

FACULTY OF ELECTRICAL ENGINEERING
UNIVERSITI TEKNOLOGI MALAYSIA
SKEE 1023 (CIRCUIT THEORY)

TEST 2

17 DECEMBER 2011

DURATION : 1 HOUR 30 MINUTES

Answer all questions

Q3. Find the value of R_f to give an output voltage v_o of 9 V in Fig Q3.

[6 marks]

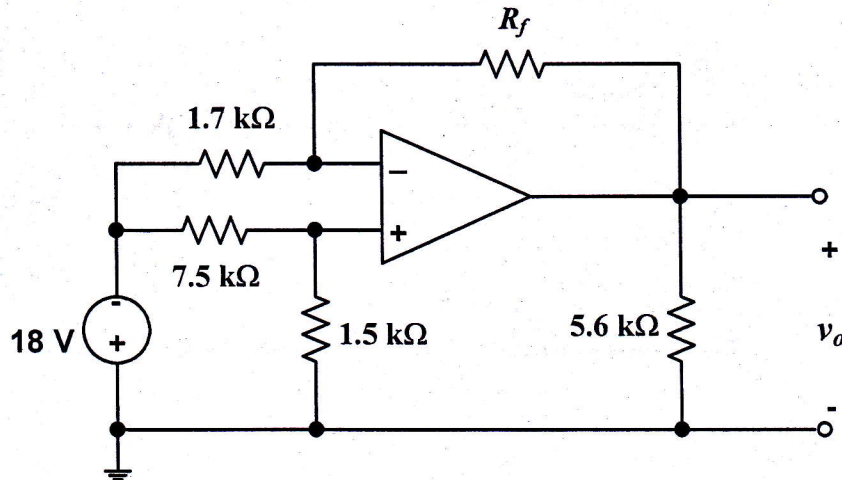


Fig. Q3

Q4. Consider the circuit shown in Fig. Q4.

- (a) Obtain the total impedance [5 marks]
- (b) Determine $i(t)$ and $v_I(t)$ [4 marks]
- (c) Draw the phasor diagram of $v_s(t)$, $v_I(t)$ and $i(t)$ [1 mark]
- (d) Is the current $i(t)$ leading or lagging the voltage $v_I(t)$? If so, by how many degree? [1 mark]
- (e) Calculate the instantaneous value of $v_I(t)$ at $t = 0.2$ ms. [1 mark]

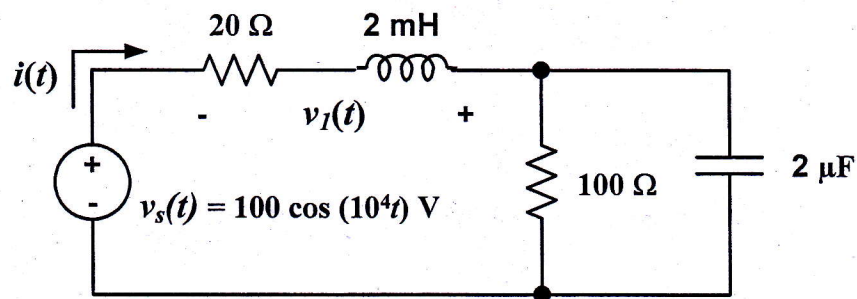


Fig. Q4


Ketua Jabatan Kejuruteraan Elektrik Kuasa
Fakulti Kejuruteraan Elektrik
Universiti Teknologi Malaysia
81310 UTM, Skudai
Johor Darul Takzim