Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

THIRD SEMESTER B.TECH DEGREE EXAMINATION, DECEMBER 2018

Course Code: EE209

Course Name: ELECTRICAL TECHNOLOGY (MC)

Max. Marks: 100 Duration: 3 Hours

PART A

Answer all questions, each carries5 marks. Marks

1 Explain in detail about delta to star conversion. (5)

2 Define super position theorem and write its steps to solve the problems. (5)

3 Define resonant circuit. Derive the expression for find resonance frequency of RLC series circuit. (5)

4 Derive EMF equation of DC Generator. (5)

5 Explain in shortly about transformer losses. (5)

6 Sketch and explain Torque-Slip characteristics of 3 phase induction motor. (5)

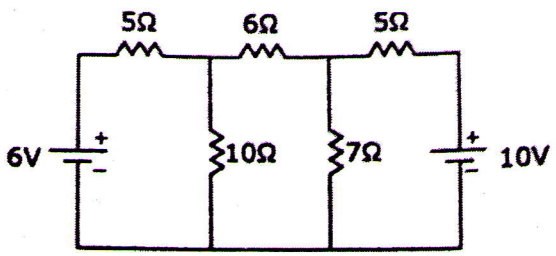
7 Explain shortly about stepper motor and its types. (5)

8 Write the types of single phase induction motors and its applications (5)

PART B

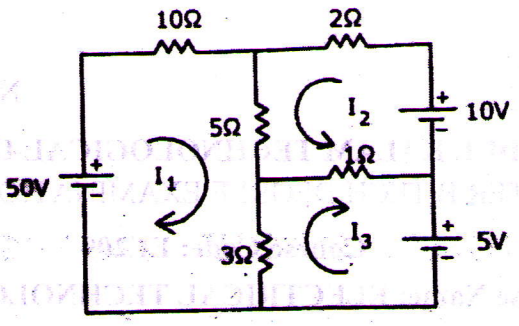
Answer any three full questions, each carries 10 marks.

9 Find the node voltage V1 and V2 using nodal analysis for the given circuit.



(10)

10 Find I_3 through mesh analysis for the following figure. (10)



11 State maximum power transfer theorem. Obtain the condition for maximum power transfer. (10)

12 Explain in detail about three phase power measurement using wattmeter with neat diagram. (10)

13 Derive the torque equation of DC motor. (10)

PART C

Answer any two full questions, each carries 15 marks.

14 What are the necessities of starter? Explain with sketchany three starting method of three phase induction motor. (15)

15 Derive the torque equation, condition for maximum running torque, starting and full load torque of three phase induction motor (15)

16 Explain principle, construction and working of single phase induction motor with its neat sketch. (15)

17 Explain the working concept of synchronous motor with its advantages, disadvantages and applications. (15)

****