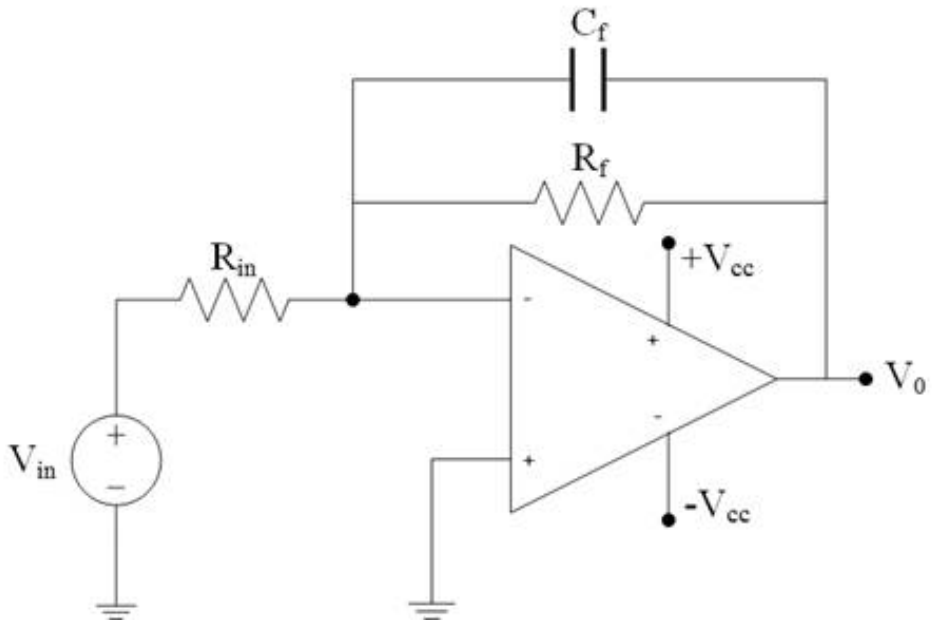
Started on	Wednesday, 8 February 2017, 11:55 AM
State	Finished
Completed on	Wednesday, 8 February 2017, 12:55 PM
Time taken	1 hour
Grade	**33.33** out of 100.00

Question 1

Partially correct

Mark 33.33 out of 100.00



Quiz 2b

The operational amplifier is ideal.

Given:

R_{in} = 10 kΩ (kilo Ohm) R_f = 14 kΩ (kilo Ohm) C_f = 0.1 μF (micro F)

$+V_{cc}$ = 15 V $-V_{cc}$ = -15 V

For each question below, report your answer in the form of real + j imaginary

a) Find the steady-state phasor output $\mathbf{V_0}$ when $V_{in}(t)$ = 5 V.

$\mathbf{V_0}$ = -7 ✓ + j 0 ✓ Volts

b) Find the steady-state phasor output $\mathbf{V_0}$ when $V_{in}(t)$ = 5 cos(500t)V.

$\mathbf{V_0}$ = -3.54 ✗ = j 3.54 ✗ Volts

c) Find the magnitude of the steady-state phase output $\mathbf{V_0}$ when $V_{in}(t)$ = 5 cos(5,000t)V.

$\mathbf{V_0}$ = -0.2 ✗ + j 3.54 ✗ Volts

a) $\mathbf{V_0}$ = -7.0 +j 0 V = 7.0 at angle 180° V

b) $\mathbf{V_0}$ = -4.6980 + j 3.2886 V = 5.7346 at angle 145.01° V

c) $\mathbf{V_0}$ = -0.1400 +j 0.9800 V = 0.9899 at angle 98.13° V

Partially correct

Marks for this submission: 33.33/100.00. Accounting for previous tries, this gives **33.33/100.00**.