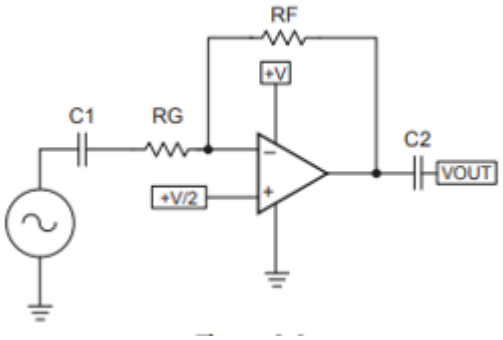
MULTIPLE CHOICE QUESTIONS FOR LIC UNIT 1 & 2

1. Among these which is not characteristics of an ideal op amp
   - Infinity Gain
   - Infinity input resistance
   - Zero output resistance
   - Zero output current

2. Gain of voltage follower circuit is
   - Unity
   - Infinity
   - Two
   - Ten

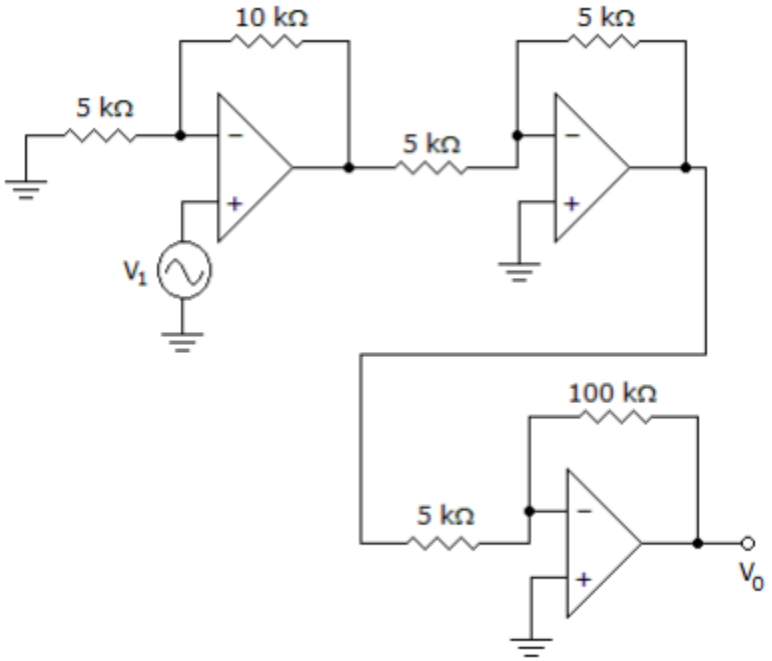
3. Which statement is true for the below circuit?



   - It is non inverting for DC and inverting for AC
   - It is non inverting for AC and inverting for DC
   - It is inverting for DC and inverting for AC
   - It is non inverting for DC and inverting for AC

4. Find out output voltage of an op amp, if V1 and V2 are two input voltages
   - Vout = A(V1 – V2)
   - Vout = A/(V1 – V2)
   - Vout = A(V1+V2)
   - Vout = V1 – V2

5. Calculate the input voltage if the final output is 10.08 V.



- –1.05 V
- 0.525 V
- 0.168 V
- 4.2 V

6. In which compensation technique, we do not any additional resistor or capacitor?
    - Lead compensation
    - Gain compensation
    - Lead lag compensation
    - None of the above
7. Which statement is true with respect to phase margin calculations from Bode plot?
    - We measure phase margin at 0db gain
    - We measure phase margin at 0db gain and subtract it from 180 degrees

- We measure gain at 0db gain point
- We measure phase margin at DC operating point

8. Which among them is not a AC parameter for an operation amplifier?
    - CMRR
    - PSRR
    - Differential gain
    - Voltage offset
9. Which among these require input voltage at both inverting and non inverting terminals of an operation amplifier?
    - Inverting attenuation with zero offset
    - Inverting attenuation with positive offset
    - Inverting attenuation with negative offset
    - Non inverting attenuation with negative offset
10. For the transfer function below, what is open loop gain?

$$\frac{V_{OUT}}{V_{IN}} = \frac{\frac{-aZ_F}{Z_G + Z_F}}{1 + \frac{aZ_G}{Z_G + Z_F}}$$

- a
- $-aZ_F/Z_G+Z_F$
- 1 + a
- $1 + aZ_G/Z_G+Z_F$