S. B. Roll. No.....

ELECTRICAL MACHINES
3rd Exam/ECE/6189/Jun'2022
(For 2018 Batch Onwards)

Duration: 3Hrs. **M.Marks:75**

SECTION-A

Q1. Do as directed. **15x1=15**

a. The function of starter in motor is_____
b. Transformer core is laminated to reduce_____
c. Ratio of KW to KVA is known as_____
d. The direction of three phase induction motor can be reversed by_____
e. A four pole dc wound machine has _____parallel paths.
f. Only _____motor is capable of running on ac as well as dc supply.
g. The direction of induced e.m.f can be determined by applying_____
h. Transformer works on the principle of_____
i. Ideal value of power factor is_____
j. The brushes for commutator are made up of_____
k. In case of star network phase current is equal to line current (T/F).
l. Wattmeter measures energy consumed in a circuit (T/F) .
m. Correct phase sequence is RYB (T/F).
n. A transformer has no rotary losses (T/F).
o. Transformer can work on AC as well DC (T/F).

SECTION-B

Q2. Attempt any six questions. **6x5=30**

i. What is the relationship between line current and phase current in three phase delta system?
ii. Differentiate between CT and PT.
iii. Explain working principle of a dc generator.
iv. Discuss the function of commutator.
v. What are the advantages of three phase systems over single phase systems?
vi. Discuss various losses in the transformer.
vii. Write various methods of speed control of dc motors. Explain any one.
viii. What are applications of synchronous machines?

SECTION-C

Q3. Attempt any three questions. **3x10=30**

a. State and explain faraday's laws of electromagnetic induction.
b. Explain 2 wattmeter method of power measurement.
c. Explain construction and working of stepper motor.
d. Explain the working of DOL starter for starting 3 phase squirrel cage induction motor with the help of neat sketch.
e. Write a short note on any two: i) Servo motor. 2) Micro motor 3) Reluctance motor