

**Rubric for # 3:**

- a) +2 Correct definition of  $i_x$ 
  - +1 For trying something
  - +5 for correct  $V_{th}$  or  $I_N$
  - +5 for correct  $R_{eq}$
  - +2 for drawing the 2-element equivalent circuit
- b) +3 Nodal/Mesh equations
  - +4 Correct Answer (+2 if very close but wrong)
  - +1 If answer is in proper form
  - +2 If answer does not contain  $V_{BE}$
- c) +10 for Low Pass Filter shape and proof (+5 for shape without proof)
  - +2 for  $|H(w)|$
  - +3 for  $w_c$
  - 2 for missing labels on axis

**Rubric for #4:**

- a) +5 for recognizing equivalent ckt or for solving one nodal equation at  $V_-$  (right amp)
  - +2.5 for shorting  $R_6$  or equations do not contain  $R_6$
  - +5 For correct answer
  - 1 for missing signFull credit given for correct answer.
- b) +2.5 for utilizing result from part a.
  - +5 for proper setup for KCL at  $V_-$  (left amp)
  - +5 for correct answer
  - 2.5 for algebraic error or answer is close but wrong
  - 1 for wrong sign