

**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

Resistor Value =  $26\text{M}\Omega \pm 5\%$

$$\therefore \text{Max Value} = 26 \times 10^6 + \left( 26 \times 10^6 \times \frac{5}{100} \right)$$

$$= 27.3\text{M}\Omega$$

$$= 27\,300\,000\ \Omega$$