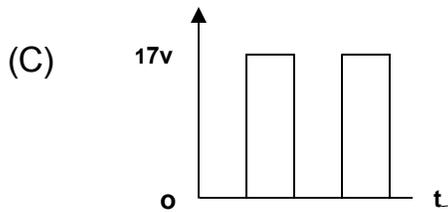
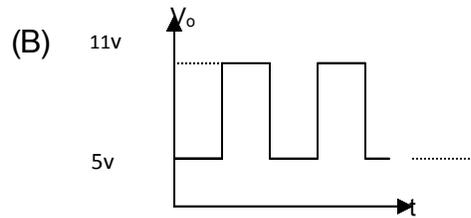
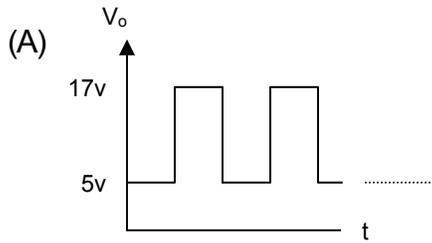
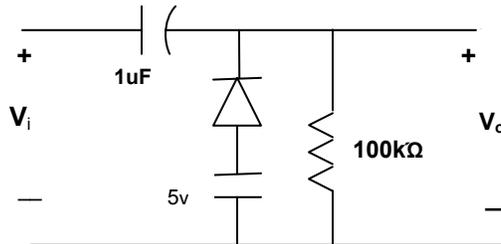
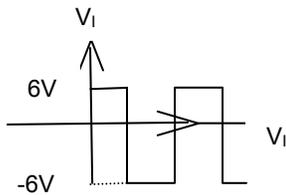


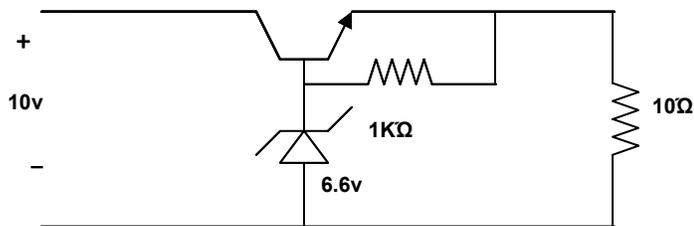
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1. The output voltage waveform for the following circuit will be



(D) None of these

2.



The power dissipated in the transistor is ($V_{BE}=0.7V$)

(A) 0.6 W

(B) 2.4 W

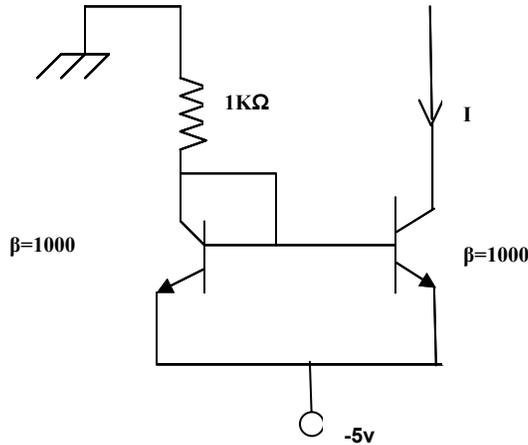
(C) 4.2 W

(D) 5.4 W

3. In a forward biased p-n junction diode with $N_A \gg N_D$, the product of dynamic diode resistance and diffusion capacitance equals (τ_P = hole lifetime)

- (A) $\tau_P - 1$ (B) τ_P (C) $-\tau_P$ (D) τ_P^2

4.



Assuming that the transistors are matched, value of I is

- (A) 0 mA (B) 2.3 mA (C) 4.3 mA (D) 7.3 mA

5. An amplifier circuit has an overall current gain of -200 and input resistance of 40K Ω with a load resistance of 2K Ω . Find overall voltage gain of the amplifier

- (A) 10 dB (B) -10 dB (C) 30 dB (D) none of these

6. A colpitt oscillator has a coil with an inductance of 50 μ H and is tuned by a capacitors of 500 pF and 200pF. Find the minimum gain for maintaining oscillation

- (A) 2.4 (B) 2.5 (C) 2..8 (D) none of these

7. A junction transistor with $\beta = 49$ and $I_{CBO} = 1\mu$ A at 25⁰ C has $I_B = 10 \mu$ A. The value of I_C is given in μ A by

- (A) 441 (B) 490 (C) 539 (D) 540