Monostable and Astable Questions

Monostable Circuits

Question 1

The correct equation to calculate the time period of a 555 monostable is:

A. $T = 0.7 \times R \times C$
B. $T = 0.7 \div (R \times C)$
C. $T = 1.1 \times R \times C$
D. $T = 1.1 \div (R \times C)$

Question 2

A 555 monostable uses a 10 kΩ resistor and a 470 µF capacitor as the timing components. The time period of the monostable is:

A. 47 seconds
B. 5.2 seconds
C. 4.7 seconds
D. 3.3 seconds

Question 3

A 555 monostable circuit using a 220 µF capacitor to give a time period of 100 ms needs a timing resistor value of:

A. 450 kΩ
B. 410 kΩ
C. 450 Ω
D. 410 Ω

Question 4

The correct equation to calculate the time period of a NAND monostable is:

A. $T = 0.7 \times R \times C$
B. $T = 0.7 \div (R \times C)$
C. $T = 1.1 \times R \times C$
D. $T = 1.1 \div (R \times C)$

Question 5

A NAND gate monostable uses a 120 kΩ resistor and a 47 nF capacitor as the timing components. The time period of the monostable circuit is:

A. 2.6 ms
B. 3.9 ms
C. 5.6 ms
D. 6.2 ms

Question 6

The input to a monostable circuit is called the:

A. Trigger
B. Reset
C. Threshold
D. Discharge

Question 7

A 555 astable circuit uses a 1 µF capacitor for the timing capacitor, a 33 kΩ resistor for R1 and a 22 kΩ resistor for R2. The time period of the output is:

A. 0.039 seconds
B. 0.054 seconds
C. 0.085 seconds
D. 0.11 seconds

Question 8

A 555 astable has a time period of 20 ms. The frequency of the astable circuit is:

A. 14 Hz
B. 20 Hz
C. 50 Hz
D. 100 Hz

Question 9

A 555 astable circuit has a Mark of 10 ms and a Space of 5 ms. The time period is:

A. 0.5 ms
B. 2 ms
C. 5 ms
D. 15 ms

Question 10

For the astable in the previous question, the Mark-Space ratio is:

A. 1:2
B. 2:1
C. 1:3
D. 3:1

Question 11

A different 555 astable circuit has timing components with values C = 47 µF, R1 = 68 kΩ and R2 = 12 kΩ. The Mark-Space ratio of the output signal is:

A. 17:3
B. 3:17
C. 20:3
D. 3:20

Question 12

For the astable in the previous question, the frequency of the output signal is:

A. 0.3 Hz
B. 3 Hz
C. 17 Hz
D. 20 Hz

Answers

1. C
2. B
3. D
4. A
5. B
6. A
7. B
8. C
9. D
10. B
11. C
12. A

Website

http://www.pfnicholls.com/Electronics_Resources/QuestionIndex.html

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