GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER–1ˢᵗ / 2ⁿᵈ (SPFU) EXAMINATION– WINTER 2015

Subject Code: ENG005   **Date: 22/12/2015**
Subject Name: Linear Electrical Networks
Time: 10:30am to 01:00pm   **Total Marks: 70**
Instructions:
1. **Attempt any five questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks**

Q.1	**(a)**	Explain Kirchhoff's current and voltage law.	**07**
	(b)	Explain transformation of delta connected network into star connected network.	**07**
Q.2	**(a)**	Explain Superposition theorem.	**07**
	(b)	Explain Thevenin's theorem.	**07**
Q.3	**(a)**	Explain initial conditions in circuit which contain resistor and inductor.	**07**
	(b)	What is Laplace transform? Explain importance and applications of Laplace transform.	**07**
Q.4	**(a)**	Explain hybrid parameters.	**07**
	(b)	Explain series and parallel connection. Also compare them.	**07**
Q.5	**(a)**	Explain series resonance condition in series RLC circuit.	**07**
	(b)	Explain pole-zero construction of RLC series circuit.	**07**
Q.6	**(a)**	Explain resonance condition in AC parallel circuit.	**07**
	(b)	Explain loop, node, path, network and circuit.	**07**
Q.7	**(a)**	Explain maximum power transfer theorem. Also discuss its advantages and disadvantages.	**07**
	(b)	Explain the frequency domain behavior of one port passive network.	**07**

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