

II B. Tech I Semester Supplementary Examinations, October/November - 2020
BASIC ELECTRICAL AND ELECTRONICS ENGINEERING
 (Com to CE & PE)

Time: 3 hours

Max. Marks: 70

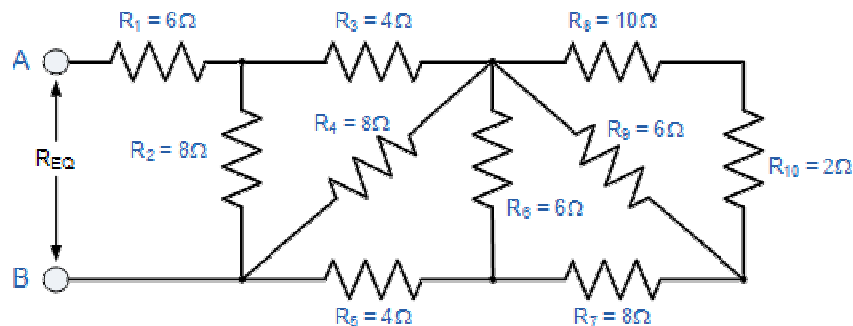
- Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)
 2. Answer **ALL** the question in **Part-A**
 3. Answer any **FOUR** Questions from **Part-B**
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PART -A

1. a) What are the limitations of Ohm's law? (3M)
- b) What is the function of brush in a dc machine? (2M)
- c) Define regulation in a transformer? (3M)
- d) What is a synchronous speed in a induction motor? (2M)
- e) Write any two applications of diode? (2M)
- f) Draw the circuit of single stage CE Amplifier? (2M)

PART -B

2. a) Explain about series and parallel circuits. (7M)
- b) Find the equivalent resistance for the network shown below. (7M)



3. a) Derive the torque equation of a Dc motor. (7M)
- b) Explain in armature resistance control method for speed control of DC motor. (7M)
4. a) Explain the ideal and practical transformer at load by using phasor diagram representation. (7M)
- b) A 6600/660 V, 50HZ single phase transformer has primary resistance of 2.5Ω and secondary resistance of 0.01Ω . Find total equivalent resistance referred to primary and secondary. (7M)

5. a) Explain the principle of operation of a 3- ϕ alternator. (7M)
b) A 3-phase alternator having 12 poles is driven at a speed of 500 rpm. It supplies power to an 8 pole, 3-phase induction motor. If the slip of the motor at full load is 5%, calculate the full load speed of the motor. (7M)
6. a) With a neat diagram, explain the operation of bridge rectifier with respective wave forms. (7M)
b) Discuss any two applications of OP-AMP. (7M)
7. a) Describe in detail about single stage CE Amplifier. (7M)
b) Explain briefly about PNP and NPN junction transistor. (7M)