Q.20 Explain the parallelogram method for addition of two alternating quantity.

Q.21 Define resonance. What is the condition for a resonance in a series circuit.

Q.22 Define active and reactive components of current.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 Derive and explain the relationship between line voltage and line current with phase voltage and phase current in star connected circuits.

Q.24 Explain generation of alternating voltage and current in single phase circuit

Q.25 Explain the RLC series circuit and draw its phasor diagram, impedance triangle and power triangle.

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2nd Sem / Electrical

Subject : Electrical Networks

Time : 3 Hrs. M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 Thevenin's resistance R_{TH} is determined

a) by short circuiting two given terminals

b) by removing voltage source with internal resistance

c) between same open terminals as for V_{TH}

d) between any two open terminals

Q.2 Peak factor is the ratio of

a) maximum and instantaneous value

b) maximum and rms value

c) rms and maximum value

d) rms and average value

Q.3 Frequency (f) of an AC waveform and time period T are given as

a) f=2T b) f=1/T

c) T=2f d) f=T

Q.4 In pure inductive circuit

a) current is in phase with the voltage

b) current lags behind the voltage by 90°

c) current leads the voltage by 90°.

d) current can lead or lag by 90°.

Q.5 In parallel circuit, the current in each branch is

a) different

b) equal

c) vector sum is zero

d) Infinite at resonant condition

Q.6 Which type of connection has only 3 terminals and no netural

a) star b) delta

c) both star and delta d) none of above

SECTION-B

Note: Objective/ Completion type questions. All questions are compulsory. (6x1=6)

Q.7 Give one example of non linear network.

Q.8 For $\theta=90^{\circ}$,what is the instantaneous value of an sinusoidal wave form given by $e=E_{max} \sin\theta$

Q.9 Write the formula for capacitive reactance.

Q.10 Give the unit of impedance.

Q.11 Write the relationship between line and phase current in delta connection.

Q.12 Define quality factor.

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

Q.13 State maximum power factor transfer theorem and give its condition for maximum power transfer.

Q.14 Distinguish between alternating current and direct current.

Q.15 Explain R-C series circuit and draw it impedance triangle.

Q.16 Define power factor. What are the losses due to low power factor.

Q.17 Derive an expression for r.m.s value of sinusoidal ac voltage.

Q.18 Define the term real power, reactive power and apparent power.

Q.19 Write the advantages of 3 phase system over single phase system.