

# KERALA AGRICULTURAL UNIVERSITY

B.Tech (Agrl. Engg) 2015 Admission  
I<sup>st</sup> Semester Final Examination-February -2016

Cat. No: Fpme .1101

Title: Electrical Circuits (2+1)

Marks: 50.00

Time: 2 hours

## I Fill up the blanks

(10 x 1=10)

1. The resistance R offered by the conductor varies directly as its \_\_\_\_\_
2. Unit of resistivity is \_\_\_\_\_
3. 1 kWh = \_\_\_\_\_ kcal
4. \_\_\_\_\_ connection is the best suited for 3 phase 4 wire service
5. A combination of various electrical elements connected in any manner what so ever called \_\_\_\_\_

## State True or False

6. An electric circuit contains active elements only
7. 1 dB which have a ratio of 1.26
8. The value of form factor for sinusoidal alternating voltage is 1.11
9. RMS value of sinusoidal ac current is equal to its value at an angle 90 degree
10. Kirchoff current law is applicable to only junctions in a network

## II Write short notes on any FIVE questions

(5 x 2=10)

1. State Norton's theorem
2. Application of maximum power transfer theorem
3. Advantages of poly phase systems
4. Distinguish between active and reactive power
5. Write about dependent source of power
6. Define ideal constant voltage source
7. Define resonance curve in the RLC series circuits

## III Write short essay on any FIVE questions

(5 x 4=20)

1. Write steps to Thevenize the a circuit
2. Explain superposition theorem
3. Derive an expression for Star to delta conversion of a circuit
4. Write about Q factor for resonance series circuit
5. What is step response of dc circuits
6. Different types of filters in AC net works

7. Write about the concept of impedance

**IV Write essay on any ONE**

(1 x 10=10)

1. Explain in detail about the graphical representation of resonance, resonance curve and half band width of a resonance circuit
2. Explain about interconnection of three phases and delta or mesh connection for three phase three wire system