Vivekanand Education Society's Institute of Technology
Internal Assessment II

Class: F.E. **Subject: B.E.E** **ODD**
Date: **Time:** **Max Marks: 20**

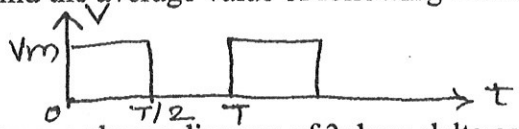
Note the following instructions.

1. All questions are compulsory.
2. Draw neat diagrams wherever necessary
3. Assume data, if missing, with justification.

Attempt **any five** out of six

Q.1 [2 x 5]

a) Define parallel resonance in ac circuit and write the equation of parallel resonant frequency.
b) For series RLC circuit having R=10 ohm , L= 0.01 H and C=100 microfarad, find resonant frequency and quality factor.
c) An alternating current I is given by i=141.4 sin 314t, find 1) peak value
2) time period
d) Find the average value of following waveform

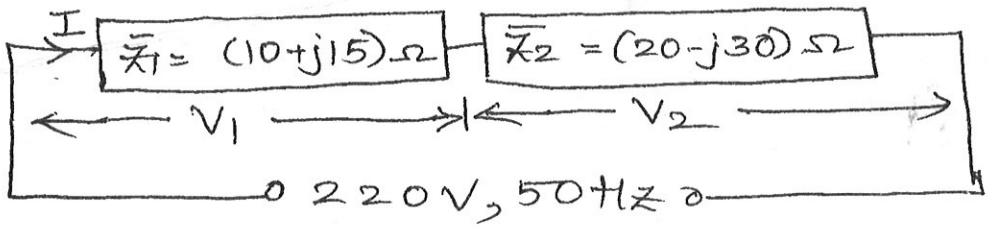


e) Draw a phasor diagram of 3phase delta connected load.
f) Three identical coils each [4.2+5.6j] ohm are connected in star across 415 V, 3phase 50 Hz supply. Determine 1) Vph 2) Iph 3) Power Factor

Q.2 a. Explain two Wattmeter method for the measurement of three phase power [5]

OR

b. For the circuit shown below, find current,V1 & V2 & Power factor [5]



Q.3 a. Three identical coils each with 15 ohms resistance & 0.03H of inductance are connected in delta to three phase 400V, 50Hz supply. Calculate phase current, line current & total power absorbed. [5]

b Three sinusoidal voltages acting in series are given by V1= 10sin440t, V2= $10\sqrt{2}$ sin (440t-45) , V3=20cos440t Derive the expression for the resultant voltage& determine the frequency & rms values of resultant voltages [5]