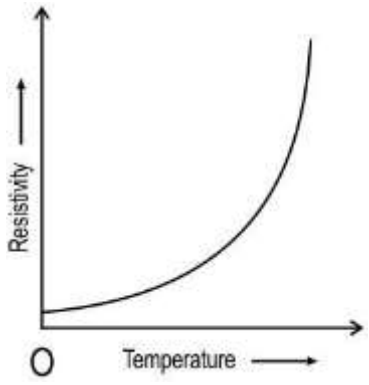
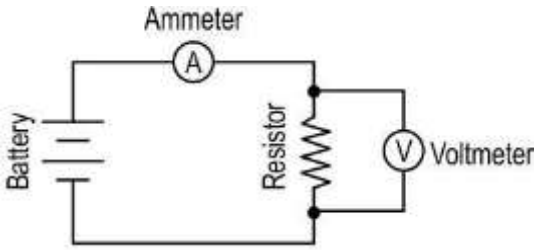
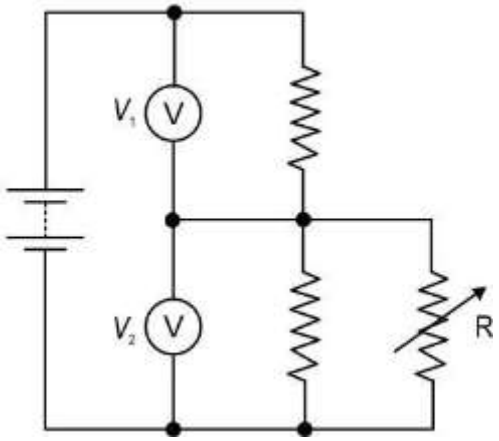
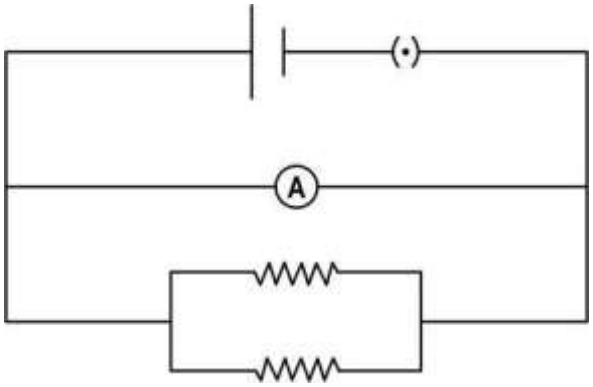
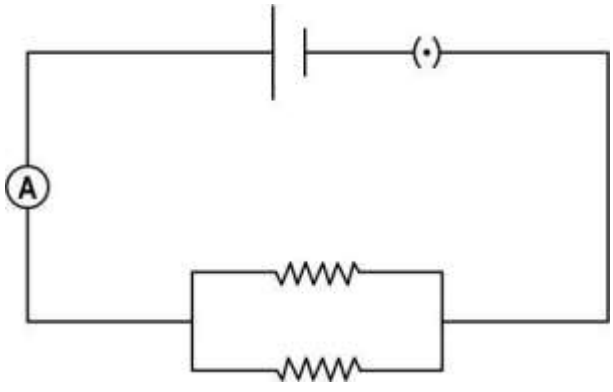
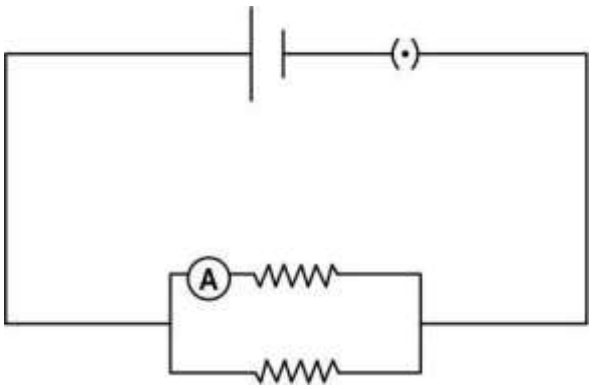
5. ELECTRICITY

Q. No	Question	Marks
	Multiple Choice Question	
Q.14	The graph below shows the variation of resistivity of copper with temperature.  Kishore constructs a simple circuit as shown below. The resistor is made of copper.  He then heats the copper resistor. What will happen to the current flowing through the circuit? Why? A. The current will increase because the resistance of copper increases with an increase in temperature. B. The current will increase because the resistance of copper decreases with an increase in temperature. C. The current will decrease because the resistance of copper increases with an increase in temperature. D. The current will decrease because the resistance of copper decreases with an increase in temperature.	1
Q.15	Priya has three resistors each of resistance 2 Ω.	1

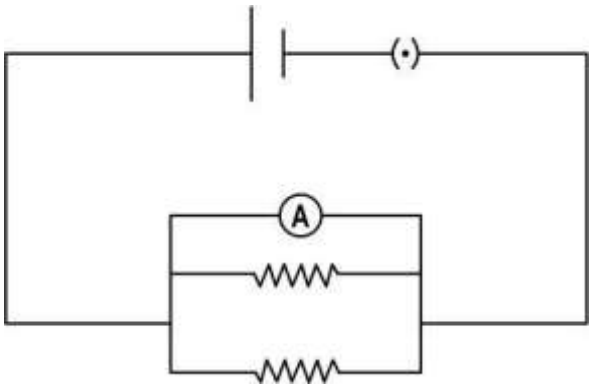
<table>
<tr><td></td><td>Which of the following resistances will she NOT be able to get by combining these resistors is different combinations?
A. 0.67 Ω
B. 0.75 Ω
C. 3 Ω
D. 6 Ω</td><td></td></tr>
<tr><td>Q.16</td><td>A cylindrical copper wire X of length l and radius r has a resistance R and resistivity ρ. Another copper wire Y has a length 2l and a radius 2r.
Which of the following rows in the table shows the correct resistance and resistivity of the copper wire Y?
<table><tr><th></th><th>Resistance</th><th>Resistivity</th></tr><tr><td>I</td><td>R/2</td><td>ρ</td></tr><tr><td>II</td><td>R</td><td>ρ</td></tr><tr><td>III</td><td>R/2</td><td>ρ/2</td></tr><tr><td>IV</td><td>R</td><td>ρ/2</td></tr></table>A. I
B. II
C. III
D. IV</td><td>1</td></tr>
<tr><td>Q.17</td><td>The variable resistor R is connected in a circuit, as shown below. A variable resistor is one whose resistance can be changed.</td><td>1</td></tr>
</table>

	 The resistance of R is increased. What will happen to the voltmeter readings V_1 and V_2? A. V_1 increases; V_2 increases B. V_1 increases; V_2 decreases C. V_1 decreases; V_2 increases D. V_1 decreases; V_2 decreases	
Q.18	Kishore connects two resistors in parallel. He wants to measure the total current through the two resistors. Which of the following shows the correct arrangement to measure the current through Ammeter 'A'? A.  B. 	1

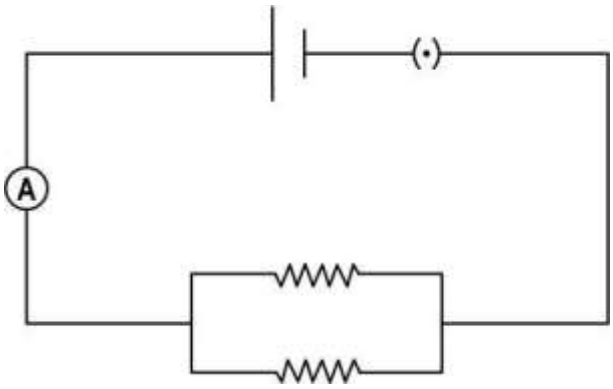
C.



D.



Answer Key & Marking Scheme

Q. No	Answers	Marks
Q.14	C. The current will decrease because the resistance of copper increases with an increase in temperature.	1
Q.15	B. 0.75 Ω	1
Q.16	A. I	1
Q.17	C. V_1 decreases; V_2 increases	1
Q.18	B. 	1