



ROLL NO.	
ID NO.	

**PRESIDENCY UNIVERSITY, BENGALURU
SCHOOL OF ENGINEERING**

Max Marks: 80

Max Time: 120 Mins

Weightage: 40 %

ENDTERM FINAL EXAMINATION

I Semester AY 2017-18 Course: **EEE 101 ELEMENTS OF ELECTRICAL ENGINEERING** 30 DEC 2017

Instructions:

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

Part A

[4 Q x 5 M= 20 Marks]

1. Derive the expression for current for pure capacitive circuit, hence prove that average power consumed is zero.
2. A series circuit with a resistor of 100Ω and inductance of 0.15H is connected across 220V , 50 Hz supply. Calculate impedance, current, Power and P.F. of circuit.
3. What is the significance of Back EMF in DC motor?
4. A $2000/200\text{ V}$, 20 kVA transformer has 66 turns in the secondary winding. Calculate the a) No of turns in Primary winding, b) primary full load current.

Part B

[3 Q x 10 M= 30 Marks]

5. With neat diagram, explain the construction and working of DC motor.
6. Explain the working principle of single phase transformer & derive the expression for EMF.
7. Briefly explain the main parts of an alternator with relevant diagrams.

Part C

[2 Q x 15 M= 30 Marks]

8. Explain the construction, types & working principle of 3 phase induction motor with neat diagram.
9. Two circuits with impedance $Z_1 = (10+j15)\Omega$ and $Z_2 = (6-j8)\Omega$ are connected in parallel. If the supply current is 20A , calculate the power dissipated in Z_1 branch.



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Max Marks: 40

Max Time: 60 Mins

Weightage: 20 %

TEST 2

I Semester AY 2017-18

Course: **EEE101**
Elements of Electrical Engineering

25 OCT 2017

Instructions:

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

Part A

1. Explain how to find an unknown voltage using a simple potentiometer. (10Marks)
2. What is Seebeck Effect? Explain how this effect is used in measuring temperature. (10 Marks)

Part B

3. With an appropriate diagram explain the Working of Digital Voltmeter (10 Marks)

Part C

4. Calculate the equivalent resistance between C and B for the circuit shown in Fig. 1

(10 Marks)

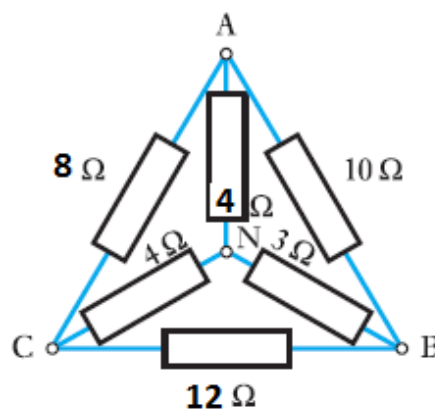


Fig. 1