Electronics II- EE361

Name (Arabic):

Reg. No.:

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Section:

Q1. A particular amplifier has the Bode diagram shown in Figure 1. The unity gain bandwidth is

a) 50 MHz b) 150 kHz c) 150 MHz d) otherwise

Q2. A particular amplifier has the Bode diagram shown in Figure 1. The transfer function is

a) $\frac{10^3}{1+j\frac{f}{5x10^5}}$ b) $\frac{60}{1+j\frac{f}{5x10^5}}$ c) $\frac{60}{1+j\frac{f}{5x10^4}}$ d) $\frac{10^3}{1+j\frac{f}{5x10^4}}$

Q3. A particular amplifier has the Bode diagram shown in Figure 1. When the gain is 20 dB, then the **3 dB bandwidth** is

a) 2.5 MHz b) 25 MHz c) 5 MHz d) additional information is needed

Q4. Consider the circuit shown in Figure 2. The midband gain is

a) $\frac{1}{3}$ V b) 0.5 V c) 0 V d) need to know the frequency

Q5. Consider the circuit shown in Figure 2. The 3 dB high frequency f_H is

a) $\frac{1000}{6\pi}$ MHz b) $\frac{3000}{8\pi}$ MHz c) $\frac{50}{\pi}$ MHz d) cannot decide

Q6. Consider the circuit shown in Figure 3 where v_i is a square wave of frequency 5 kHz. A suitable capacitance is

a) 0.05 nF b) 5 μF c) 5 nF d) 500 nF

Q7. A particular amplifier has the Bode diagram shown in Figure 4. The amplifier

a) Doesn't contain coupling and bypass capacitors b) Must contain load capacitor

c) Contains load, coupling, and bypass capacitors d) Must contain bypass and coupling capacitors

Q8. The voltage gain of the op-amp circuit shown in Figure 3 is

a) $-\frac{R_2}{R_1 // R_3}$ b) $-\frac{R_2}{R_1 + R_3}$ c) $-\frac{R_2}{R_3}$ d) $-\frac{R_3}{R_1}$

Q9. The input resistance of the standard inverting amplifier is R_i. The input resistance for the circuit shown in Figure 5 is

a) R_i b) $R_1 + R_3$ c) $R_1 // R_3$ d) otherwise

Q10. v_o for the circuit shown in Figure 6 is

a) $2V_1 + 8V_2$ b) $-2V_1 - 8V_2$ c) $50V_2 - 20V_1$ d) $20V_1 + 8V_2$

Q11. For the circuit shown in Figure 7, if the saturation voltages are +10 V and -10 V, then v_o is equal to

a) 10 V b) 8 V c) -8 V d) 5 V

Q12. The gain of the circuit shown in Figure 8 is

a) ∞ b) $\frac{R_1 + R_2}{R_1}$ c) $\frac{R_1}{R_1 + R_2}$ d) 1

Q13. The output of the circuit shown in Figure 9 is

a) $\frac{R_2}{R_1}(v_1 - v_2)$ b) $\frac{R_2}{R_1}(v_2 - v_1)$ c) $\frac{R_2}{R_1}v_2 - \frac{R_2}{R_1}v_1$ d) more information is needed

Q14. The two capacitors in the circuit shown in Figure 10 affect the amplifier response at

a) low frequencies b) high frequencies c) low and low frequencies d) at any frequencies

Q15. Define the frequency response: The steady state output of linear systems with sinusoidal input signal (AC)

Figure 1

Figure 2

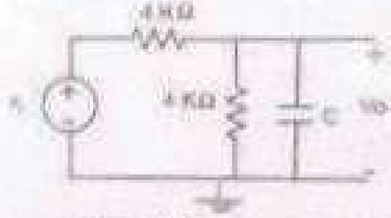


Figure 3

Figure 4

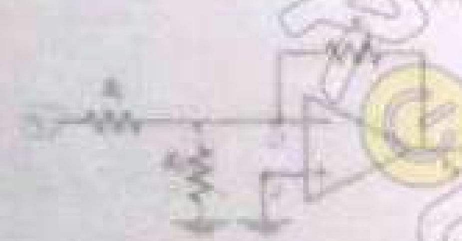
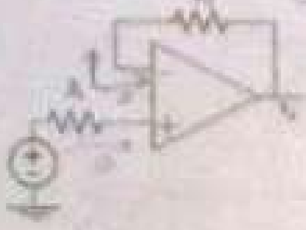


Figure 5

Figure 6

Figure 7

Figure 8



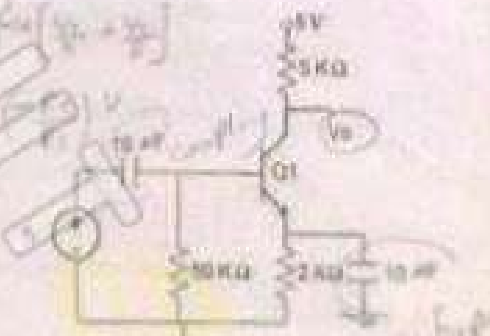


Figure 10

Figure 9