**LAB 6 20-21.03.2019**

**ECE 232** –**ADVANCED ELECTRICAL CIRCUIT ANALYSIS +LAB**

**FREQUENCY RESPONSE (PHASE,MAGNITUDE CHARACTERISTICS)**

**Q-1)**

**a-)** Determine the differential equation for the given circuit in below .

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**b-)** What is the resonance frequency for the given circuit in below?

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**c-)** Determine the Transfer Function for the given circuit.

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**d-)**For the same circuit , find the magnitude of , ‘’f ‘’ is the resonance frequency

***For f=100 Hz*  =\_\_\_\_\_\_\_**

***For f=resonance frequency*=\_\_\_\_\_\_**

***For f=1000 Hz*=\_\_\_\_\_\_\_**

**d)** Find the phase of **;**

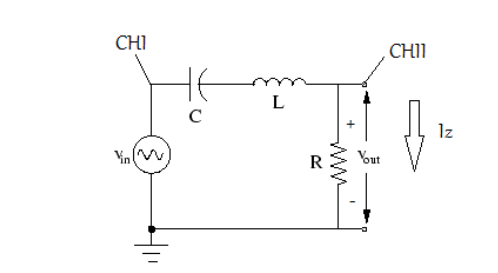
***For f=100 Hz* =\_\_\_\_\_\_\_**

***For f=resonance frequency* =\_\_\_\_\_**

***For f=1000 Hz* =\_\_\_\_\_\_\_**

**Q-2)**

Let **= and L=0.1 H , C=10µF , R= 1kΩ .** Draw what you observe at the oscilloscope both at YT and XY format of the display menu of the oscilloscope.

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***FIGURE 1:***

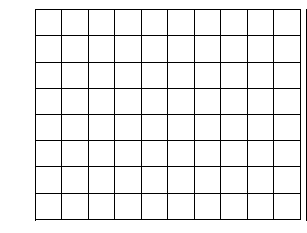
**a-)**

**f= 100 Hz (YT format)**

**CH1 ( : 500 mv**

**CH2(: 500 mv**

**Sec/div: 500 µs**

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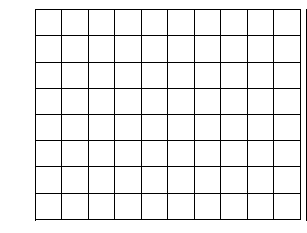
**b-)**

**f=100 Hz (XY format)**

**CH1 ( : 500 mv**

**CH2(: 500 mv**

**Sec/div: 500 µs**

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***FIGURE 2:***

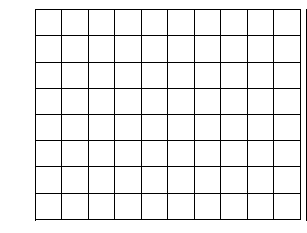
**a-)**

**f=resonance frequency (XY FORMAT)**

**CH1 ( : 2 V**

**CH2(: 1 V**

**Sec/div: 2.50 ms**

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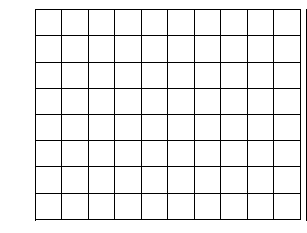
**b-)**

**f=resonance frequency (YT FORMAT)**

**CH1 ( : 2 V**

**CH2(: 1 V**

**Sec/div: 2.50 ms**

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***FIGURE 3:***

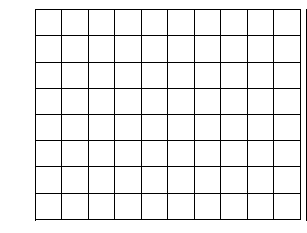
***a-)***

**f=1000 Hz (XY format)**

**CH1 ( : 2 V**

**CH2(: 1 V**

**Sec/div: 500 µs**

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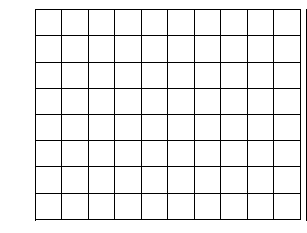
**b-)**

**f=1000 Hz (YT format)**

**CH1 ( : 2 V**

**CH2(: 1 V**

**Sec/div: 500 µs**

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