

S.B. Roll No.....

NETWORKS, FILTERS AND TRANSMISSION LINES
4th Exam/ECE/3061/Feb'2021
(For 2018 batch onwards)

Duration: 1.15Hrs.

M.Marks:25

SECTION-A

Q1. Attempt any three questions.

3x5=15

- i. Differentiate between symmetrical and asymmetrical network.
- ii. Explain reflection and standing waves in Transmission line.
- iii. Design a constant K LPF (T-section) having design impedance $R_0 = 600 \Omega$ and cut off frequency $f_c = 2$ kHz.
- iv. Derive the relation between decibel and neper.
- v. Define LPF and BPF along with their T-structures.
- vi. Explain the properties of asymmetrical network.
- vii. Explain the primary constants of the line along with its equivalent circuit.
- viii. Explain the concept and condition for lossless transmission line.

SECTION-B

Q2. Attempt any one question.

1x10=10

- a. Define Loading of lines. Explain different methods of loading.
- b. Explain the concept of Crystal filter along with its types.
- c. Explain Characteristic impedance and propagation constant for a symmetrical T-network.
- d. Differentiate between (**any two**)
 - i. Active and Passive filters
 - ii. m-derived and prototype filter
 - iii. Open and Short circuited stubs