

Homework 5

Date

2010320256 No.

$$1. a) \frac{100 + j150}{75} = 1.33 + j2 \quad \text{plot at A}$$

$$|r| = \frac{|10A|}{|10Z|} = \frac{5.3572}{8.17} = 0.656$$

$$r = 0.656 \angle 40^\circ \\ = 0.5 + j0.42$$

$$b) \text{VSWR at B} = 4.9$$

$$c) 0.23 - j0.35 \text{ at C}$$

$$Y_L = \frac{0.23 - j0.35}{75} = 0.003067 - j0.00467$$

$$d) \text{At D it show } 0.1945$$

Draw line from origin 0.0945

$$Z_{in} = 0.3 + j0.65 \text{ at E}$$

$$Z_{in} = (0.3 + j0.65) \times 75 = 22.5 + j48.75$$

$$e) \text{at F}$$

$$y_{in} = 0.6 - j1.3$$

$$Y_{in} = \frac{(0.6 - j1.3)}{75} = 0.008 - j0.0173$$

$$2. \quad Z_L = 10 + j10$$

$$\frac{10 + j10}{50} = 0.2 + j0.2$$

plot at A

$$0.033 \text{ at B}$$

$$0.9 - 0.033 = 0.467$$

$$0.467 - (0.725 - 0.5) = 0.242 \quad \text{plot at C}$$

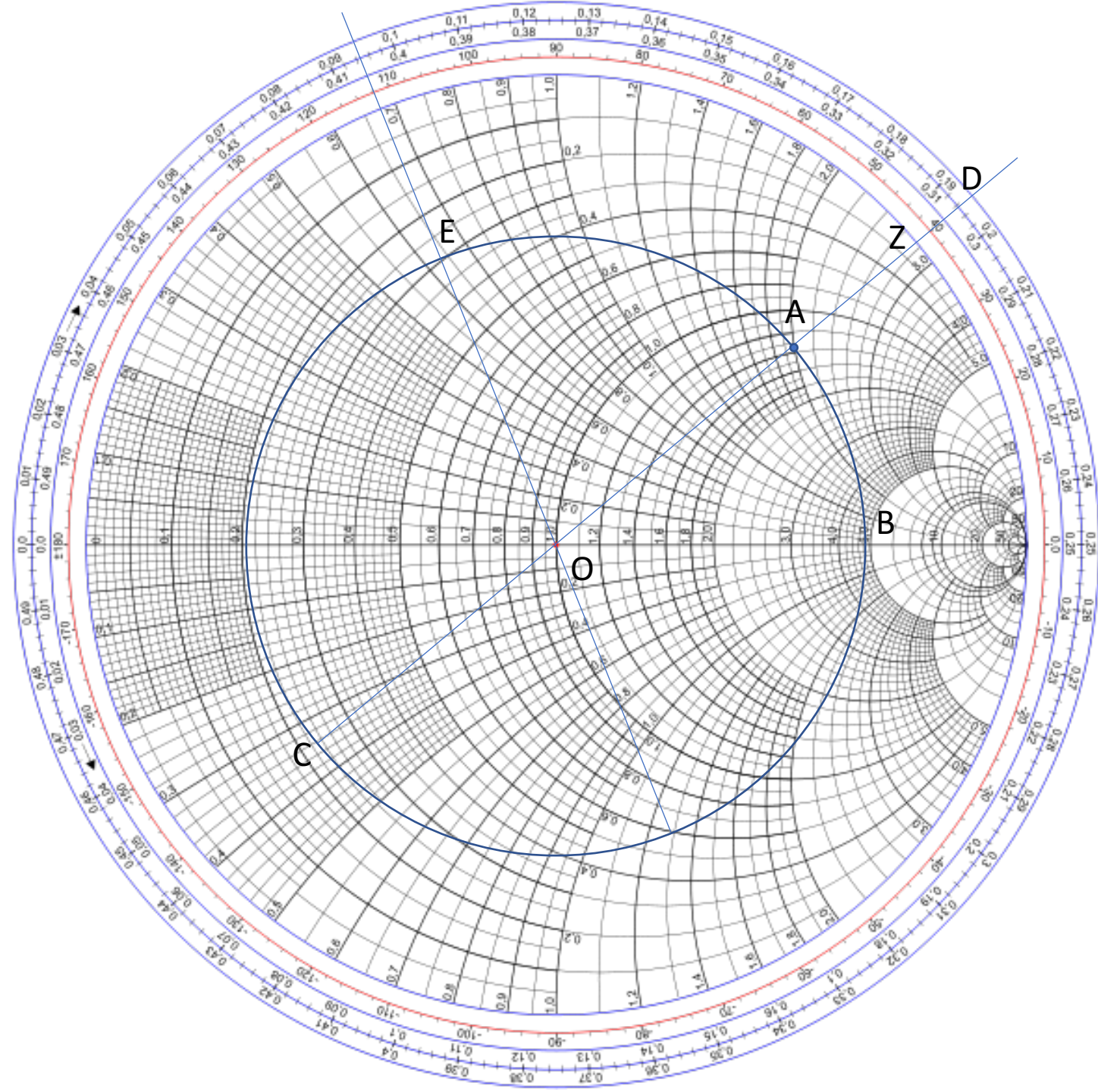
$$4.8 + j1.2 \quad \text{at D}$$

$$Z_L = (4.8 + j1.2) \times 50 = 240 + j60$$

Hw5 smith charts

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Problem 1



Problem 2

