



Faculty of Electrical & Electronics Engineering
DEE3143 Basic Electrical Machine & Power System

Name: _____

ID: _____

Section: _____

Date: _____

(Failed to complete all the particulars above will be penalized 2 marks)

QUIZ 2

Question

A single phase 10kVA, 480/120V transformer has been tested to determine its equivalent circuit. The results of test are shown below:

Open-circuit test	Short-circuit test
$V_{oc} = 480V$	$V_{sc} = 10V$
$I_{oc} = 0.41A$	$I_{sc} = 10.6A$
$P_{oc} = 38W$	$P_{sc} = 26W$

All data given were taken from the primary side of the transformer. Find:

- (i) The equivalent circuit referred to the high-voltage side.
- (ii) Equivalent circuit referred to the low-voltage side.
- (iii) Voltage regulation for full load at 0.8 power factor lagging.
- (iv) The efficiency of the transformer under the condition in part (iii).