Bengal Institute of Technology

Bits2Bytes 2009

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PROBLEM SPECIMEN

FOR

CIRCUIT QUIZ

Section A

1. The statement "The total current flowing through a particular resistor is equal to the current in a loop, containing the internal resistance of the circuit and the resistor in series" is the:

a. Norton's Theorem

b. Thevenin's Theorem

c. Kirchoff's law

d. Both a and c

Ans=b

2. When will maximum current flow in a RLC series circuit, given R=30ohm, L=0.1H and C=0.01uF.

a. For f=5000Hz

b. For f=5032Hz

c. For f=5500Hz

d. For f=6000Hz

Ans=b

Use f=1/ (2*pi*L*C)

3. For what type of current will a Capacitive circuit conduct?

a. For alternating current

b. For direct current

c. Both a and b

d. None of these

Ans=c

Since any capacitive circuit conducts for both AC and DC (Transient Behavior).

Section B

Problem statement

1. Taking a 50 Hz 10V a.c. supply double the voltage across a resistor.

Items to be used

a. 1 nos. 10 K Resistor

b. 1 nos. 1 uF capacitor

c. 10V 50Hz power supply

d. Oscilloscope to verify data.

Ans: Connect a and b in parallel, and then the whole set in series with the power supply. Plug the oscilloscope to the common node of a and b.