



State & Explain Maximum power transfer theorem.



Write the statement of superposition theorem and explain Utility of super position theorem.

 \times 8. What is leakage factor and magnetization $a_{\rm max}$.

PX _

Explain efficiency of power transformer.

X 10.

Derive an expression for average and rms value of ε sinusoidally varying AC Voltage.



On what factors does the magnetic reluctance d pend?



What is the effect of increase en excration synchronous motor?



Explain NORTON's Theorem.

14. What is resonance frequency also expine series resonance.

15. State and explain Faraday's law of Electronagnetic Induction.

CONTRACTOR H

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Protection in the



Section -B

(Long Answer Type Questions)

Note: Attempt any three questions. Each question carr == 3 marks. (20x3=50)



Explain the bandwidth and quality factor for RLC circuit. Derive their expressions.

Derive the relationship between line current, phase current line, voltage and phase voltage in a 3 phase star connected system and also draws the phasor diagram.



Prove that is pure inductive circuit the power consumed is Zero.

A coil of resistance 10Ω and inductance 0.1 H is connected in series with a condenser of capacitor 150 μi across a 200v, 50 Hz supply. Determine:

an internet was

(i) Lapedance (ii) Current (iii) Power factor (iv) Voltage across the coil

Explain the principle of operation and construction of three phase induction about Hence, derive an expression for the frequency of rotor current in it.

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Three similar coils connected in delta acro 400v, 50Hz, 3 phase AC supply take a in of17.32 A at power factor of 0.8 lagg Calculate phase current, resistance and inductance of each coil.

4

(b) x2-K)

(2)

A coil is connected with a capacitor in paralies a solor and Silliz supply. The value of a resistant is 200 nd inductor is 3 mills Henry

Find the total current & power factor. Also dent



Explain two wattmeter methods to measure phase power star connected load. Also draw t phasor diagram and derive the expression power tactor

Discuss the principle of operations constructional detail of PMMC type. measu postruments

6.

Explain the Active power, reactive power a apparent power, in a single phase AC circuit a their application.

(b)

(a)

5

Develop the equivalent circuit of a slight pherman no load and on load transformer on no load and on load transition

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