KERALA AGRICULTURAL UNIVERSITY
B.Tech.(Ag. Engg.) 2017 Admission
III Semester Final Examination-January 2019

Fpme.2105 **Electrical Machines and Power Utilization (2+1)**

Marks: 50
Time: 2 hours

I **Fill in the Blanks** **(10x1=10)**

1 The speed of a _____ motor is practically constant
2 The commutator of a D.C generator acts as _____
3 The open circuit test on a transformer gives_____
4 Three phase wound rotor motor is also called _____ motor.
5 The phase sequence of a three phase system is RYB. The other possible phase sequence can be_____

State True or False

6 In a parallel resonance circuit impedance is maximum at resonance frequency.
7 The magneto motive force is measured in Weber's.
8 Copper losses in a generator vary with load.
9 A three phase induction motor can also be run on single phase supply.
10 Efficiency of a transformer is maximum when copper losses are equal to iron losses.

II **Write Short notes on any FIVE of the following** **(5x2=10)**

1 Working principle of transformer
2 Why starter is necessary for starting induction motor?
3 Slip
4 Armature reaction in DC machine
5 Why three phase induction motor is self starting?
6 Transformer losses
7 Disadvantages of low power factor.

III **Answer any FIVE of the following.** **(5x4=20)**

1 Difference between electrical circuit and magnetic circuit.
2 Commutation of D.C generator.
3 Speed control method of D.C. series motor.
4 Torque Slip Characteristics of Three Phase Induction Motor.
5 Transformer open circuit test.
6 Methods of improving commutation. **(any two)**
7 Comparison of lap and wave windings.

IV **Write an essay on any ONE of the following** **(1x10=10)**

1 Shaded pole motor
2 Construction of D.C. generator

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