Enrolment No. 21UE203040

B.Tech 3rd Semester Mid-Term Examination, 2022

SUBJECT: **NETWORK ANALYSIS**

CODE NO: - UEE03B03

Time: 1 Hrs | Full Marks: 20

Answer all questions

1.

a. Derive the Bandwidth(BW) for series RLC circuit.

b. Determine the Thevenin equivalent impedance for the network shown in Fig.1

(2+2=4)

2.

a. For the circuit of Fig. 2, find the value of **Rc** for which given circuit resonates and also determines real value of admittance.

b. The switch in the network of Fig. 3 has been closed since dinosaurs last walked the earth. If the switch is opened at t=0, find (a) $i_L(t)$ the instant after the switch change, (b) v(t) at t=0.15s, using time domain analysis.

(4X2=8)

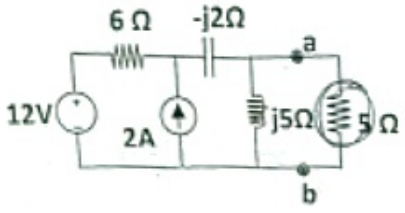

Fig. 1

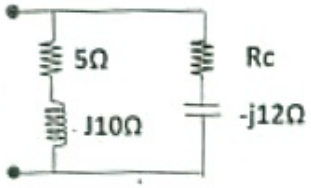

Fig. 2

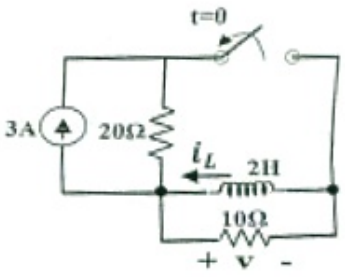

Fig. 3

3.

a. For the circuit of figure-4, find Vc(t) at t = 0^-, 0^+, ∞(infinity) and t=0.08 sec, using classical method.

b. In the circuit of Fig. 5, find v(t) for t>0, for $i(0^-)$=1A and $v(0^-)$=4 volt by using laplace transformation method.

(4X2=8)

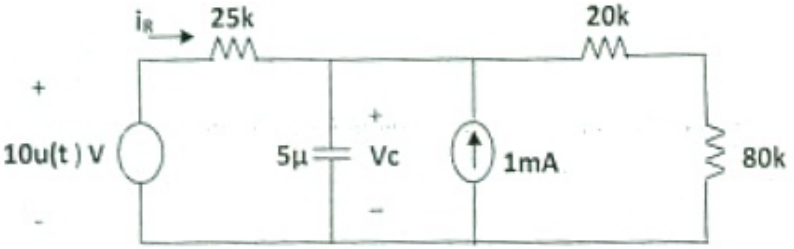

Fig. 4

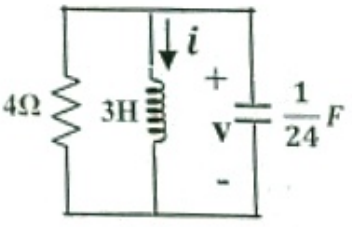

Fig. 5