



**PRESIDENCY UNIVERSITY, BENGALURU
SCHOOL OF ENGINEERING**

Max Marks: 30

Max Time: 55 Mins

Weightage: 15 %

Set A

TEST 3

II Semester 2016-2017 Course: ECE / EEE A 208 Electromechanical
Energy Conversion

20 April 2017

Instructions:

- i. Write legibly
- ii. Scientific and non programmable calculators are permitted

Part A

(2 Q x 6 M= 12 Marks)

1. Explain the characteristics of d.c. shunt motor.
2. Draw and explain the characteristics of d.c. shunt generator.

Part B

(1 Q x 8 M= 8 Marks)

3. Explain the different methods of controlling speed of d.c. shunt motor.

Part C

(1 Q x 10 M= 10 Marks)

4. Describe the Hopkinson's test for two identical shunt motors indicating how the efficiency of each machine on full load is obtained.



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Max Marks: 30

Max Time: 55 Mins

Weightage: 15 %

Set A

TEST 2

II Semester 2016-2017 Course: **ECE / EEE A 208 Electromechanical
Energy Conversion**

23 March 2017

Instructions:

- i. Write legibly
- ii. Scientific and non programmable calculators are permitted

Part A

(2 Q x 6 M= 12 Marks)

1. What are the advantages of single three phase transformer unit over a bank of single phase transformers?
2. Explain the choice of connection of 3 phase transformers.

Part B

(1 Q x 8 M= 8 Marks)

3. Write the voltage and current relationships for different types of three phase transformer connections.

Part C

(1 Q x 10 M= 10 Marks)

4. A three phase transformer has delta connected primary and a star connected secondary working on 50 Hz three phase supply. The line voltages of primary and secondary are 3300 V and 400 V respectively. The line current on the primary side is 12 A and secondary has a balanced load at 0.8 lagging p.f. Determine the secondary phase voltage, line current and the output.



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Max Marks: 30

Max Time: 50 Mins

Weightage: 15 %

Set A

TEST 1

II Semester 2016-2017 Course: **ECE / EEE A 208 Electromechanical**
Energy Conversion

23 February 2017

Instructions:

- i. Write legibly
- ii. Scientific and non programmable calculators are permitted

Part A

(2 Q x 6 M= 12 Marks)

1. Discuss the necessary conditions for the parallel operation of 2 transformers.
2. State the various applications of an autotransformer.

Part B

(1 Q x 8 M= 8 Marks)

3. Explain with neat circuit diagram, how Sumpner's test is performed? What are its advantages over O.C. and S.C. tests? What is its limitation?

Part C

(1 Q x 10 M= 10 Marks)

4. A 5 KVA, 500 / 250 V, 50 Hz, Single phase transformer gave the following readings,

O.C. Test: 500 V, 1 A, 50 W (L.V. side open)

S.C. Test: 25 V, 10 A, 60 W (L.V. side shorted)

Determine: i) The efficiency on full load, 0.8 lagging p.f.

ii) The voltage regulation on full load, 0.8 leading p.f.

iii) The efficiency on 60 % of full load, 0.8 leading p.f.

iv) Draw the equivalent circuit referred to primary and insert all the values in it.