Total No. of Printed Pages:2

SUBJECT CODE NO: H-346
FACULTY OF SCIENCE AND TECHNOLOGY
F.E. (All)
Elements of Electrical Engineering
(OLD)

[Time: Two Hours] **[Max.Marks:40]**

Please check whether you have got the right question paper.

N.B
1) Q. No. 1 is compulsory.
2) Solve any three questions from Q. No.2 to Q. No. 5.

Q.1 Solve any five 10

1) Define RTC, positive temperature coefficient.
2) State statement of Thevenin's theorem.
3) State the factor affecting the value of resistance. State the effect of temp. on resistance on
   a) Gold
   b) Rubber
4) Define mmf, magnetic flux, Reluctance
5) Define time constant of capacitor.
6) Draw the curve for capacitor voltage during the charging and discharging.
7) State maximum power transfer Theorem.
8) Define reluctance, permeability.

Q.2 Solve any two 10

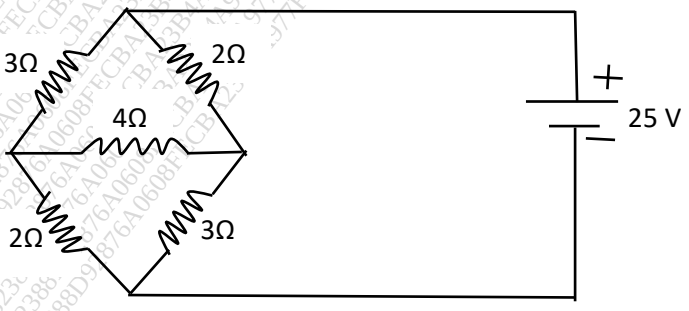
a) With the help of neat fig. explain magnetic Leakage and fringing.

b) State and explain superposition Theorem.

c) Derive the charging equation of the capacitor.

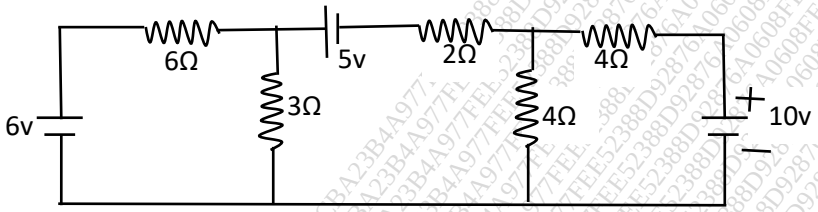
Q.3 Solve any two 10

a) Find the current through 4Ω resistor by using loop Analysis.



b) If α_0 , α_1 , α_2 are temperature coefficient at 0℃ , t℃ , t_2℃ respectively
Prove $\alpha_2 = \frac{\alpha_1}{1+\alpha_1 (t_2-t_1)}$

c) Find current through 3Ω resistance using loop analysis.



Q.4 Solve any two. 10

a) Explain the copper loss.

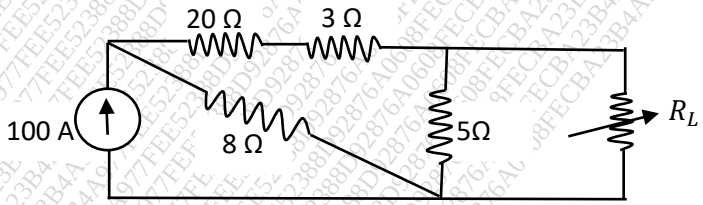
b) Compare electric and Magnetic circuit.

c) With neat diagram explain the concept of self and mutually induced emf.

Q.5 Solve any two. 10

a) Compare self-inductance and mutual inductance.

b) Find value of R_L such that maximum power transferred to it. Also find maximum power dissipated.



c) State and explain effect of temp on R.T.D.