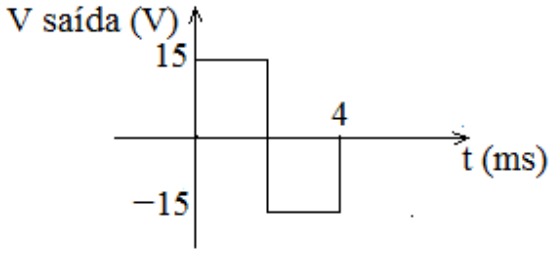
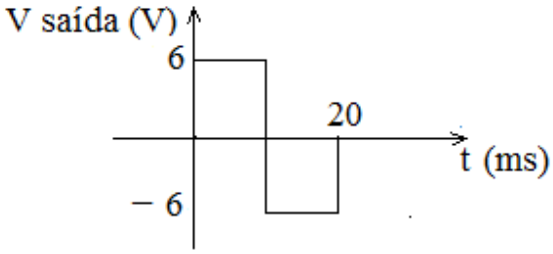
5ª Lista de Exercícios de Circuitos Eletrônicos - 1º Semestre de 2017 - Respostas

1-



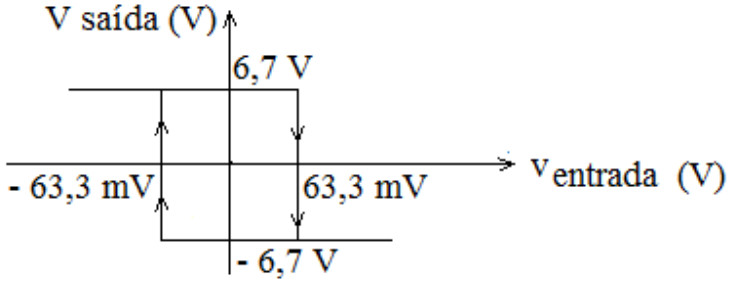
2- a)



b) PD1 = 6,3 mW PD2 = 47,7 mW

3- a) V disparo (superior) = 2,1 V
b) V disparo (inferior) = - 2,1 V
c) Margem de tensão de histerese = 4,2 V

4- a)



b) V ruído(pico) < 63,3 mV
c) Rs = 0,33kΩ

5- a) V entrada > VZ Led acende e V entrada < VZ Led apaga
b) PZ = 39,69 mW

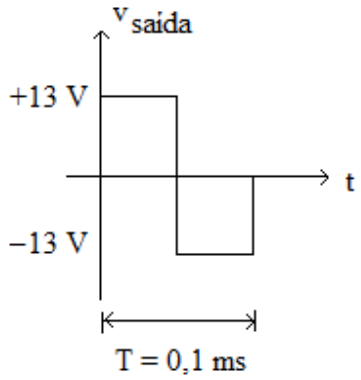
6- f = 8,69 kHz

7- a) f = 85,47 Hz b) VC = ± 3,74 V V saída (op) = ± 12,5 V V zener = ± 8,2 V

8- f = 8,69 kHz

9- a) C ≈ 0,275 µF

b)



10- a) f = 85,47 Hz b) VC = ± 3,74 V V saída (op) = ± 12,5 V V zener = ± 8,2 V

11- R1 ≈ 1,164 R2

12- 1,23 kHz ≤ f ≤ 59,1 kHz

13- R1 = 15kΩ R ≈ 39 Ω

14- 7,96 kΩ ≤ R ≤ 318,5 kΩ R (potenciômetro) = 310,54 kΩ

15- R2 = 2,5 kΩ (obtido no gráfico) R1 = 5 kΩ 225,9 Ω ≤ R ≤ 1,69 kΩ
R (potenciômetro) = 1,46 kΩ

16- f = 3,12 kHz v saída = 6 V

17- a) v saída = 5,4 V rms 1,45 kHz ≤ f ≤ 15,9 kHz

18- RC ≈ 10,6 ms