Electrical → 2019

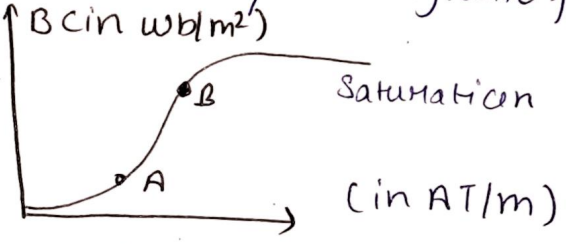
Q1 → Differeniate synchronous and induction mator.

Ans1 →

Synchronous	Induction motor
A synchronous mator is an AC electric Mator.	Induction meter is an electric meter
• The mator's rotation period matches the frequency of the supply. current.	• Induction mator is a single phase mater and three phase mater.
• The mator rotates synchro-nously with the rotating magnetic field produce by the stater.	• Induction meter create torque.

Q2 → Explain B-H curve.

Ans 2- B-H curve → The B-H curve or magnetisation curve is the graph plated b/w magnetic flux density (B) and magnetism force (H) The B-H curve indicates the manner in which the magnatic flux density varies with the changes in magnetic force.



The foudlowing figure show the general shape of B-H curve of a magnetic material the non linearity of the curve Shaw that the real time permiability ur of magnatic material is na constant but varies depending upon the magntic flux dinsity.

Q-6 Explain the line current, line voltage and phase current and phase voltage for 3-ϕ AC circuit.

The current flowing through each phase is phase current (IPH) and the current flowing through each line conductor is called line current (IL). The voltage across each phase is called phase voltage across two line conductor. is called line voltage (EL)

Q7 → Explain band width and quality factor.

The difference between $f_2 - f_1$ is called the band width at the resonant network.

The ratio of the bandwidth to the resonance frequency is define as the Selectivity of the circuit when the frequency is varied in the RLC circuit, Selectivity become.

$$\left(\frac{f_2 - f_1}{f_r}\right) = \frac{1}{QR}$$

Quality factor of the resonat circuit.

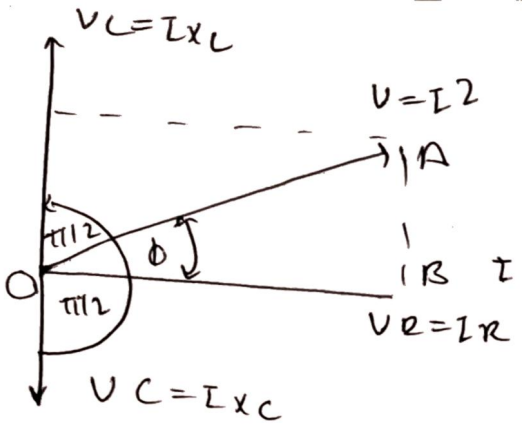
Q8 → Draw the phasor digram of series RLC circuit and explain it.

An AC circuit containg resistance of R ohms inductance of L hemry & capicitance of C fards connected is series

→ Voltage drop, $V_R = IR$
across resistance

→ voltage drop. $V_L = I\omega L$
across inductance.

→ Voltage drop. $V_C = \frac{I}{\omega C}$ or IXC
across capicitance



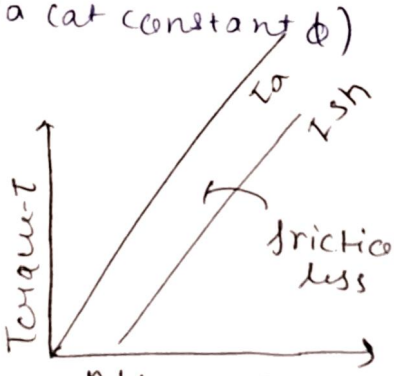
b phase diagram

Q9. Draw the speed torque characteristic of D.C Shunt Motor. The equation of back emf induced in a dc circuit is given as $E_b = P\phi NZ/60A$. From this the relation ship between Speed and back emf is expressed as $N \propto E_b/\phi$ The expression for speed. N of dc motor is given as

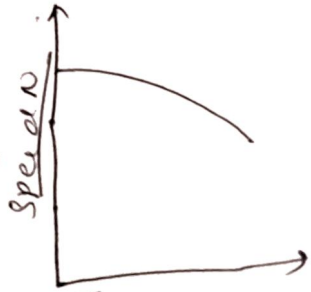
$$N = \frac{E_b}{\phi} = \frac{V - I_a R_a}{\phi}$$

$N \propto I_a R_a$ (at constant ϕ)

(A)



(b)



(c)

Explain working of commutater.

A commutater is an electric componet found in electrical mater. generates a dynamoters; it's primary function is to:

- Reverse the direction of ~~machine~~ current flow in the winding of the machine.
- Switch the direction of electric current.
- In an engine, it provide the power to the best location on the mater., and in a generater. it receives the power. in a similar way.