THAKUR TRUSTS
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ISO 9001 : 2008 Certified
• Computer Engineering • Electronics & Telecommunication Engineering • Information Technology (w.e.f.: 16-09-2011 for 3 years)

TERM TEST-I

SUBJECT: BASIC ELECTRICAL AND ELECTRONICS ENGINEERING

YEAR/SEM: F.E. /I **DATE: 10/09/2014**

BRANCH: All **TIME: 10am to 11 a.m.**

MARKS: 20

NOTE: 1) Question 1 is compulsory
2) Attempt any 2 from Q2 to Q5

Q1) Multiple Choice Questions:- (10M)

1) Mesh loop method of solving electrical network
   a) Uses branch currents
   b) Utilizes Kirchhoff's voltage law
   c) is confined to single loop circuit method
   d) is a network reduction method

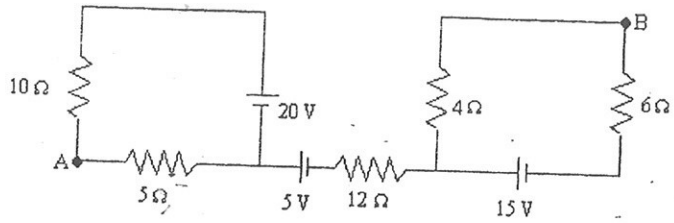
1.2) Nodal method of circuit analysis is based on _____
   a)KVL and Ohms law b)KCL and Ohms law
   c)KCL and KVL d) KCL ,KVL and Ohms law

1.3) Maximum power is delivered from source to load when the _____
   a) when load resistance is equal to source resistance
   b) when load resistance is short circuited
   c) when both load and source resistance are different
   d) when load resistance is open circuited

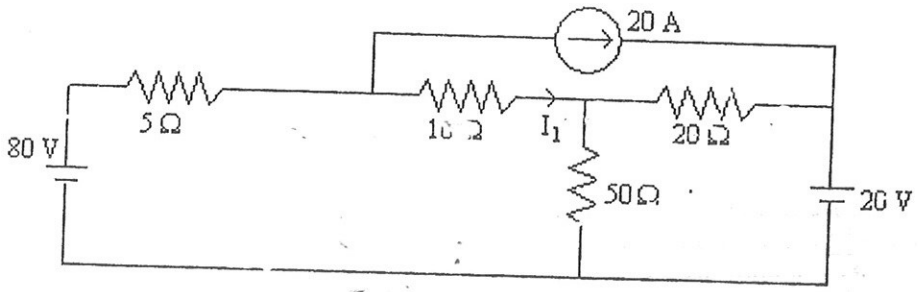
4) Find Max power transferred to load resistance in Thevenin equivalent circuit if R_{TH} = 10Ω and V_{TH}=10V.
   a) 0.4 W b) 0.25 W
   c) 0.5 W d) 2W

1.5) If there are 'n' nodes in any network, the number of simultaneous equations to be solved is
   a) n b) n+1
   c) n-1 d) n^2

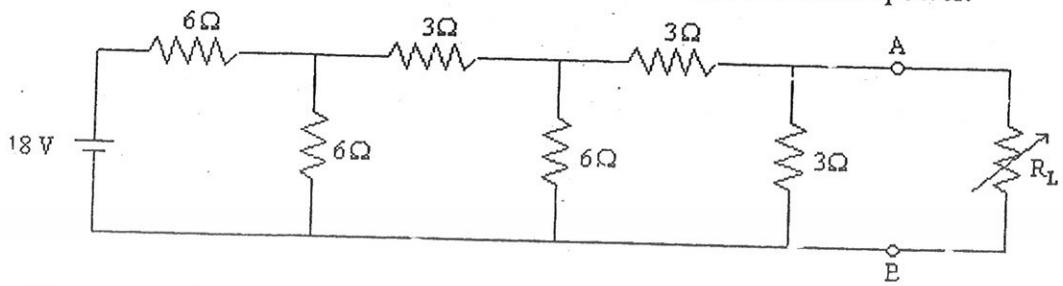
Q2) In the network shown, find the voltage between points A and B. (5M)



Q3) Find current I_1 by superposition theorem. (5M)



Q4) Find value of R_L for maximum power transfer & calculate maximum power. (5M)



Q5) Find the current through 12 ohm resistor using nodal analysis. (5M)