**ALTERNAT CURRENT(CODE:ACCU)**

 As studied already, we know that a changing magnetic flux can induce an emf and hence a current in a closed circuit. Also we have seen that when a coil rotates in the presence of a magnetic field the induced emf varies sinusoidally with time leading to an alternating current (AC) and provides a source of AC power. The symbol for an AC voltage is

An alternating current changes in magnitude and direction periodically and is abbreviated as AC (alternating current).

The alternating e.m.f . E at any instant may be expressed as

 or 

Where  is angular frequency of alternating e.m.f and  is the peak value or amplitude of alternating e.m.f.

The frequency of alternating e.m.f.,



Where T is the time period.

Similarly the alternating current in the circuit is given by

 OR 

Where  is the speak value of current and other symbols have the same notations.

Alternating current in circuits fed by an alternating source of emf may be controlled by inductance L, resistance and capacitance C. Due to presence of elements L and C, the current is not necessarily in phase with the applied emf. Hence alternating current, in general, may be expressed as



R where  is the phase angle (in radian) which may be positive, zero or negative depending on the values of reactive components R, L and C