Hall Ticket Number :										

R-14

Code: 4G236

II B.Tech. I Semester Supplementary Examinations November 2019

Electrical Engineering and Electronics Engineering

(Common to ME, CSE & IT)

Max. Marks: 70 Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 14 = 70 Marks)

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UNIT–I

1. a) Define the Ohm's Law and its applications. 7M

   b) State and explain Kirchoff's laws using neat diagrams. 7M

OR

2. a) Derive the expression for delta to star transformation. 7M

   b) Two resistances of 1.5 Ω and 3.5 Ω are connected in parallel and their combination is connected is series with a resistance of 1.95 Ω. Find the equivalent resistance of the circuit. What current will it draw if connected to a 30V supply? 7M

UNIT–II

3. a) A 6 pole, lap wound armature has 840 conductors and flux per pole of 0.018wb. Calculate the emf generated when the machine is running at 600rpm. 7M

   b) Explain the operation & principle of dc motors and explains the significance of back emf in dc motors. 7M

OR

4. Explain classification of a DC generator along with suitable diagrams and voltage and current relationship. 14M

UNIT–III

5. a) Derive the expression for E.M.F equation of a transformer. 7M

   b) Explain the principle operation of a three phase induction motor with relevant diagrams 7M

OR

6. a) Describe the tests that can be performed on a single phase transformer in detail. 7M

   b) A 3-Φ induction motor runs at 1200 rpm at no load and 1140 rpm at full load when supplied with power from a 60Hz, 3 phase line. Calculate number of poles and slip at full load. 7M

UNIT–IV

7. Explain the operation of Half wave rectifier with relevant diagrams. 14M

OR

8. a) Construct the practical circuit of a transistor and elaborate it. 7M

   b) Explain the operation of transistor as an amplifier. 7M

UNIT–V

9. Describe how phase and frequency are measured by using Lissajous figures. 14M

OR

10. Explain the Block diagram of CRO with a neat sketch. 14M

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