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Time allowed : 3 hours]   [Maximum marks : 100

**Note :** Attempt any **five** questions out of **eight.**

1. (a) Define Ohm's law and also explain its limitations.   10

    (b) Find current through 2Ω and 3Ω resistances using nodal analysis in the following Ckt.   10
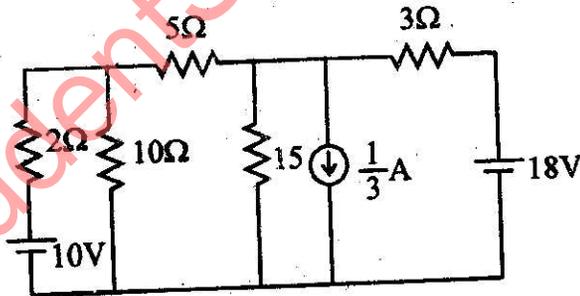
2. (a) Explain and prove Tellegen's theorem.   10

    (b) Explain star to Delta and Delta to star conversion.   10

3. (a) Define RMS voltage and average voltage.   10

(b) Determine the form factor of voltage waveform. 10
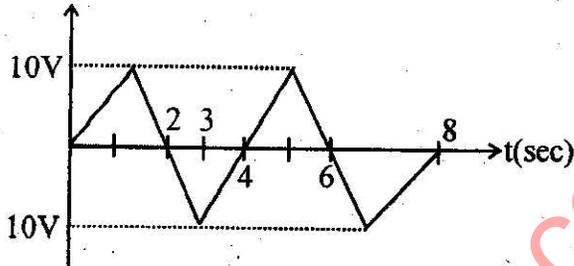
4. (a) Define apparent power, True power, Power factor and imaginary power. 10

   (b) Discuss the concept of impedance triangle and power triangle. 10

5. (a) Explain Transient response of R-L Ckt. 10

   (b) Explain Series resonance in detail. 10

6. (a) Explain different losses that exist in transformer. 10

   (b) Compare shell type and core type transformers. 10

7. (a) Explain two wattmeter method for the measurement of three phase power. 10

   (b) Compare single phase and three phase systems. 10

8. (a) Explain working principle of D.C machine. 10

   (b) Explain construction and principle of energy meter. 10

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