EMO
PHY-120

# Assignment (3) Theory

Q1 An rms voltage of 180 V is applied to a device that has a resistance of 50Ω. Find (a) maximum voltage applied (b) maximum current (c) the rms current supplied.

Q2 An inductor L = 0.2H is connected to a source for which the peak voltage is 260 V and the frequency is 50Hz. What is the peak current?

Q3 A generator is connected across a capacitor of capacitance 0.65 MF. If the rms voltage and frequency of the generato are 160 V and 200Hz respectively, Find the capacitive reactance and rms current in the circuit.

Q(4). A inductor having a reactance of 80 Ω gives off heat at the rate of 50 $Js^{-1}$ when it carries a current of 1.5 A. Calculate the impedence of the inductor.

Q5: Monochromatic light of wavelength 689nm is used in Young's experiment with th slits separated by a distance of $1.5 \times 10^{-4}$ m. If the screen is placed at a distance of 2.5m from the slits. Find the distance on the screen between the central fringe and the fourth-order bright fring.