QUIZ 5

Basic Electronics - ECE113

Duration: 30 mins

Marks: 10

Date: 25/07/2022 Time: 4.15-4.45 pm

1. Consider the op amp circuit shown in Fig. 1 where Z is a resistor R in parallel with a capacitor C and Z' consisting of a resistance R'. The input is a sweep voltage v = at. Show that the output voltage v_0 is equal to –a R'C – a (R'/R) t. Assume infinite open loop gain.

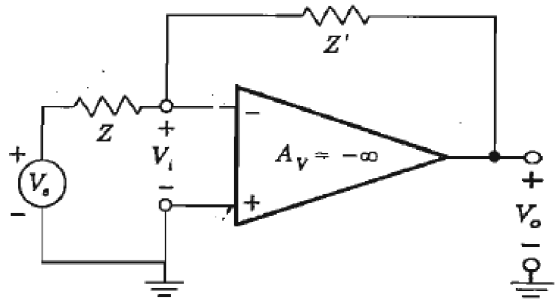

Figure 1 [5 Marks]

2. For the circuit shown in Fig. 2, show that input impedance $Z_i = \frac{v_i}{I_i} = \frac{R_1 R_2}{Z}$. What will be Z_i, if Z is a capacitor. Comment on your result.

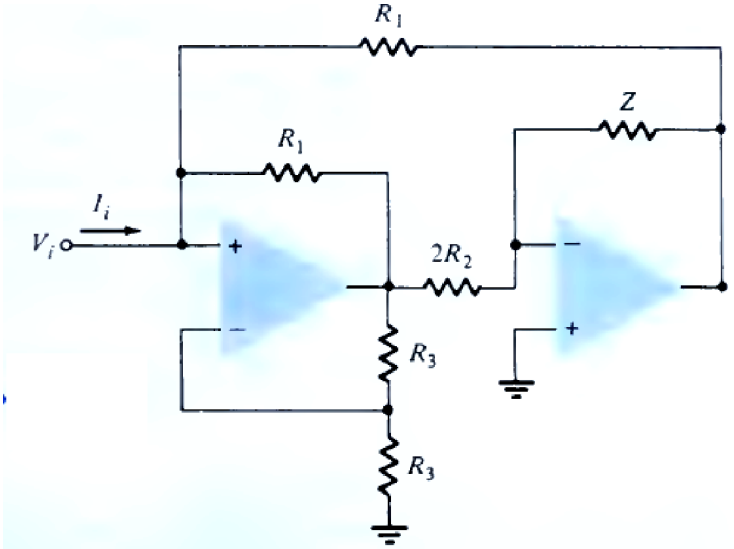

Figure 2 [5 Marks]