DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE
End Semester Examination – Winter 2018

Course: B. Tech in Electrical Engineering | **Semester:** III
Subject Name: Network Analysis and Synthesis | **Subject Code:** BTEEC302
Date:03/12/2018 | **Max Marks:60** | **Duration:** 3 Hrs.

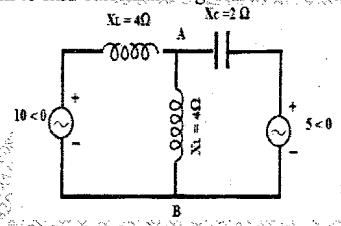
Instructions to the Students:

1. *Solve **ANY FIVE** questions out of the following.*
2. *Students should note, no supplement will be provided.*
3. *Use of non-programmable scientific calculators is allowed.*
4. *Assume suitable data wherever necessary and mention it clearly.*

Marks

Q. 1 Solve Any Two sub questions

A) Use superposition theorem to find current through branch A-B in the Circuit of figure **06**

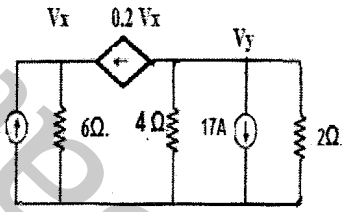


B) Explain the following terms: **06**
i) Independent and Dependent sources.
ii) Lumped and distributed systems.

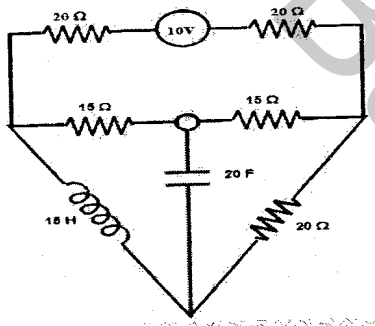
C) State and Explain maximum Power transfer theorem in case A.C circuits **06**

Q.2 Solve Any Two sub questions

A) Using Nodal Analysis find Voltage 'Vy' for given N/W **06**



B) Obtain dual network for the circuit given below **06**



C) Define the following **06**

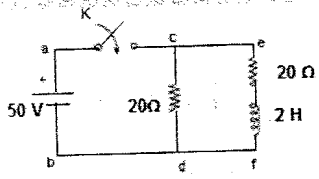
i. Planner graph ii. NonPlanner graph

iii. Subgraph. iv.Tree and Co-Tree

Q. 3 Solve All Sub-Questions

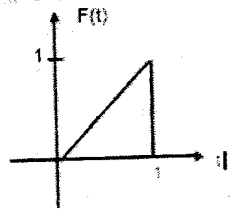
A) Explain response of RL series circuit to D.C.excitation **06**

B) Find the expression of current when 50V dc source is applied as switch K is opened At t=0, **06**



Q.4 Solve All Sub-Questions

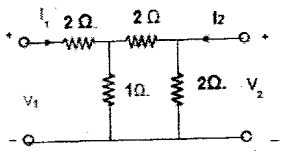
A) Find the Laplace transform of the waveform **06**



B) Explain Concept of Complex Frequency in detail **06**

Q. 5 Solve All Sub-Questions

A) Determine the Open circuit parameters for the circuit shown below **06**



B) What is the physical significance of Pole and Zero in a transfer function? **06**

Q. 6 Solve All Sub-Questions

A) What is Meant by Resonance in RLC Series Circuit and Derive equation for resonant Frequency **06**

B) Explain the High pass filter and band pass filter. **04**

C) A Coil of inductance 31.8mH and resistance of 10Ω is connected in parallel across 250V,50Hz.Determine value of Capacitance so that total current is in phase supply voltage **02**

***** End *****

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