Experiment 7
EE2401
akumar@ee.iith.ac.in

① Design a buck-converter to meet the following requirements:—

* Input supply = 5V, Output supply = 2.5V
* Switching freq. = 1MHz
* Load → 100Ω in paralled with 100mA
* Output voltage ripple ≤ 10mV peak-to-peak
* Quality factor of L-C filter = 3

Submit the following:—

(a) Hand calculation to find the component values.

(b) Simulation test-bench in LTspice.

(c) Transient simulation result showing initial transient in the output voltage.

(d) Steady-state output voltage indicating ripple.