



DEPARTMENT OF CIVIL ENGINEERING
ACADEMIC YEAR 2020-2021/EVEN
INTERNAL STAFF SEMINAR – REPORT

11/02/2021

Background & Objective

Department of Civil Engineering had organized an Internal Seminar for the Department staff members for accessing online journals (MAT). The purpose of this seminar is to equip the faculty in new techniques through accessing online journals.

Seminar Session

A Seminar was held in the Department of Civil Engineering on 11th February, 2021 at 11:30AM. The seminar was presided over by **Ms.R.Revathi, HoD**, Department of Civil Engineering **Mr.K.Ranjith /AP** delivered his seminar talk on "**Analysis of plain Concrete pavement in ANSYS and "Analysis of compressive strength of concrete using different Sulphonated Naphthalene Polymer based admixtures"**."



Seminar talk by Mr.K.Ranjith /AP

The themes discussed were: ANSYS, Super plasticizers, ready mix concrete, pre-stressed concrete.. pumped Concrete Sulfonated Naphthalene Polymer base.

The significant points of the paper:

- From the paper it is very clear that the finite element modeling for concrete pavement is very essential. ANSYS 11.0 is very good tool and the results obtained are the contours of stress, strain and forces.
- The deformed shapes are also visible. The stresses and strains in terms of different colors are also visible.
- The test of compressive strength of concrete for SNP (Master Rheobuild 623) shows that, as the water cement ratio increases the strength of the concrete declines.
- Using this super plasticizer in concrete, the highest values are obtained for the lowest water cement ratio and this is about 4200 psi.
- The same thing is also happened for SNP (Con-Lub) and SNP (Master Rheobuild 1100) that when the water cement ratio increases the strength of concrete decreases.
- The highest value of compressive stress for SNP (Con-Lub) is obtained at 28 days for 0.30 w/c ratio is closer to 4400 psi and for SNP (Master Rheobuild 1100) the highest value is obtained at 28 days for 0.30 w/c ratio is closer to 4400 psi.

Outcome

The Seminar highlighted the new method to solve complex elasticity and structural analysis problems in civil and aeronautical engineering. The finite element method is a numerical procedure that can be applied to obtain approximate solutions to a variety of problems in engineering. There are many ways to reduce permeability of concrete. The most economical way is reducing the water / cement ratio. The results have shown substantial improvement in the properties of concrete after use of the admixtures. Finally, discussions were made among faculties on advanced techniques in ANSYS. Staff members shared their views in ANSYS software and shared their suggestions.