Nepal College of Information Technology

**Unit Test**

Fall 2012

Program : BE ELX Time : 2 hrs

Semester : (III) FM : 50

Subject : Electronic Devices PM : 25

* *Candidates are requested to give their answer as far as practicable in their own words.*
* *The figure in the margin indicates the full marks*
* ***Attempt ALL question***

1. Differentiate between linear and non linear circuits. Explain the piecewise linear modeling of a diode.

2. Find the current through and the voltage across the diodes D1 and D2 in the circuit shown in figure 1. Assume that the diodes used are ideal diodes.



Figure 1

3. What do you mean by clipper circuit? Explain the operation of any one of clipper circuit and draw the input and output waveforms as well as the transfer characteristics.

4. Derive the average output voltage, rms output voltage and ripple factor for a half and full wave rectifier for sinusoidal input. Also comment on the result.

5. What do you understand by intrinsic and extrinsic semiconductors? Why is Si preferred over Ge for a semiconductor device.

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