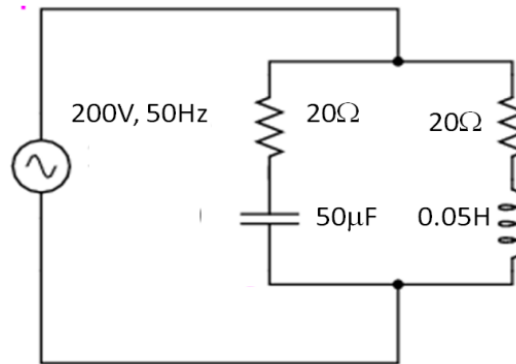


**23Z102 Basics of Electrical and Electronics Systems**  
**Tutorial Test 2**

**Date:** 25.10.2023

1. For the following circuit, draw the phasor diagram and calculate the (i) line current, (ii) power factor and (iii) power consumption



2. A resistance  $R$ , an inductance  $L = 0.01\text{ H}$  and a capacitance  $C$  are connected in series. When an alternating voltage  $v = 100 \sin (1000t - 20^\circ)$  is applied to the series combination, the current flowing is  $10 \sqrt{2} \sin (1000t - 65^\circ)$ . Find the values of  $R$  and  $C$ .