UIET PANJAB UNIVERSITY CHANDIGARH
Basic Electrical Engineering (BEE)
SEMESTER-II (Sessional-II)

Attempt all Questions. **Max Marks 30**
Assume the missing data. **Max Time 90min**

Q1. Answer the following Questions briefly: **(3X4=12)**

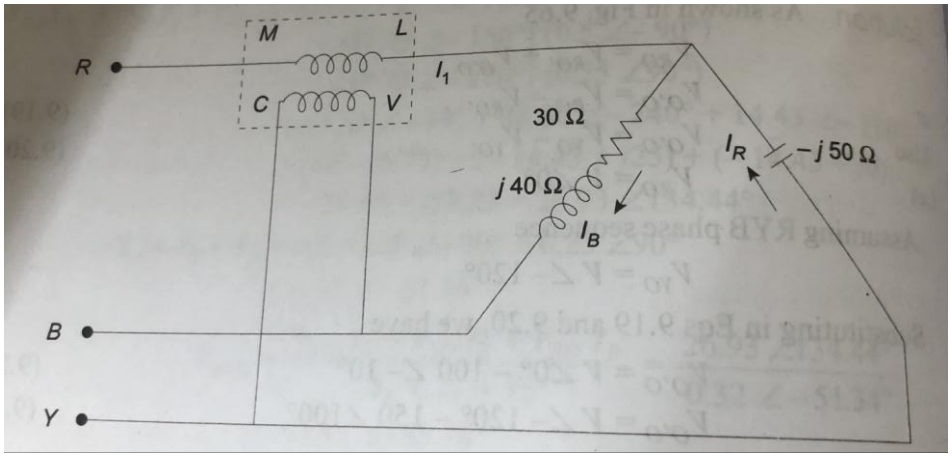
a) A three phase balanced delta-connected load with line voltage of 200V has line current as I_1 = 10L90˚; I_2 = 10L-150˚ and I_3 = 10L-30˚. What is the phase sequence? What are the impedances?

b) A coil of 100 turns is wound uniformly over a insulator ring with a mean circumference of 2m and a uniform sectional area of 0.025 $cm^{2.}$ If the coil is carrying a current of 2 A. Calculate magnetic field intensity, flux density and total flux.

c) What is fringing? Explain its cause.

d) Derive coefficient of coupling.

Q2. Find the reading of a wattmeter in the circuit shown in figure, assume a symmetrical 400V supply with RYB phase sequence, and draw the vector diagram.



(4)

Q3. An iron ring 10 cm dia and 15 cm^2 in cross sectional is wound with 250 turns of wire for a flux density of 1.5 Wb/m^2 and permeability 500. Find the exciting current, the inductance and stored energy. Find the same when there is a 2mm air gap. **(5)**

Q4. Explain with the help of a neat diagram the construction and principle of the DC machine. **(4)**

Q5. Explain any 5 renewable sources of energy at working stage in India**.** **(5)**