R09

Code No: 09A30303

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD
B.Tech II Year I Semester Examinations, June/July-2014
ELECTRICAL AND ELECTRONICS ENGINEERING
(Common to CE, ME, AME, CEE, PTE, MS & NT)

Time: 3 hours **Max. Marks: 75**

Answer any five questions
All questions carry equal marks

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1.a) Explain clearly about STAR-DELTA transformation.
b) What are the dependent, independent sources? Explain it clearly. Write down the KVL for the given circuits shown in figure 1.

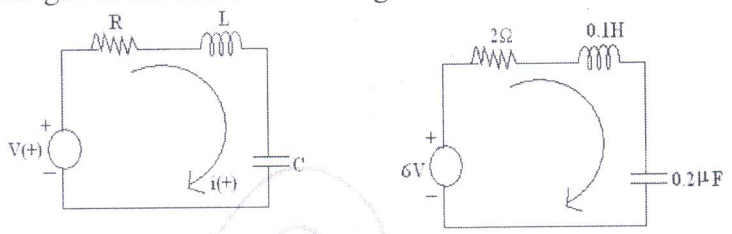

Figure: 1

2.a) Derive the condition for Maximum Efficiency of a D.C generator.
b) Write the motor principle and also write the significance of the Back e.m.f.

3.a) Explain about the working principle of transformer.
b) Write the e.m.f equation of transformer and derive it.

4.a) Explain how regulation is determined by synchronous impedance method?
b) Discuss the slip torque characteristics of a polyphase induction motor.

5. With a neat sketch explain in detail moving iron repulsion type instrument.

6.a) Show that, for the full-wave rectifier, the ratio of rectification is twice that of half-wave rectifier.
b) Define the following terms of a half wave rectifier with resistive load:
i) Ripple factor
ii) Peak inverse voltage
iii) Rectification efficiency.

7.a) How will you determine voltage and current amplifications, input and output resistances from the characteristics of CB configuration?
b) Draw the basic structure of a SCR and explain its characteristics.

8.a) Discuss about the electrostatic focusing of a Cathode Ray Oscilloscope (CRO).
b) Explain with a block diagram the major parts of CRT.

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