (128T1A0151) | 86.67<br>85.2 |
| 2013-2017 | III-I | 1. V.VISHU PRIYA (138T1A0189)<br>2. M.SAI VARALAKSHMI (138T1A0184) | 87.1<br>81.34 |
| 2014-2018 | II-I | 1. V.SRI SAI MEGHANA (148T1A01189)<br>2. V.RUPA SREE (158T5A0118) | 88.4<br>88.4 |

. K.RASAGNYA

J.TEJESH

V.VISHU PRIYA

M.SAI VARALAKSHMI

V.SRI SAI MEGHANA

V.RUPA SREE



## *Seminar on*

### *Cement Stabilized Flyash Cushion in Expansive Soils*

On 04.01.2016 a seminar on "Cement Stabilized Flyash Cushion in Expansive Soils" given by M. Rama Rao, Professor & HoD, RVR & JC College of Engineering, Guntur, in Auditorium, Dhanekula Institute of Engineering and Technology.

Expansive clays swell and shrink seasonally when subjected to changes in the moisture regime causing substantial distress to the structures built in them. Techniques like sand cushion and cohesive non-swelling soil (CNS) layer have been tried to arrest heave and consequent damages to structures.

Sand cushion has been proved to be counter-productive. Studies have indicated that even though CNS layer was effective initially, it became less effective after the first cycle of swelling and shrinkage. Research carried out by the authors, using cement-stabilized fly ash as a cushioning material, has shown that it was quite effective in arresting heave.

Fly ash cushion, stabilized with 10% cement with thickness equal to that of the expansive soil bed reduces heave by about 75% in the first instance. With subsequent swell-shrink cycles, the performance further improves, unlike in the case of a black cotton soil provided with a CNS cushion. At the end of fourth cycle of swelling, the reduction in the amount of heave is as high as 99.1%.

*Dhanekula Institute of Engineering and Technology*