A peer reviewed journal

SEISMIC BEHAVIOUR OF RC BUILDINGS IN SLOPING GROUND

Er. Prakash Regmi*; Prof. Dr. Govind Prasad Lamichhane**

*Graduate School of Engineering, Mid West University Surkhet, NEPAL Email id: prakashregmi668@gmail.com

**School of Engineering, Pokhara University Kaski, NEPAL Email id: govindkhec@gmail.com

DOI: 10.5958/2278-4853.2023.00041.1

ABSTRACT

This thesis is the study of seismic behavior of RC building in hilly areas i.e sloping grounds. The study of dynamic response of structure on hilly areas has been done. Two combo building (half of building lies in sloping ground anf half portion lies on plain ground) are considered for analysis on sloping ground of uneven slope without changing existing ground profile with considering and without considering shear wall. All considered configuration of building is modeled using ETABS v20.0.0 and IS 1893:2016 and analysed by using equivalent static analysis and response spectrum methods. Then considered buildings has been compared in terms of base shear, Fundamental time period and top storey displacement, Storey stiffness, Storey drift and overturning moments.

KEYWORDS: Combo Building, Storey Displacement, Storey Drift, Storey Stiffness, Overturning Moments.

REFERENCES

- 1. A. S. Swathi, G.V. Rama Rao, R. A. B. D. (2015). Seismic performance of buildings resting on sloping ground. *Advances in Structural Engineering: Dynamics, Volume Two*, 803–813..
- **2.** Birajdar, B. G., & Nalawade, S. S. (2016). Seismic Analysis of Buildings Resting on Sloping Ground. 1–31.
- **3.** Dangol, A., & Motra, G. B. (2021). Seismic Response of Buildings Resting on Hill Slope. *Proceedings of 10th IOE Graduate Conference*, *10*, 115–122.
- **4.** Kumar, S., Garg, V., & Sharma, A. (2014). Effect of Sloping Ground on Structural Performance of Rcc Building Under Seismic Load. *International Journal of Science, Engineering and Technology*, 2(6), 1310–1321.
- **5.** Prasad, R. V. (2014). Seismic analysis of building with shear wall on sloping ground. *International Journal of Civil and Structural Engineering Research*, 2(2), 53–60.
- **6.** BIS, I. (2016). Criteria for Earthquake Resistant Design of Structures Part 1 General provisions and Buildings. *Bureau of Indian Standards, Fifth revision*.