

**Question 18 (5 marks)**

**Resistor Colour Code Chart**

<i>Colour</i>	<i>Value</i>	<i>Multiplying factor</i>	<i>Tolerance</i>
Black	0	1	–
Brown	1	10	1%
Red	2	100	2%
Orange	3	1 000	–
Yellow	4	10 000	–
Green	5	100 000	0.5%
Blue	6	1 000 000	0.25%
Violet	7	–	0.1%
Grey	8	–	–
White	9	–	–
Gold	–	0.1	5%
Silver	–	0.01	10%

- (a) Use the Resistor Colour Code Chart to find the colour code of the resistor. 2

<i>Value</i>	<i>Tolerance</i>	<i>Band 1</i>	<i>Band 2</i>	<i>Band 3</i>	<i>Band 4</i>
680	1%	Blue	Grey	Brown	Brown

- (b) Determine the maximum value of the following resistor, showing all working. 3

<i>Band 1</i>	<i>Band 2</i>	<i>Band 3</i>	<i>Band 4</i>
Red	Black	Blue	Gold

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 $20 \times 1\,000\,000 = 20\,000\,000 \pm 5\%$   
 .....  
 $= 21\,000\,000$   
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