

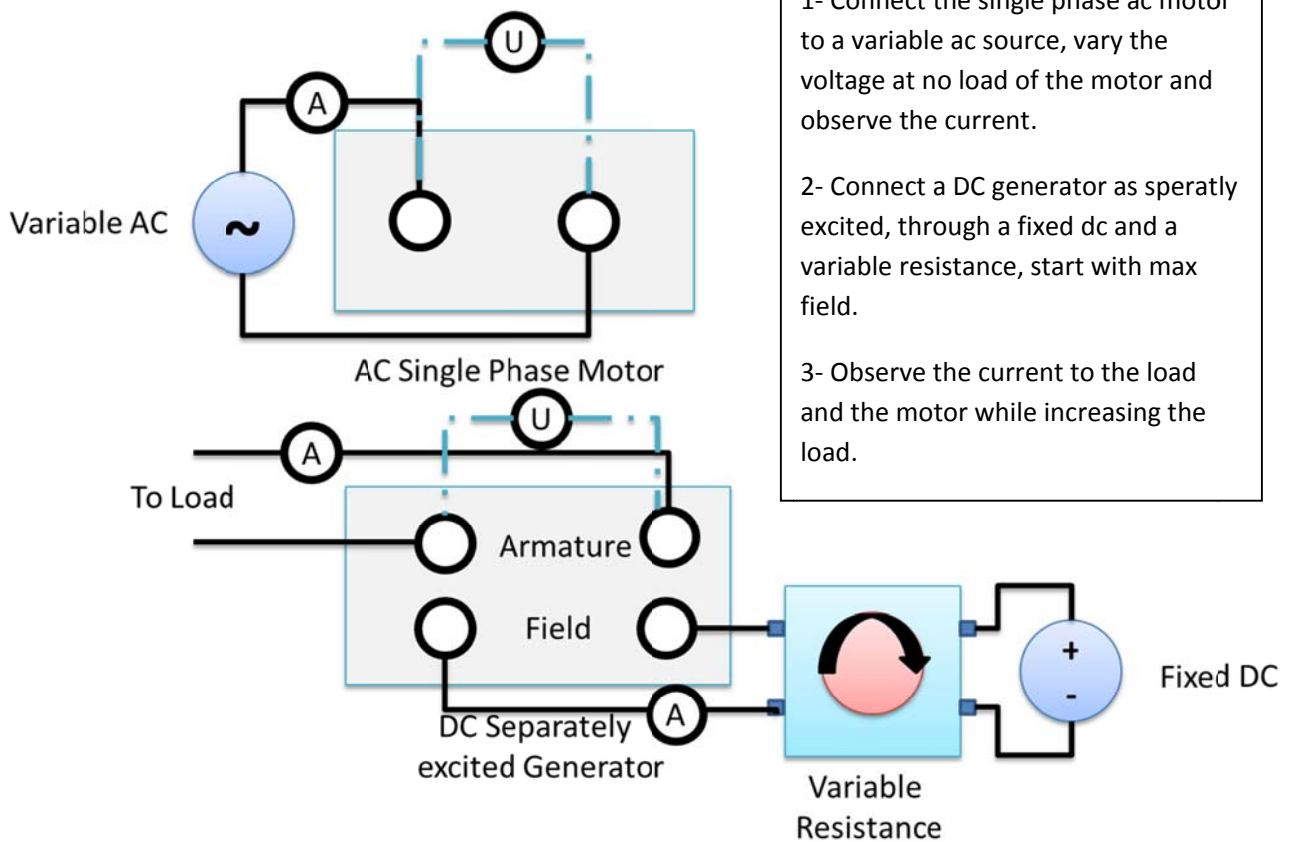
Sheet (4)**PM Synchronous Machines**

Q1: For a 3 phase, 4 poles, 36 slots stator winding, Calculate the distribution factor, pitch factor and winding factor if the coils are;

- (a) Fully pitched
- (b) Short pitched by one slot
- (c) Short pitched by two slots

Q2: Do the experiment shown below and calculate the total power consumed, the power fed to the load, draw a current voltage relation.

For a Single phase induction generator working as a prime drive for a separately excited dc generator.



- 1- Connect the single phase ac motor to a variable ac source, vary the voltage at no load of the motor and observe the current.
- 2- Connect a DC generator as speratly excited, through a fixed dc and a variable resistance, start with max field.
- 3- Observe the current to the load and the motor while increasing the load.