

B.Sc.(Part-I) (With Credits)-Regular-Semester 2012 Sem I
E-02 - Electronics-II: Paper-II (Transducers and Network Theorems)

P. Pages : 2

Time : Three Hours



GUG/S/16/3308

Max. Marks : 50

- Notes :
1. All questions are compulsory and carry equal marks.
 2. Draw neat and labelled diagrams wherever necessary.
 3. Use of log table and calculator is allowed.

1. Either

- a) What is LVDT? Explain construction and working of LVDT. Draw its characteristics and explain. State its advantages. **1+6+3**

OR

- b) What are active and passive transducers? Explain with examples. Explain construction and working of bonded and unbonded type strain gauges. **4+6**

2. Either

- a) What is LDR? Explain construction, Working and characteristics of LDR, State its uses. **7+3**

OR

- b) Explain construction and working of LED. State the uses of LED. How it differs from ordinary diode? Explain. State any two semiconductor materials used in LEDs. **6+2+2**

3. Either

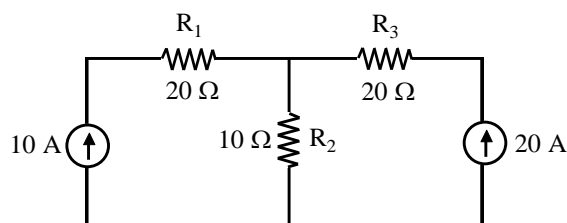
- a) State and prove with example: **5+5**

- i) Kirchhoff's current law. ii) Kirchhoff's voltage law.

OR

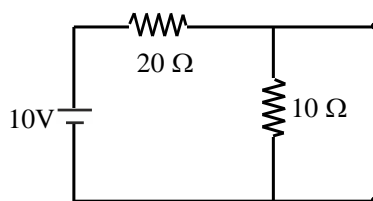
- b) State and prove superposition theorem. **7+3**

Using super position theorem calculate current through R_2 in the following circuit.



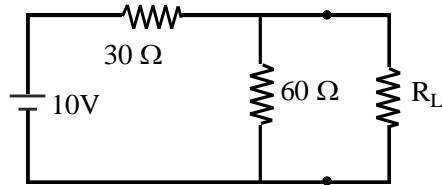
4. Either

- a) State and prove Thevenin's theorem. Thevenize the following circuit. **7+3**

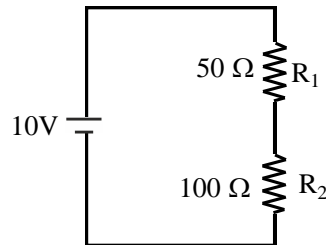


OR

- b) State and prove maximum power transfer theorem. 6+4
Find R_L in the given circuit to abstract maximum power.



5. a) Explain construction and working of thermocouple. 2½
b) Explain working of LASER diode with suitable diagram. 2½
c) Find the voltage across each resistor in the following circuit using voltage divider method. 2½



- d) State and explain Millman's theorem. 2½
