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ANALYSIS OF MULTISTORY BUILDING WITH GRID SLAB USING E-TAB'S SOFTWARE

K Sravan[1], Jakinalapally Naresh[2], Keetha Naveen[3], Shiva Sai[4], Sai Kumar[5]

[1,3,4,5] Graduat Student, Department of CE, Vignan Institute of Technology and Science, Hyderabad,

[2]Assistant Professor, Department of CE, Vignan Institute of Technology and Science, Hyderabad,

ABSTRACT:

Grid floor systems consisting of beams spaced at regular intervals is perpendicular directions, monolithic with slab. They are generally employed for architectural reason for large rams such as auditorium, vestibules, theatre halls, show rooms of chops where column fee space fer the main requirement. The rectangular or square void finned in the ceiling is advantageously utilized for concealed architectural lighting. The sores of the beams running in perpendicular directions are generally kept the same load of rectangular beam grid, a diagonal s the present problem G-5 Building is consider and analysis and design done for both Gravity and lateral (earth quake and wind) loads. And this is compared with the flat slab. The cost of each stab is estimated and interaction curves are developed. From this study, it can be concluded that the con of the grid floor would be minimum if minimum thickness of slab, minimum width of ribs and maximum spacing of ribs is adopted. Further, for the typical case considered, the approximate method of Rankine-Gras Hoff theory underestimates the moments by around 20%

The parameters considered in this study are span to depth ratio, spacing of transverse beams, thickness of web and thickness of flange. The magnitude of span to depth ratio considered is 1610 60. The spacing of transverse beams is varied from 0.5m to 20 m. Thickness of slab and the rib are made constant and are equal to 0.1m and 0.15m respectively. The bending moment, the shear force and the mid span deflection developed in grid floor beams have been predicted by conventional and numerical methods and the results are compared. The results of the study give an insight to the range for the magnitude of the various parameters to be considered for the optimum performance of grid floors.

Key Words: *Grid slab, flat slab, Rankine-Gras Hoff theory, E-Tabs's*