

Indian Institute of Technology, Delhi
ELL112/EEL 202: Circuit Theory
Tutorial 10, November 3, 2014

Synthesize the following $Z(s)$ into LC or RC or RL realizations.

(a) $Z(s) = \frac{9s^4 + 10s^2 + 1}{4s^3 + s}$ (b) $Z(s) = \frac{4s^3 + s}{9s^4 + 10s^2 + 1}$

(c) $Z(s) = \frac{s^3 + 100s}{s^4 + 250s^2 + 5625}$ (d) $Z(s) = \frac{s^4 + 250s^2 + 5625}{s^3 + 100s}$

(e) $Z(s) = \frac{s^2 + 8s + 15}{s^2 + 6s + 8}$ (f) $Z(s) = \frac{s^2 + 6s + 8}{s^2 + 8s + 15}$

(g) $Z(s) = \frac{s^2 + 8s + 15}{s^3 + 6s^2 + 8s}$ (h) $Z(s) = \frac{s^3 + 8s^2 + 15s}{s^2 + 6s + 8}$

(i) $Z(s) = \frac{s^2 + 3s + 1}{s^2 + 4s + 2}$ (j) $Z(s) = \frac{s^2 + 7s + 10}{s^2 + 7s + 12}$