

**END SEMESTER EXAMINATION 2020**  
(New Syllabus )

Semester: 4<sup>th</sup> (Fourth)

Subject code: EI-401

Subject: Electrical Circuit & Networks

Full Marks: 21

Duration: 01 hour.

A	Answer in one sentence	5
1	How many types of dependent sources are there ?	1
2	What are the two methods of network analysis ?	1
3	How much voltage is available across the load when maximum power is transferred?	1
4	What are the different types of D. C. transients?	1
5	What is the Q-factor of a capacitor?	1
B	Choose the correct answer	5
6	Which one of the following is an active element? i ) Resistance            ii) Voltage source iii) Capacitance        iv) Inductance	1
7	Alternating voltages and currents are i) vectors    ii) scalars    iii) phasors    iv) none of the above	1
8	Power in a 3-phase star-connected balanced circuit is i ) $VI\cos\phi$ ii ) $3V_L I_L \cos\phi$ iii ) $3V_{Ph} I_{Ph} \cos\phi$ iv) $\sqrt{3} V_L I_L$	1
9	Superposition Theorem is invalid for i ) Current response            ii ) Power response iii) Voltage response        iv) None of the above	1
10	The time constant of an R – C series circuit is I ) RC    ii ) $e^{-RC}$ iii) $\frac{L}{CR}$ iv) RLC	1
11	State Thevenin's theorem, Superposition theorem and Maximum power transfer theorem.	3
12	With reference to the figure-I, convert delta connected resistors to equivalent star connection.	3

