

Enroll No

Q.P.Code
UT3205

Unit Test -II (2025-26)

S.Y.B.Tech.-Electronics & Telecommunication Engineering

Course Code: EC2054

CourseName: Network Theory

Day & Date: Saturday, 20-09-2025

Time: 3:45-4:45PM

Max Marks- 25

Instructions: 1) All questions are compulsory.

2) Figures in rounded () brackets within the question, indicate the scheme of marking for respective part of the question, whereas, figures in the first right column indicate total marks for that whole question.

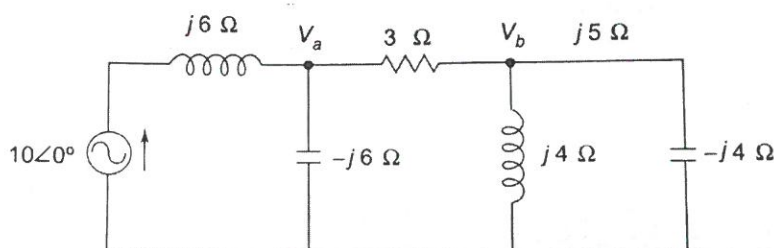
3) CO is the index number of the Course Outcome statement.

4) The Bloom's taxonomy level (BL) for 1,2,3,4,5 and 6 is remember, understand, apply, analyze, evaluate and create respectively.

5) Assume suitable data if necessary.

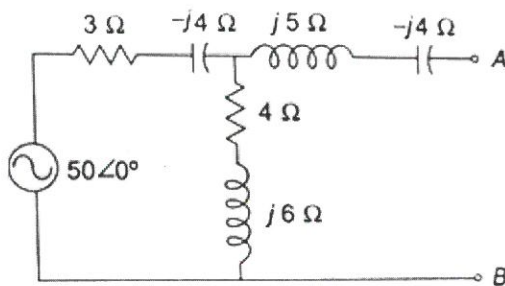
6) Use of non-programmable calculators is allowed

			Marks	BT Level	COs
Q.1	A	Determine V_a and V_b	8	L3	CO2



OR

A	Obtain the Thevenin's equivalent network between the output terminals	8	L3	CO2
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B	Explain the average power and reactive or complex power. Derive its necessary expression.	5	L2	CO1
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Q.2	A	Calculate the impedance at resonant frequency, 10 Hz above resonant frequency and 10 Hz below resonant frequency a series circuit with $R=10\Omega$, $C=10\mu F$ and $L=0.1H$.	8	L3	CO3
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	B	A series circuit with $R=20\Omega$, $L=0.2 H$ and $C=100\mu F$ has an applied voltage $V=50V$ with variable frequency. Find frequency at which maximum voltage occurs across the inductor and frequency at which maximum voltage occurs across the capacitor.	4	L3	CO3
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