The University of Portland
Donald P. Shiley School of Engineering

EE352 Electronic Circuits II
HOMEWORK 8

Assigned: Wed, April 8, 2020
Due: Wed, April 22, 2020
Final Exam: Tues, Apr 28, 2020, 8am to 10am
(open-book, open-notes, calculator, three crib-sheets, Diff Amp sheet, Calculator sheet)

Problems:

1) Text 17.25. Use MATLAB to generate the Bode Plots and Step Response.

2) Text 17.26. Use MATLAB to generate the Bode Plots and Step Response.

3) Text 17.29. Use MATLAB to generate the Bode Plots and Step Response.

4) Consider the DC-to-DC Converter Charge Pump below. It is a "voltage quintupler". First, analyze the circuit by hand. Assume the diodes are ideal. Hand in a table showing Phi1, Phi2, V1, V2, V3, V4, and V5 (like we did in class). Then simulate the circuit in PSPICE. Use five Dbreak diodes and set their model parameters as follows: IS=1e-18, CJO=.001pF, and RS=0. Hand in your Probe Output printout showing Phi1, Phi2, V1, V2, V3, V4, and V5. For Phi1, set V1=0, V2=10V, TD=1mS, TR=0, TF=0, PW=1mS, PER=4mS. For Phi2, set V1=0, V2=10V, TD=3mS, TR=0, TF=0, PW=1mS, PER=4mS. In the Analysis Setup menu, check Transient, and set Print Step=.01mS, Final Time=200mS.