

Question 18 (5 marks)

Resistor Colour Code Chart

Colour	Value	Multiplying factor	Tolerance
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

Value	Tolerance	Band 1	Band 2	Band 3	Band 4
680	1%	blue	Grey	Brown	Brown

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

Band 1	Band 2	Band 3	Band 4
Red	Black	Blue	Gold

$Red = 2$
 $Black = 0$
 $\times \text{ by } 1\,000\,000$
 $\text{tolerance} = \pm \text{Gold}$
 $= \pm 5\%$

$= 20 \times 1\,000\,000$
 $= 20\,000\,000 \Omega \text{ at } \pm 5\%$
 $= 20 \text{ M}\Omega \pm 5\%$