ISTANBUL COMMERCE UNIVERSITY

DERPARTMENT OF ELECTRICAL-ELECTRONICS ENGINEERING

EEE202 ELECTRO-TECHNICH LABORATORY

PART 3
EXPERIMENTS

CONTENTS

EXPERIMENT: 3.1
EXAMINATION OF SERIAL CONNECTED COILS

EXPERIMENTAL PROCEDURE: Plug the **Y-0016/003** module. Make the circuit connection as in Figure 1.

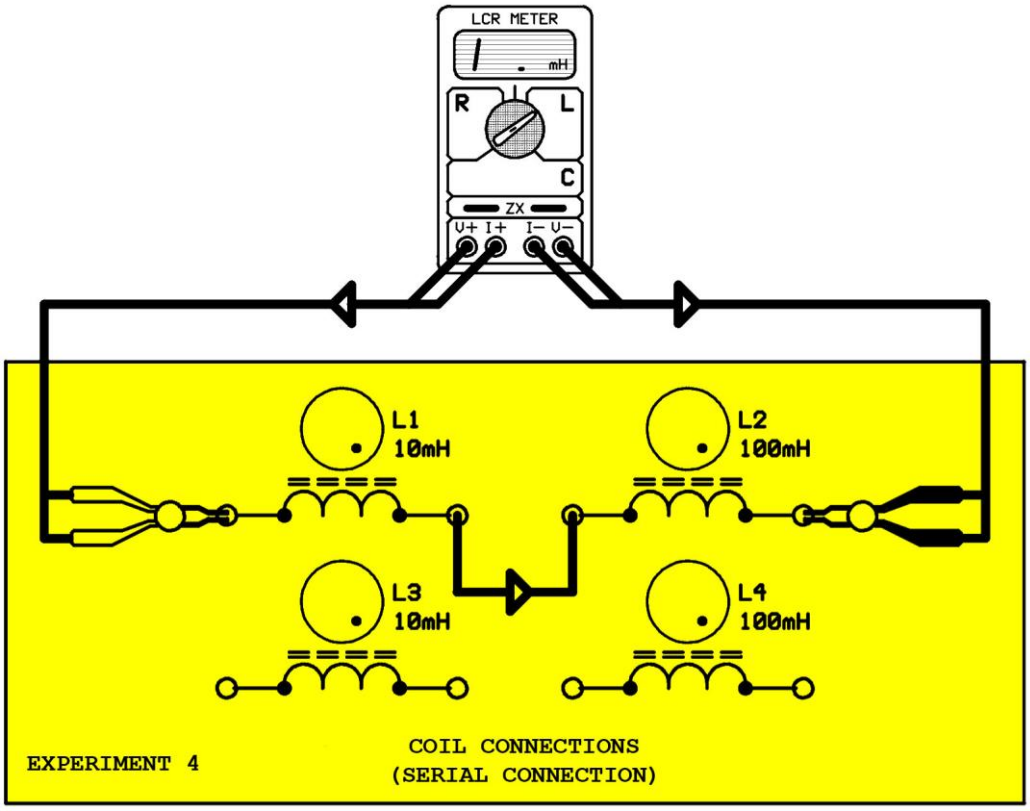

Figure 1

1- Write the inductance value displayed by LCR meter.

2- L1=10mH, L2=100mH, calculate the total inductance of the circuit.

3- Compare the value you calculated and the value displayed by LCR meter. Why is there a difference?

Note: You can do new experiments by making different serial connections with the four coils in the module.

EXPERIMENT: 3.2
EXAMINATION OF PARALLEL CONNECTED COILS

EXPERIMENTAL PROCEDURE: Plug the **Y-0016/003** Module. Make the circuit connections as in Figure 2.

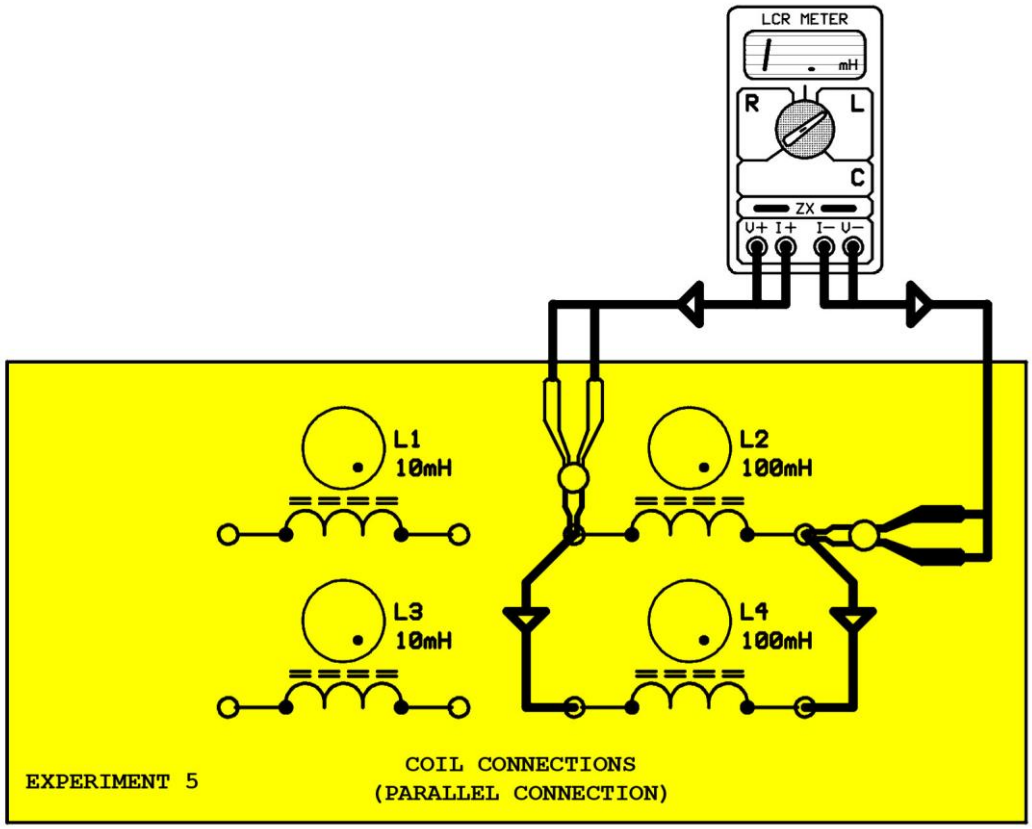

Figure 2

1- Write the inductance value displayed by LCR meter.

2- L2=100mH, L4=100mH, calculate the total inductance of the circuit.

3- Compare the value you calculated and the value displayed by LCR meter. Why is there a difference?

Note: You can do new experiments by making different parallel connections with the four coils in the module.

EXPERIMENT: 3.3
EXAMINATION OF MIXED CONNECTED COILS

EXPERIMENTAL PROCEDURE: Plug the **Y-0016/003** Module. Make the circuit connections as in Figure 3.

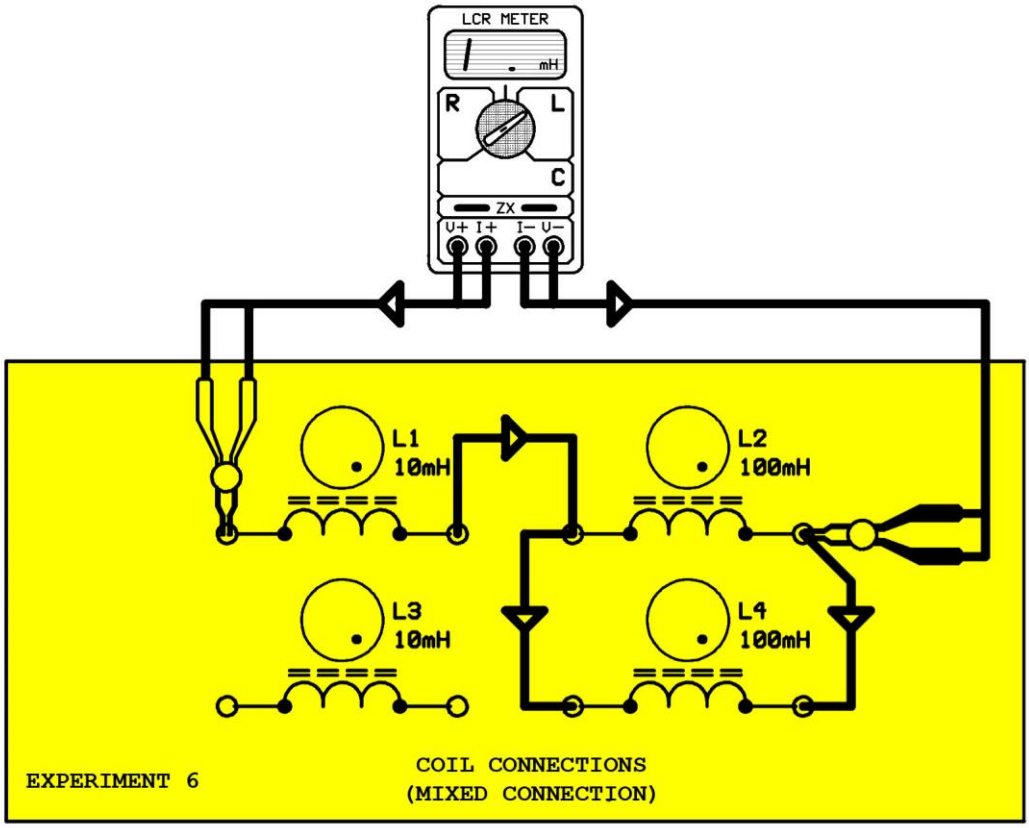

Figure 3

1- Write the inductance value displayed by LCR meter.

2- L1=10mH, L2=100mH and L3=100mH, calculate the total inductance of the circuit.

3- Compare the value you calculated and the value displayed by LCR meter. Why is there a difference?

Note: You can do new experiments by making different mixed connections with the four coils in the module.

EXPERIMENT: 3.4
EXAMINATION OF SERIAL CONNECTED CAPACITORS

EXPERIMANTAL PROCEDURE: Connect the **Y-0016/003** module to the board. Make the circuit connections as in Figure 4.

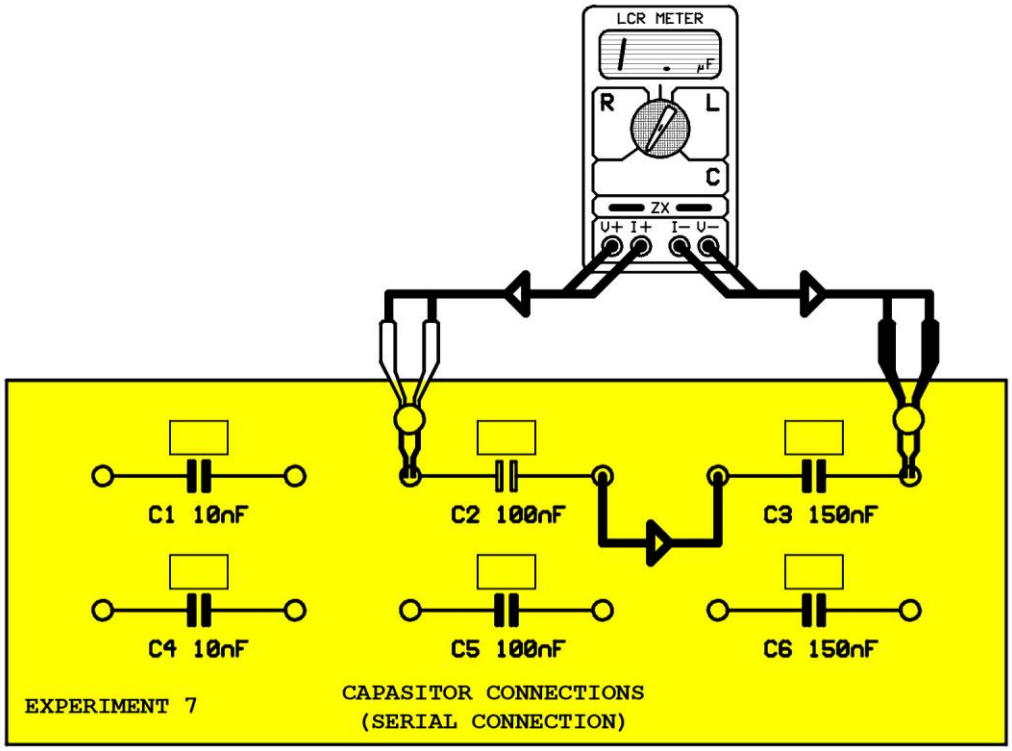

Figure 4

1- Write the value that you read on the LCR meter.

2- C2=100nF, C3=150nF, calculate the total capacitance of the circuit.

3- Compare the capacitance value that you read on the LCR meter and the calculated. What is the reason of the difference?

Note: Make new experiments by serial connecting different capacitors using the ones in the module.

EXPERIMENT: 3.5
EXAMINATION OF PARALLEL CONNECTED CAPACITORS

EXPERIMENTAL PROCEDURE: Connect the **Y-0016/003** module to the board.Make the circuit connections as in Figure 5.

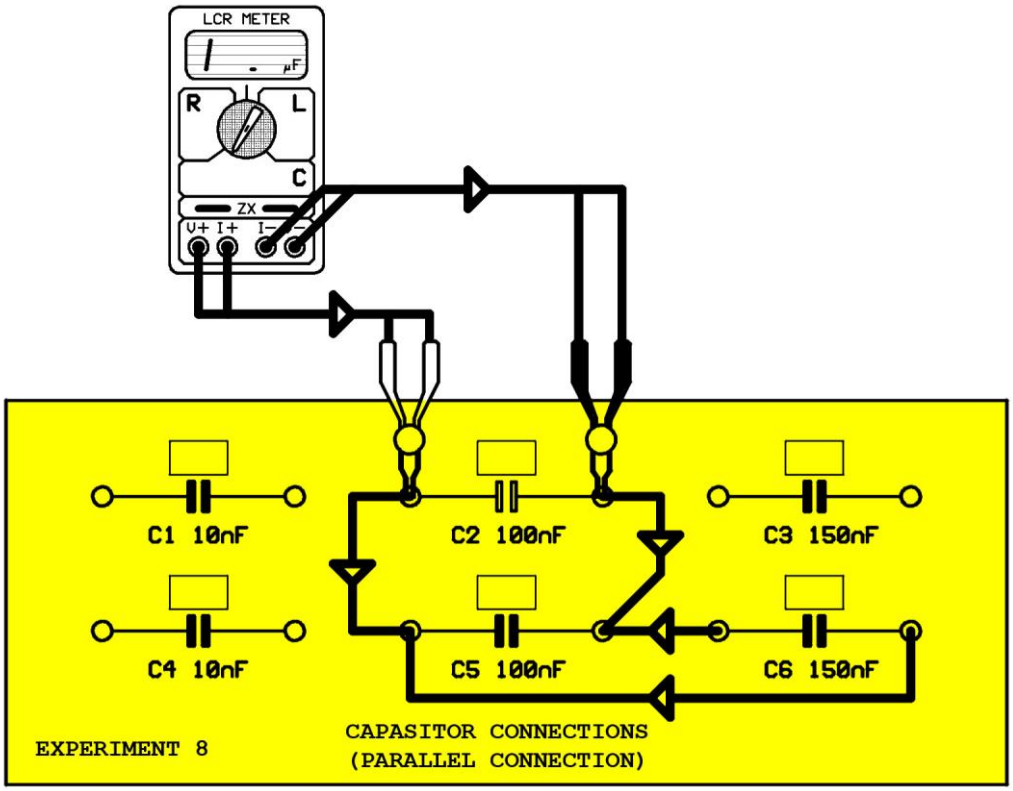

Figure 5

1- Write the value that you read on the LCR meter.

2- Calculate the total capacitance of the circuit

3- Compare the capacitance value that you read on the LCR meter and the calculated. What is the reason of the difference?

Note: Make new experiments by parellel connecting different capacitors using the ones in the module.

EXPERIMENT: 3.6
EXAMINATION OF MIXED CONNECTED CAPACITORS

EXPERIMENTAL PROCEDURE: Connect the **Y-0016/003** module to the board. Make the circuit connections as shown in Figure 6.

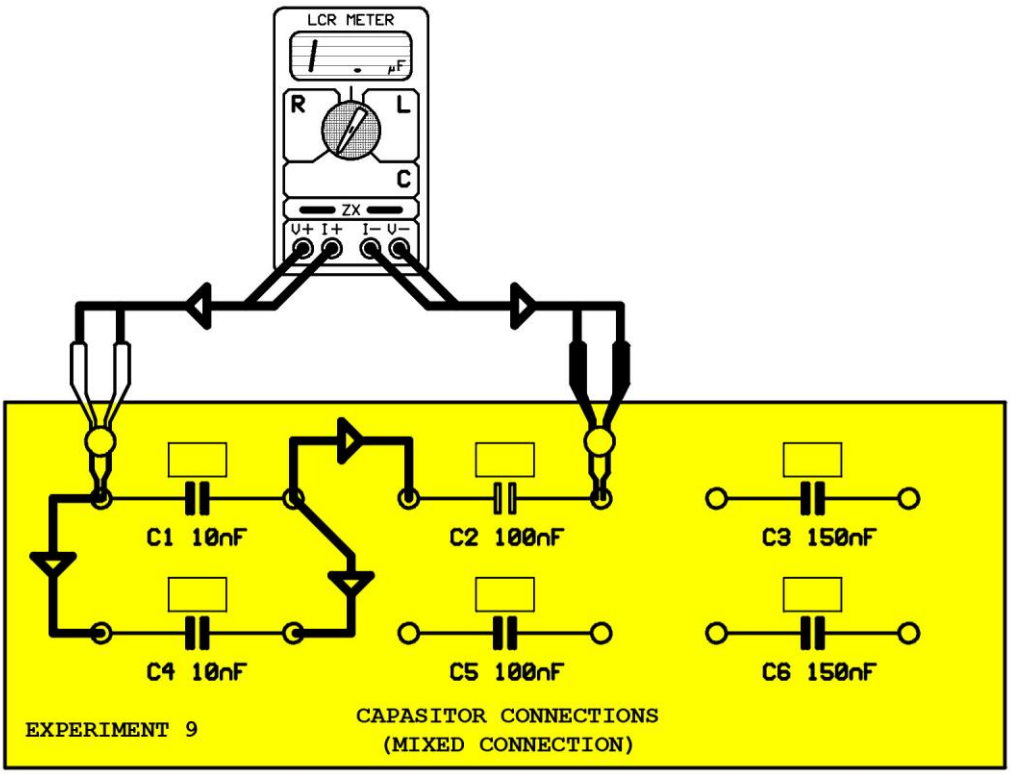

Figure 6

1- Write the value that you read on the LCR meter.

2- C1=10nF, C2=100nF and C4=10nF, calculate the total capacitance of the circuit.

3- Compare the capacitance value that you read on the LCR meter and the calculated. What is the reason of the difference?

Note: Make new experiments by mix connecting different capacitors using the ones in the module.