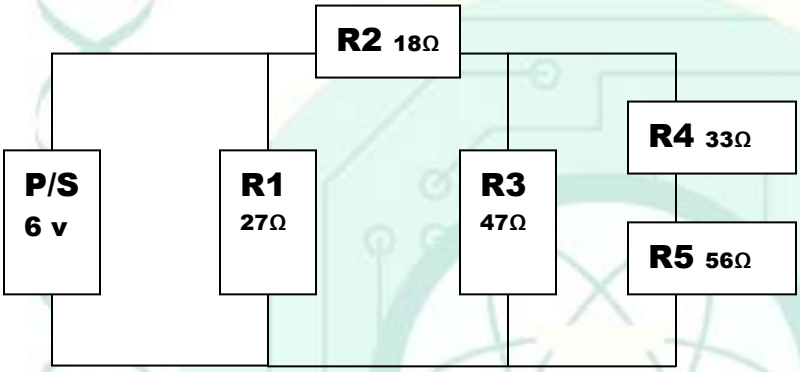
ELT-111 CIRCUIT ANALYSIS I
Series/Parallel Sample Test

1. In your own words describe the function of Kirchhoff's Voltage Law.

2. In your own words describe the function of Kirchhoff's Current Law.



3 – 14. Solve the circuit above for all voltages and currents. Fill in the chart below.

	V	I	R
Total			
R1			
R2			
R3			
R4			
R5			

15. A wheatstone bridge is a type of series/parallel circuit.

16. Series/parallel networks are networks that contain both series and parallel circuit configurations.

17. The voltage drop across all of the elements in a series/parallel network is not equal to source voltage.

18. Using the reduce and redraw approach to solve series/parallel networks, series and parallel elements can be simply added together.

19. The application of a load can affect the terminal voltage of the supply.

20. To minimize potentiometer loading,

a. The load resistance must be very small compared with the potentiometer resistance
b. The load resistance must be very large compared with the potentiometer resistance
c. Only high resistance potentiometers should be used
d. Connect a 1 ohm resistor between the wiper and the load.

21. The series resistance of a voltmeter

a. Has a large resistance for a high voltage range and a small resistance for a low voltage range.
b. Has a small resistance for a high voltage range and a large resistance for a low voltage range.
c. Bypasses a portion of the current around the meter movement, allowing a low voltage meter to be used in a high voltage circuit.
d. Should be as small as possible to minimize voltmeter loading effects.

22. Kirchhoff's Voltage and Current Laws are very useful when solving Series circuits or parallel circuits but are not useful in combination circuits.