* POLYPHASE CIRCUIT *

(3-PHASE AC CIRCUIT)

→ Advantages of 3 phase system over single phase system:

(1) Constant Power:
In single phase system, o/p power changes sinusoidally at frequency twice the supply frequency. This pulsating nature of current is dangerous to some applicatn whereas balance 3 phase system of time constant current at all instant of time.

(2) Greater Output:
The power generated by 3 phase system is greater than that of single phase system for a given volume & weight of the generator.

(3) More Economical:
The 3 phase ~~eco~~ system is much smaller & less expensive than single phase system because less material is required for given output power at given voltage.

(4) Self Start:
Three phase system are self starting as they don't require any starting device. Single phase system requires starting device.

(5) Less Voltage Drop:
Due to less voltage drop in 3-phase system, voltage regulation of 3-phase system is better.

(6) Power Transmitter Economics:
The conductor material required to transmit given power at given voltage in single phase system which is not the case in three phase system.

(7) Constant Torque:
The torque produced by 3-phase motor is more constant than that of single phase motor for same supply.

(8) High Efficiency:
The 3-phase motors are more efficient & have higher power factor than single phase motors of same capacity.

* MODULATION:

The process of changing parameter of carrier signal (high frequency) i.e amplitude, phase, frequency in accordance with information signal in order to travel a longer distance is known as modulation.

* Types of Modulation:

(1) Amplitude Modulation (AM):
When the amplitude of carrier signal changes in accordance with information signal, it is known as amplitude modulation.

(2) Frequency Modulation (FM):
When the frequency of carrier signal is changed in accordance with information signal, it is known as frequency modulation.

(3) Phase Modulation (PM)
When the phase of carrier signal changes in accordance with information signal it is known as phase modulation.

* Demodulation

The process of retriving original information signal from modulated signal is known as demodulation.