



Answer all questions:

**Q1 10 marks**

5) What is a Zener ? mention its application and describe a laboratory test to find its characteristics.

**Q2 10 marks**

- The four category of passive filter are.....and.....
- A transformer is a device to sep .....or.....
- Light sensors such as.....
- In ac circuit we can use .....as a voltage divider .
- .....state that any linear network could be replaced with a single source in series with a resistor.

A .....filter can reject a band of frequencies.

**Q3 10marks**

a) For the circuit of fig.1 find Thevenin equivalent ct at terminals a-b of the circuit

b) For the circuit shown in Fig .2 use the superposition theorem to find  $i$ .

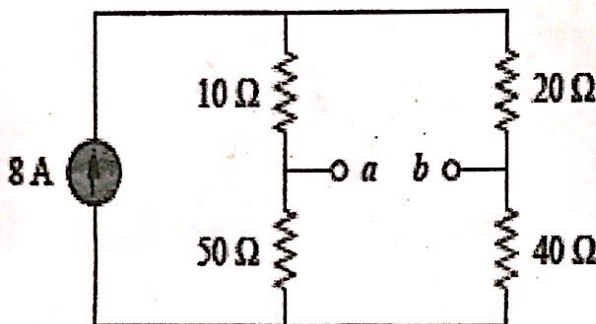


Fig.1

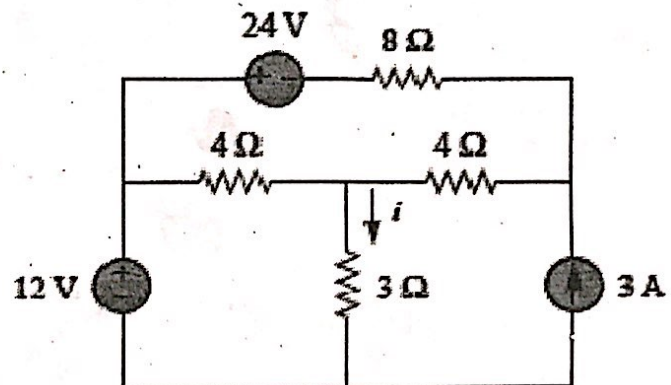


Fig.2

**Q4 10 marks**

Explain how you can know the type of filter and how you can estimate the filter cut off frequency.

**Q5 10 marks**

With a laboratory test explain how you can construct a voltage divider for ac circuit.

**Q6 10 marks**

Explain how you can verify superposition theorem in laboratory.

