6. Explain, how do we find ABCD parameters in terms of Z-parameters and also discuss how do we find transmission parameters for reciprocal network. **15**

Unit IV

7. The transform voltage V(s) of a network is given by :

$$V(s) = \frac{4s}{(s+2)(s^2+2s+2)}$$

Plot its pole-zero diagram and hence obtain $v(t)$. **15**

8. Realize the network function

$$Z(s) = \frac{s(s^2+4)}{2(s^2+1)(s^2+9)} \text{ in Cauer forms. } \mathbf{15}$$

C-22

B. Tech. EXAMINATION, Dec. 2018

(Third Semester)

(B. Scheme) (Main & Re-appear)

(ECE)

EE211B

NETWORK ANALYSIS AND SYNTHESIS

Time : 3 *Hours*]   [*Maximum Marks :* 75

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

Unit I

1. (a) Discuss transient response of RC circuit with step current response. **8**

   (b) Discuss the application of Laplace transform of complex waveform. **7**

2. Explain and derive the complete response of R-L-C circuit to step current response. **15**

Unit II

3. Design m-derived T and π sections of a high pass filter having design impedance of 600 ohms, cut off frequency of 5 kHz and $m = 0.35$. Find also the frequency of infinite attenuation. **15**

4. Explain the following terms : **15**
   (a) Linear Graph
   (b) Branch
   (c) Node
   (d) Connected Graph
   (e) Unconnected Graph
   (f) Oriented Graph
   (g) Loop
   (h) Tree
   (i) Link
   (j) Cut-set
   (k) Incidence matrix
   (l) Cut-set matrix
   (m) Fundamental Loop
   (n) Fundamental Loop Matrix
   (o) Fundamental Cut-Sets.

Unit III

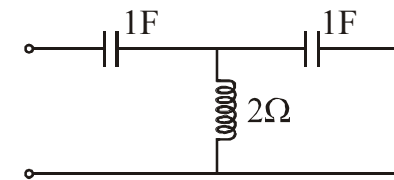5. Find the transmission parameters for network given below in fig. (i) as : **15**

Fig (i)