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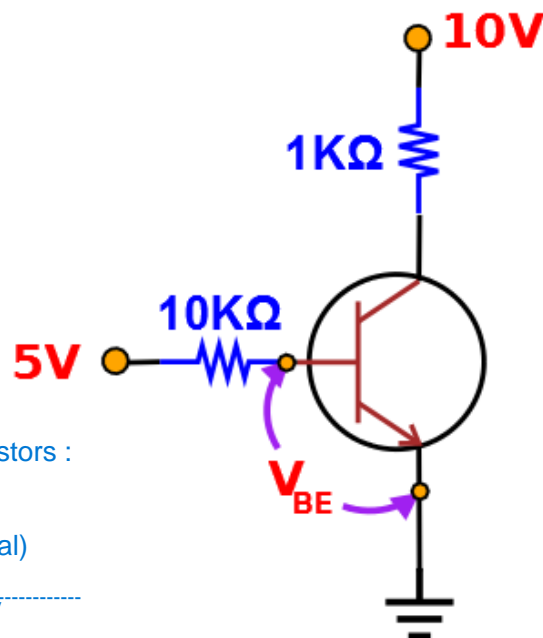
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Analog Electronics Problem – 21

Instructions:

1. Do not discuss with any one while solving the problems
2. Do not use internet while solving the problems
3. Do not use books while solving the problems
4. Do not try to copy from others
5. Do the problems in an easy way.

Question 21: What is the value of V_{BE} voltage?




Generally V_{BE} for NPN Transistors :
0.6V to 0.8V

Transistor Model	V_{BE} (typical)
2N3904	0.65V
BC547	0.7V ✓
2N2222	0.75V



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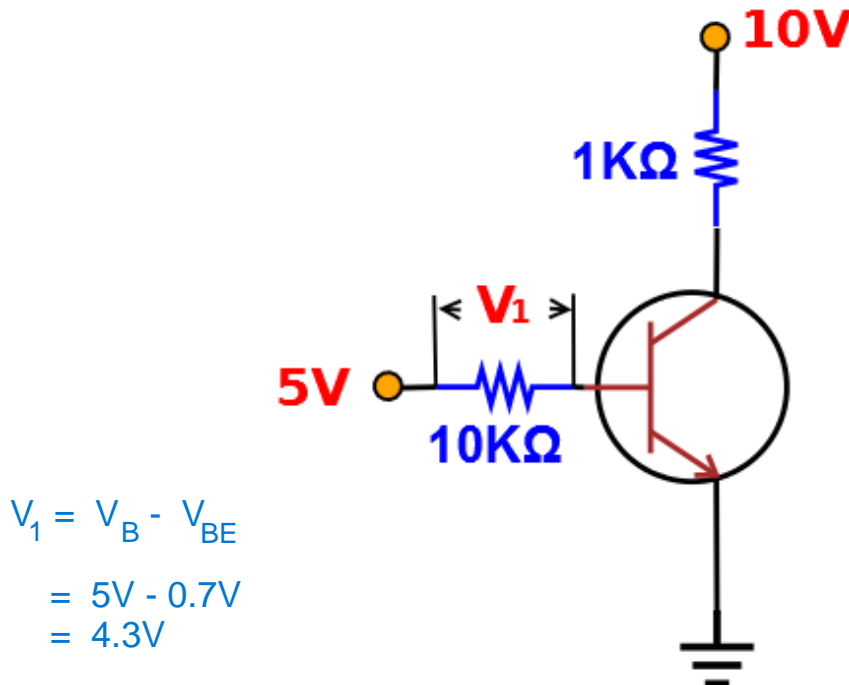
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Analog Electronics Problem – 22

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Question 22: What is the value of V1 Voltage?



$$\begin{aligned} V_1 &= V_B - V_{BE} \\ &= 5V - 0.7V \\ &= 4.3V \end{aligned}$$



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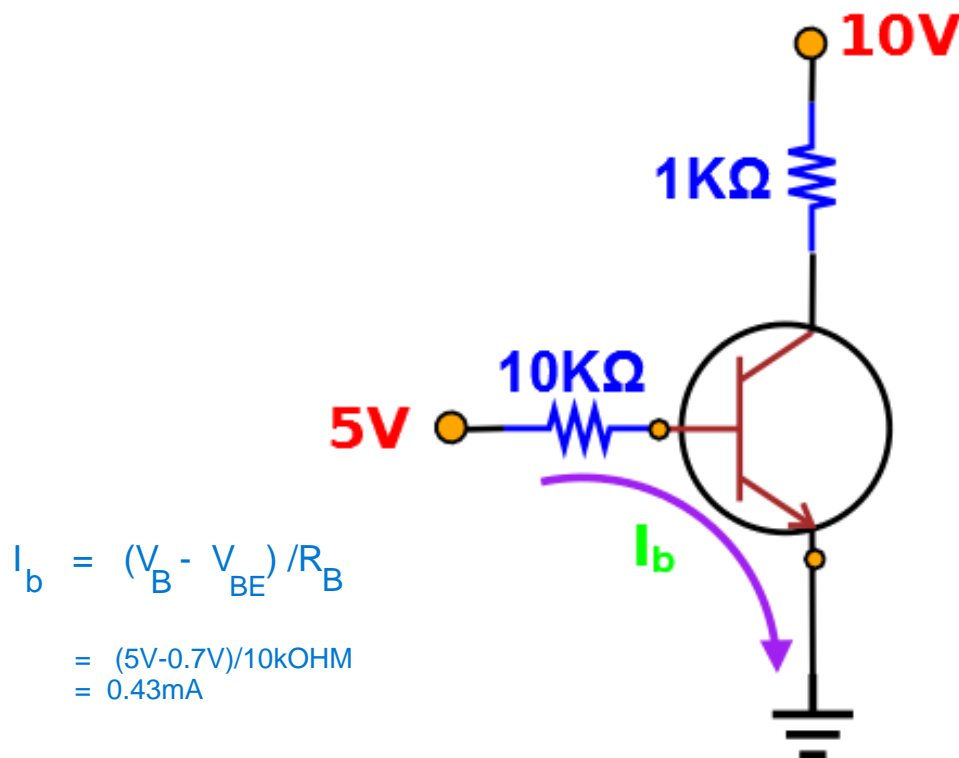
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Analog Electronics Problem – 23

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Question 23: What is the value of I_b Current?




$$\begin{aligned} I_b &= (V_B - V_{BE}) / R_B \\ &= (5V - 0.7V) / 10k\Omega \\ &= 0.43mA \end{aligned}$$



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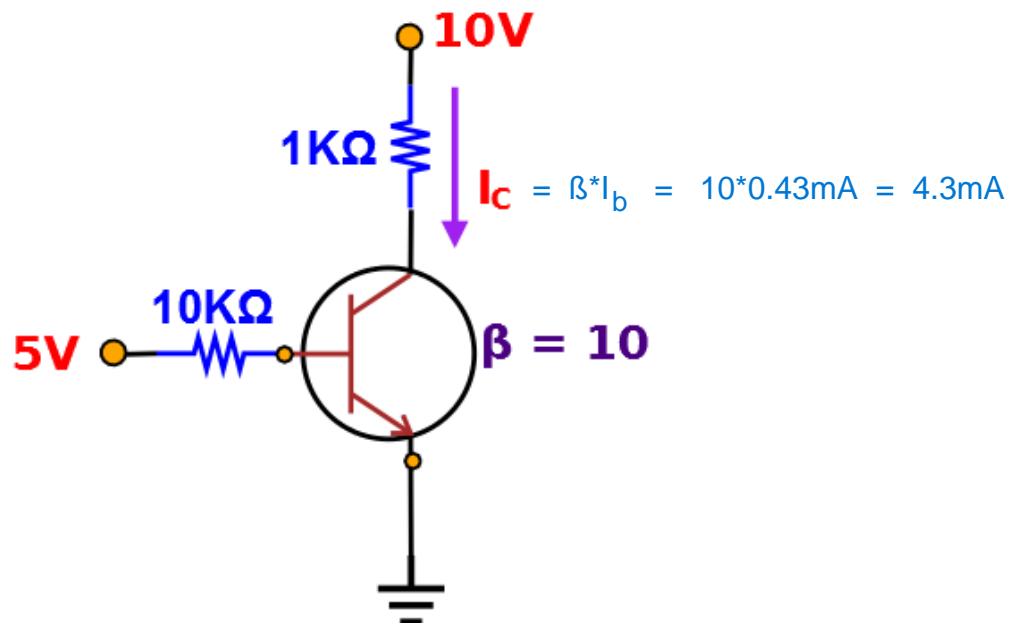
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Analog Electronics Problem – 24

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Question 24: What is the value of I_c Current?





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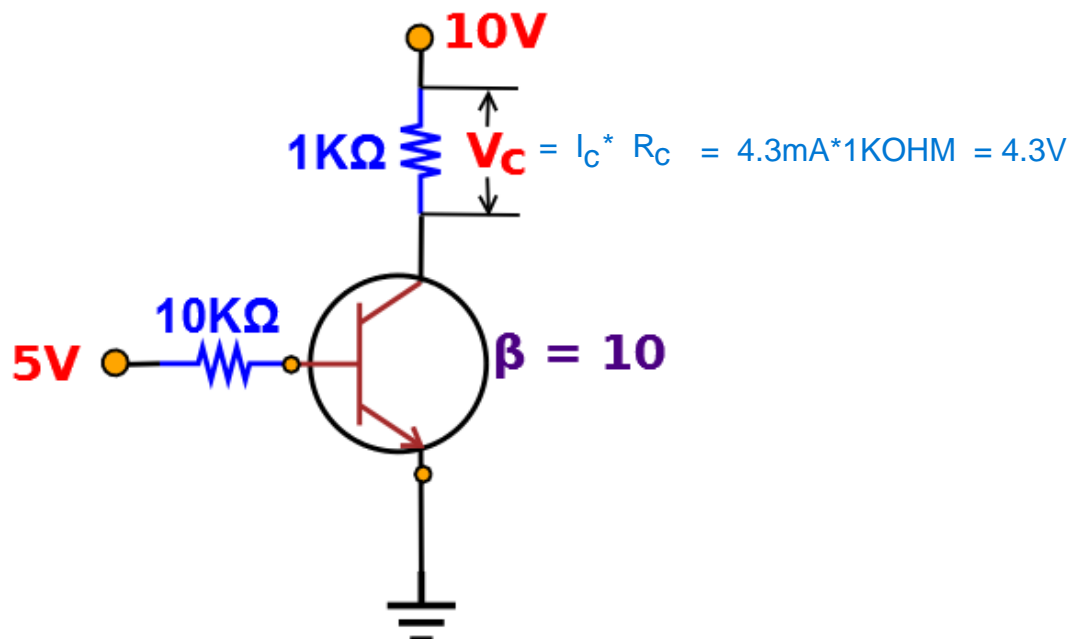
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Analog Electronics Problem – 25

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Question 55: What is the value of V_C Voltage?





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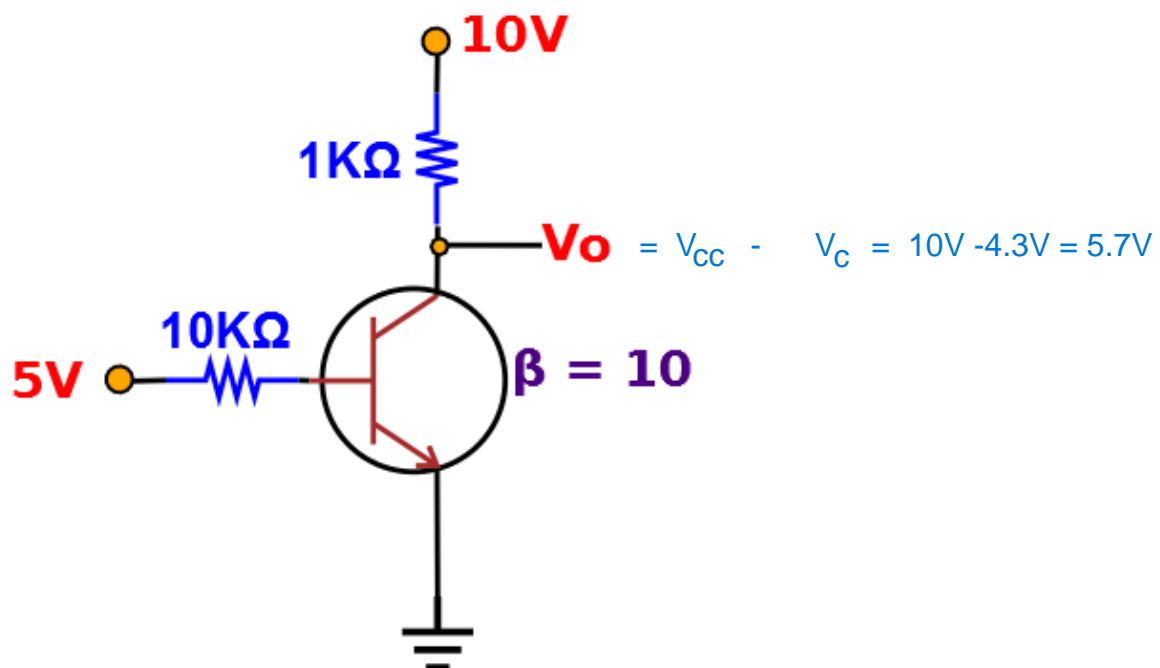
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Analog Electronics Problem – 26

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Question 26: What is the value of V_o voltage?





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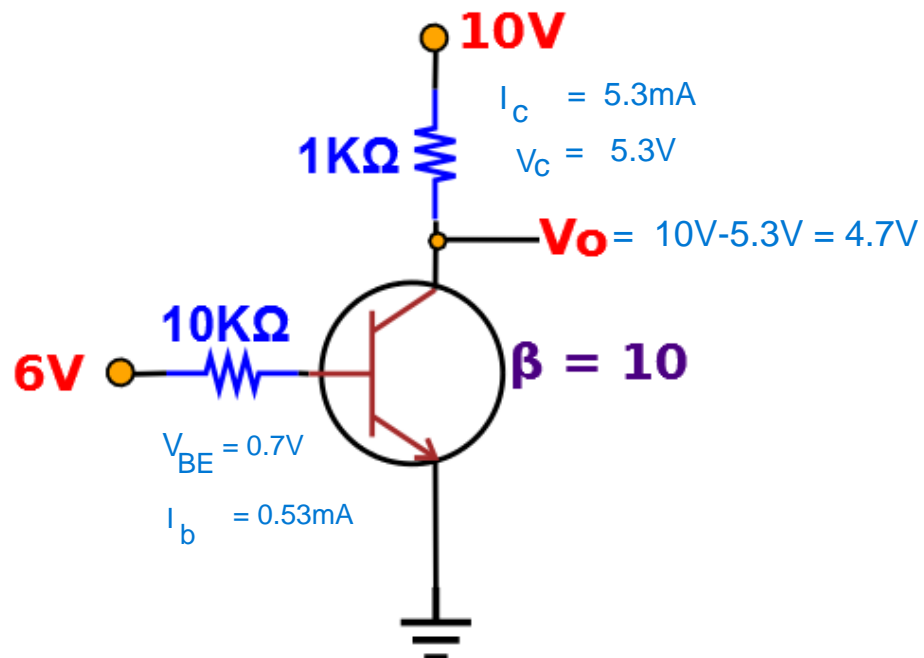
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Analog Electronics Problem – 27

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Question 27: What is the value of V_o voltage?





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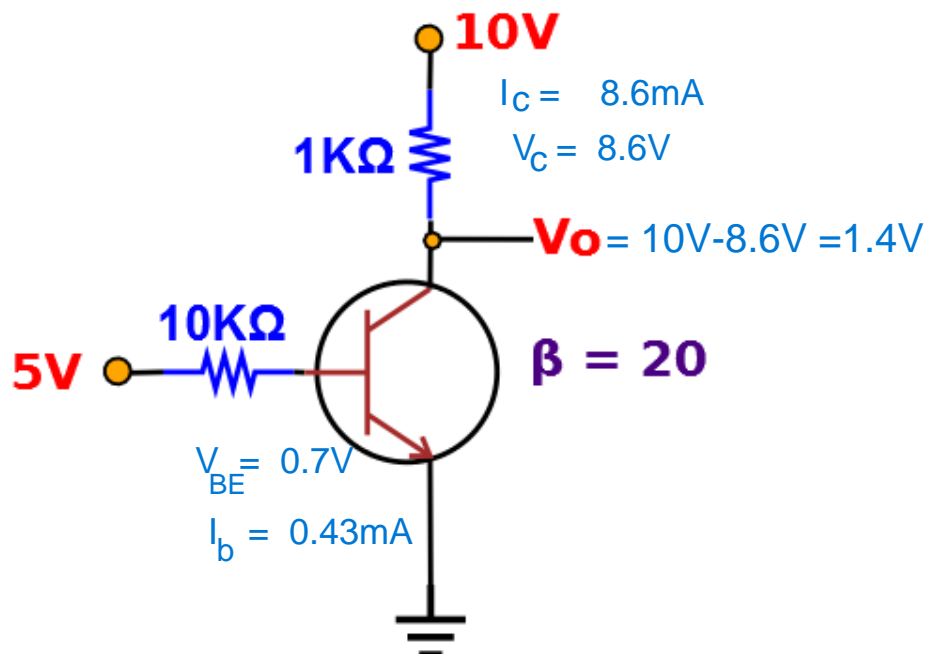
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Analog Electronics Problem – 28

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Question 28: What is the value of V_o voltage?





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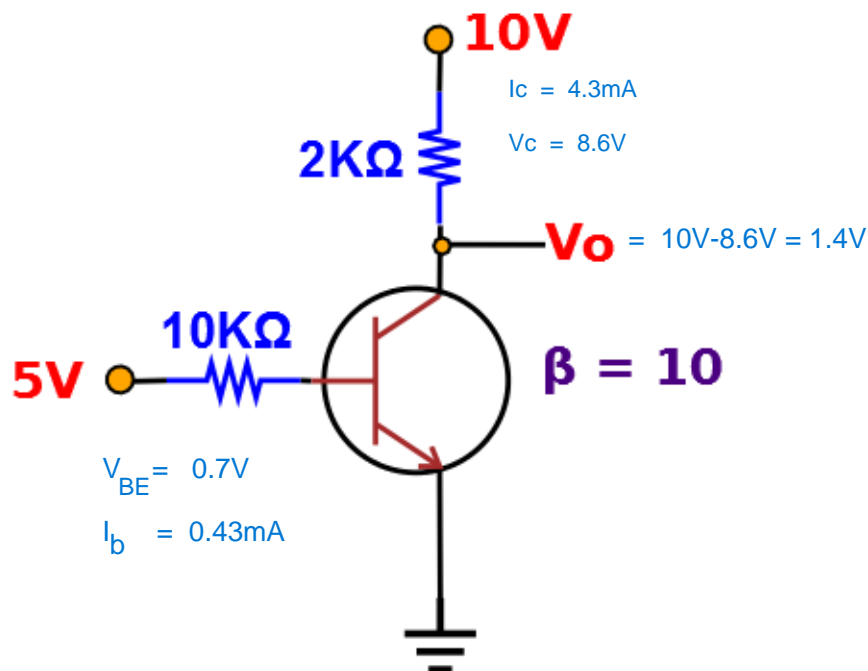
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Analog Electronics Problem – 29

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Question 29: What is the value of V_o voltage?





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Analog Electronics Problem – 30

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Question 30: What is the value of V_o voltage?

