Rajeev Gandhi Memorial College of Engineering & Technology
Autonomous
NANDYAL-518501
II B.Tech II-Semester - Mid-II *Examinations*
Subject Name:Network Theory
Branch:EEE

Max. Marks: 20   **Date: 30-06 -2022**   **Time: 2 Hours**

Note: 1. Answer first question compulsorily.   **(5 x 1 = 5 Marks)**
2. Answer Any *THREE* from 2 to 5 questions. (3 x 5 = 15 Marks)

Q.No			M	CO	BL
Q.1	**a)**	Define Natural response and Forced response.	**1M**	CO4	BL1
	b)	Write the conditions of Symmetry and Reciprocity for ABCD and h Parameters	**1M**	CO5	BL2
	c)	Define voltage Transfer ratio.	**1M**	CO6	BL1
	d)	Design a low pass Π-section filter with a cut off frequency of 2 KHz to operate with a load resistance of 400Ω.	**1M**	CO6	BL3
	e)	Define Port	**1M**	CO5	BL2
Q.2	**a)**	Find the short circuit admittance parameters for the circuit shown in Figure.	**3M**	CO5	BL2

	b)	Express h parameters in terms of ABCD parameters	**2M**	CO5	BL1
Q.3	**a)**	Derive the inter relationship of Z in terms of Y, ABCD in terms of Y parameters.	**3M**	CO5	BL3
	b)	Find the Hybrid Parameters for circuit shown.	**2M**	CO5	BL1
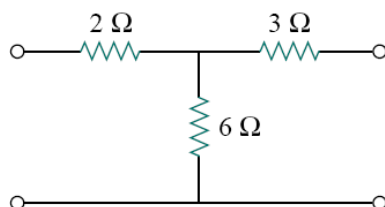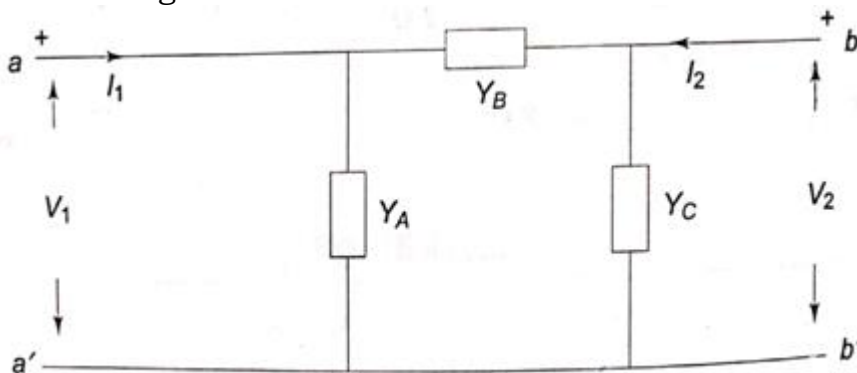
Q.4	**a)**	Design a band elimination filter having a design impedance of 600Ω and cut off frequencies f_1=2 KHz and f_2=6 KHz.	**3M**	CO6	BL1
	b)	Explain in detail about classification of Filters	**2M**	CO6	BL2

Q.5	Determine the solution for the current when switch is closed at Φ=30 degrees for a series RL circuit. Voltage V=50cos (100t+Φ) volts is applied at Φ=30. Resistance R=150Ω and L=0.5H.	**5M**	CO4	BL1