



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

Name: \_\_\_\_\_

ID: \_\_\_\_\_

Section: \_\_\_\_\_

Date: \_\_\_\_\_

QUIZ 6

A low voltage specific agriculture consumer having the following data from its monthly bill:

Maximum demand (kW) : 500 units  
Monthly active energy consumption (kWh) : 250,000 units  
Monthly reactive energy consumption (kVarh) : 187500 units

Using **Tariff H-Low Voltage Specific Agriculture Tariff (TNB)**, analyze

- (i) The monthly load factor of the consumer.
- (ii) The power factor of the consumer (assume 30 days per month).
- (iii) The total penalty charge due to poor power factor (if any) and the total monthly bill charge for this consumer.
- (iv) The size of capacitor, in Kvar, would raise the PF to be 0.85.

[10 marks]

**Tariff H - Low Voltage Specific Agriculture Tariff and power factor surcharge**

**For overall monthly consumption between 0-200 kWh per month:**

For all kWh sen/kWh 36.9

The minimum monthly charge is RM7.20

**For overall monthly consumption more than 200 kWh per month:**

For all kWh (from 1kWh and above) sen/kWh 40.3

The minimum monthly charge is RM7.20

**TNB Power factor surcharge**

Percent of surcharge from the current bill	Condition
1.5%	For every 0.01 less than 0.85 power factor
3.0%	For every 0.01 less than 0.75 power factor