

# Design Parameters of Transformer

**Chinmayi Satish Thakare**

Final Year B.E. Electrical Engineering

Jawaharlal Darda of Engineering and Technology, Yavatmal, Maharashtra, India

cthakare002019@gmail.com

**Abstract:** Transformers are used to change ac voltage levels, as well as to provide galvanic isolation between circuits. Single and three phase transformers are extensively employed in the world's power distribution system. This chapter considers the design of single phase power transformers. It reviews the classic transformer equivalent circuit and also considers its use in steady state phase or analysis. The chapter focuses on single phase transformers. Single phase transformers are often classified as being either core type or shell type. The chapter discusses transformer performance considerations such as the calculation of transformer parameters, regulation, magnetizing current, operating point analysis, and inrush current, all in general terms. It also focuses on one specific class of transformer, develop an Magnetic Equivalent Circuit, and ultimately a design approach. Core loss is a significant contributor to overall transformer loss and dominates no load losses.

**Keywords:** Road hypnosis, Driver behavior, Safety warning, Monotonous city effect.

## REFERENCES

- [1]. Lowdon, E., Practical Transformer Design Handbook, McGraw-Hill, Inc., 2nd edition, 1989.
- [2]. McLyman, W.T., Transformer and Inductor Design Handbook, Dekker, New York, USA, 3rd edition, 2004.
- [3]. Rubaai, A., "Computer aided instruction of power transformer design in the undergraduate power engineering class", IEEE Trans. on Power Systems, Aug 94, v. 9, No. 3, pp. 1174-1181.
- [4]. H.L. Garbarino, "Some properties of the optimum power transformer design," Power Apparatus and Systems, Part III. Transactions of the American Institute of Electrical Engineers, vol.73, no.1, pp. 675-682,Jan. 1954.
- [5]. T.H. Putman, "Economics and power transformer design," IEEE Transactions on Power Apparatus and Systems, vol.82, no.69, pp.1018-1023, Dec. 1963.