Tutorial 12

EC103

(Multivibrators)

Question 1 (GATE ECE 2016)

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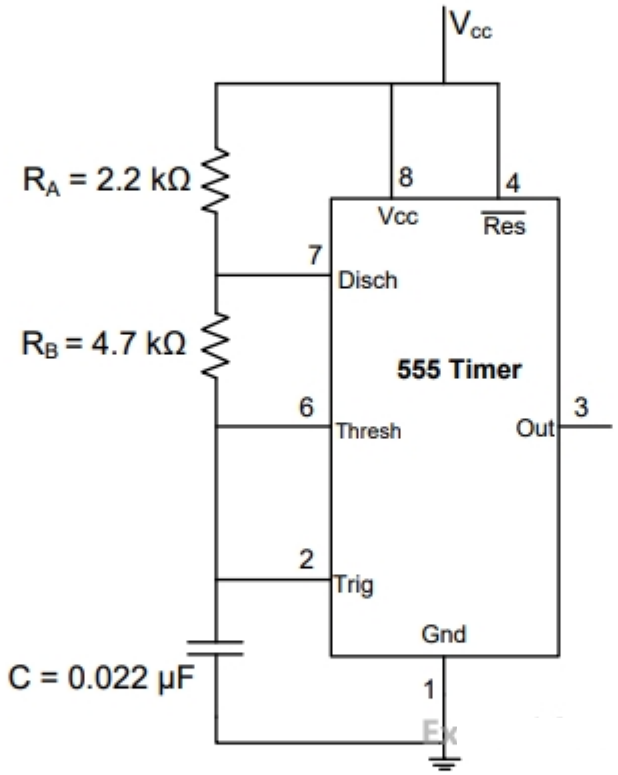
GATE ECE 2016 Set 3

In the astable multivibrator circuit shown in the figure, the frequency of oscillation (in kHz) at the output pin 3 is



- Ans: **5.65**

Question 2

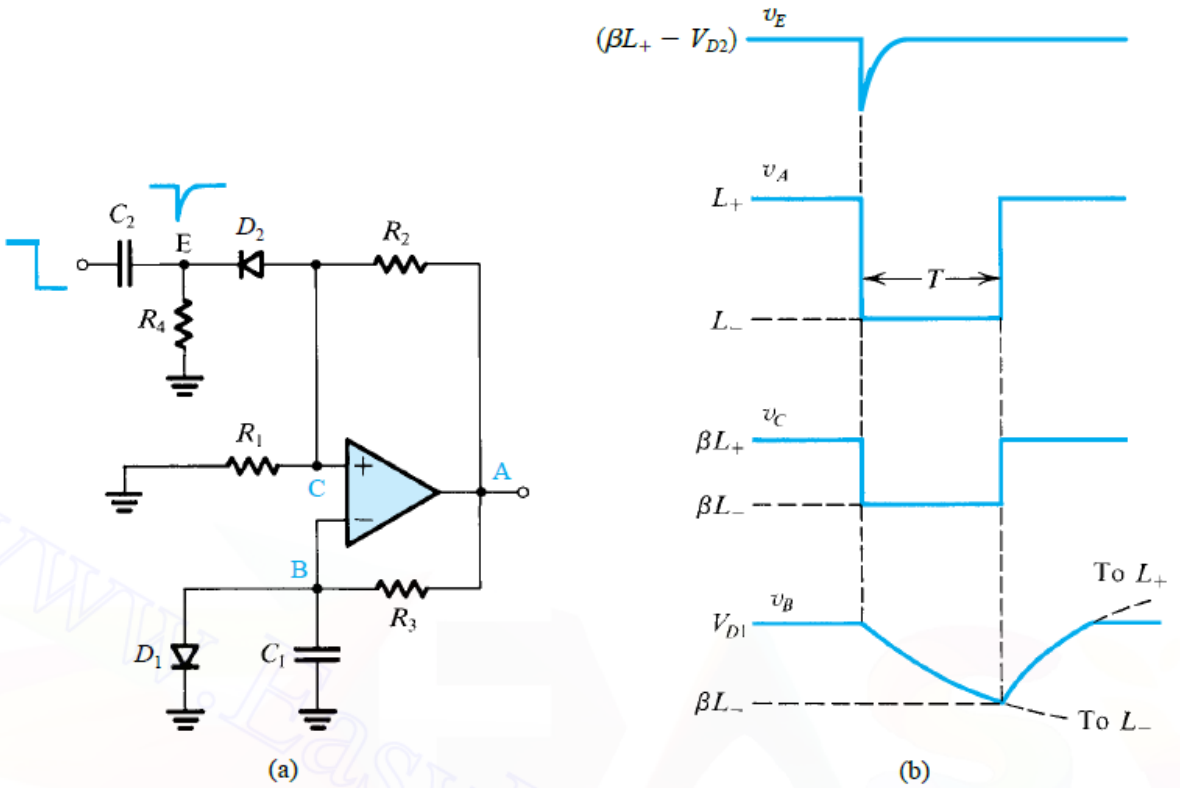


Figure 17.26 **(a)** An op-amp monostable circuit. **(b)** Signal waveforms in the circuit of **(a)**.

EXERCISES

17.19 For the monostable circuit of Fig. 17.26(a), find the value of R_3 that will result in a 100-μs output pulse for $C_1 = 0.1\ \mu\text{F}$, $\beta = 0.1$, $V_D = 0.7$ V, and $L_+ = -L_- = 12$ V.

Question 2.

Question 3

- Three NOT gates connected in cascade and out put of the last is fed back the input of the first making a closed loop.
- Can this whole circuit work as a multivibrator?
- If `No’, state the reason.
- If `Yes’, state the reason.

Question 4 (GATE ECE 2001)

- Consider the following two statements.
- **Statement 1:** Astable Multivibrator can be used for generating Square Wave.
- **Statement 2:** Bistable Multivibrator can be used for storing binary information.

- Options:

A: Statement 1 is correct

B: Statement 2 is correct

C: Both the statements are correct

D: None of the statements is correct.

Answer

- c

Question 5 (GATE ECE 1998)

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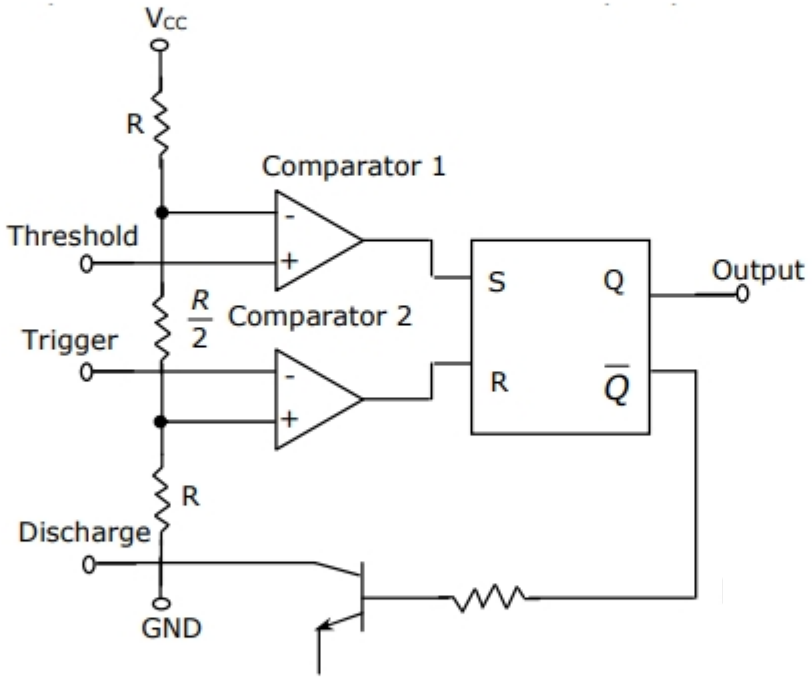
GATE ECE 1998

Implement a monostable multivibrator using the timer circuit shown, in Fig. Also determine an expression for ON time T of the o/p pulse.



Question 6 (GATE 2008)

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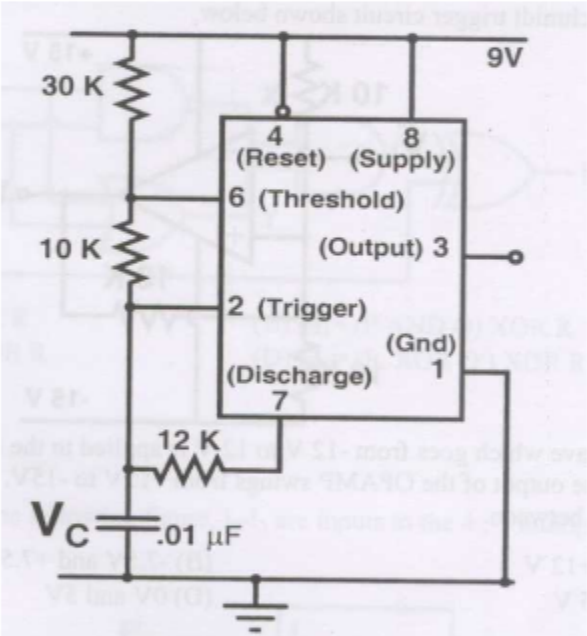
An astable multivibrator circuit using IC 555 timer is shown below. Assume that the circuit is oscillating steadily

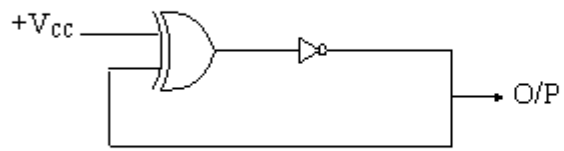


The voltage V_c across the capacitor varies between

(A) 3V to 5V (B) 3V to 6V (C) 3.6V to 6V (D) 3.6V to 5V

Question 7

The figure given below shows the circuit of which one of the following is



(A) Bi-stable multi-vibrator
(B) Astable multi-vibrator
(C) Mono stable multi-vibrator
(D) None of these