



KERALA AGRICULTURAL UNIVERSITY

B.Tech.(Ag. Engg.) 2015 Admission

V Semester Final Examination-January-2018

Electrical Machines and Power Utilization (2+1)

Marks:50

Time: 2 hours

(10x1=10)

Fpme.3111

- I Fill in the blanks:**
- Conductor is constant and field is varying then emf will induce. This principle is Called -----
a Virtually induced emf b Dynamically induce emf c Statically induced emf d None of these
 - In the left hand rule, forefinger always represents-----
a Voltage b current c Magnetic field d Direction of force on the conductor
 - Thin laminations are used in a machine in order to reduce -----.
a Eddy current losses b Hysteresis losses c Copper losses d Eddy current losses & Hysteresis losses
 - Hysteresis loop represents the area of -----
a copper loss b eddy current loss c hysteresis loss d total iron losses
 - Transformer oil is used as -----.
a an insulator b a coolant c insulator & coolant d inert medium
 - The short circuit test on a transformer is conducted to obtain -----
a Copper loss b Core loss c Eddy current loss d Hysteresis loss
 - Find the number of poles required, when the frequency is 50Hz and speed of rotating magnetic field of stator in the motor is 500 rpm?
a 5 b 10 c 12 d 25
 - Which of the following induction motor has the highest starting torque?
a Slip ring induction motor b Squirrel cage induction motor
c Same in both induction motors d None of the above
 - In a dc machine 4 pole lap winding is used. The numbers of parallel paths are-----
a 2 b 4 c 1 d 8
 - If field current is decreased in shunt dc motor, the speed of the motor -----.
a Remains same b Increases c Decreases d None of the above

- II Write Short notes on ANY FIVE of the following (5x2=10)**
- Why transformer rating in kVA not in kW?
 - Write down the statement of faraday's law of electromagnetic induction.
 - Define the term: permeability
 - Characteristics of ideal transformer
 - Why is Three Phase Induction Motor self starting?
 - Slip
 - Define the term: leakage coefficient

- III Answer ANY FIVE of the Following (5x4=20)**
- Laws of magnetism
 - Practical transformer on No load
 - Construction of induction motor
 - Derive EMF equation of a wave wound and lap wound generator.
 - Construction of transformer
 - Losses of transformer
 - Why single phase induction motor is not self-starting? How it starting?

- IV Write an essay on ANY ONE of the following (1x10 =10)**
- Type of DC generator
 - Speed control method of DC motor.
