Lecture 62

1.

Derive expressions for EMF induced in the primary and secondary windings of a single-phase transformer.

2.

A 125 kVA transformer has a primary voltage of 2000 volts at 60 Hz. Primary turns are 182 and the Secondary turns are 40. Neglecting losses calculate

i) No load secondary EMF

ii) Full load primary and secondary currents

ii) Maximum flux in the core

3.

A single phase 20 kVA transformer has 1000 primary turns and to 2500 secondary turns. The net cross sectional area of the core is 100 cm^2. When the primary winding is connected to 500 V, 50 Hz supply, calculate

i) The maximum value of flux density in the core

ii) The voltage induced in the secondary winding

iii) The primary and secondary full load currents.