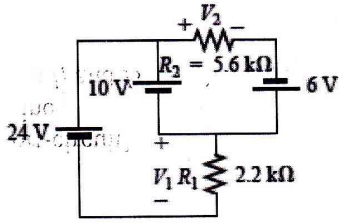
Department of Computer Science & Engineering, Dhaka University
First In-Course Examination
1st Year 1st Semester B.Sc., Session: 2012-2013
EEE – 1121, Electrical Circuit Analysis

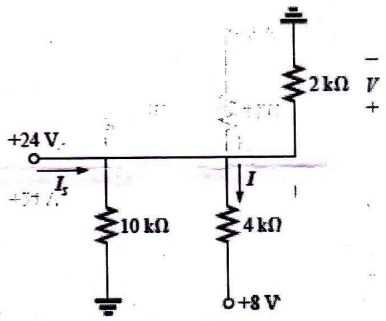
Total Marks: 35 Time: 1 Hour

1. a) State Kirchhoff's voltage law with a suitable figure. 3
   b) Determine the unknown voltages using Kirchhoff's voltage law. 3

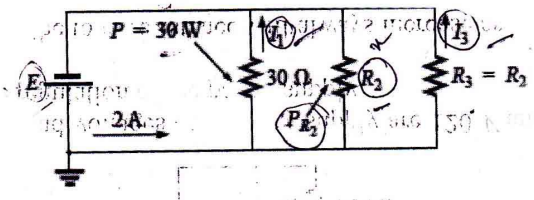


   c) The no-load and full-load voltages of a power supply are 120 *V* and 100 *V* respectively. Calculate the voltage regulation of the power supply. 2

2. a) "For parallel resistors, the total resistance will always increase as additional elements are added in parallel". Do you agree? Give proof in favor of your opinion. 4
   b) For the network below 5
      i) Find the current *I*
      ii) Determine the voltage *V*
      iii) Calculate the source current I_s



3. a) What are the rules for dividing current in a parallel circuit? Also find the generic equation. 4
   b) Find the unknown quantities for the circuit using the information provided. 5



4. a) Define 'Open-circuit' and 'Short-circuit'. 4
   b) For the network below, determine 5
      i) The short-circuit currents I_1 and I_2
      ii) The voltages V_1 and V_2
      iii) The source current I_s