Hall Ticket No.	

MR22

MALLA REDDY UNIVERSITY

I Year I Semester Regular Examinations, Feb/March., 2023

School of Engineering - B.Tech Common for CSE / IT / IoT

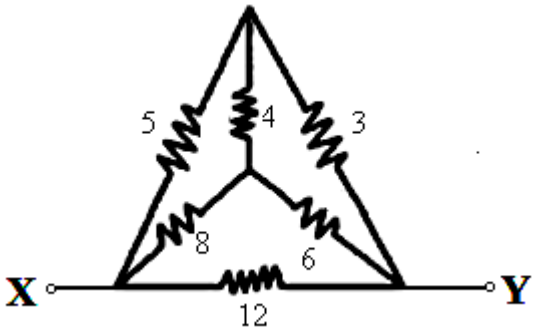
Basic Electrical And Electronics Engineering - MR22-1ES0101

Time: **2 hours** Max. Marks: **40**

Note: *Answer all Questions. All Questions Carry Equal Marks* *5* X 8 M = 40M

1 a) Explain about Independent and Dependent sources in detail. **4M**

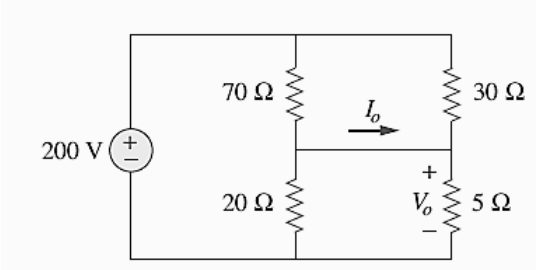
b) Find the equivalent resistance across X, Y terminals of figure below. **4M**



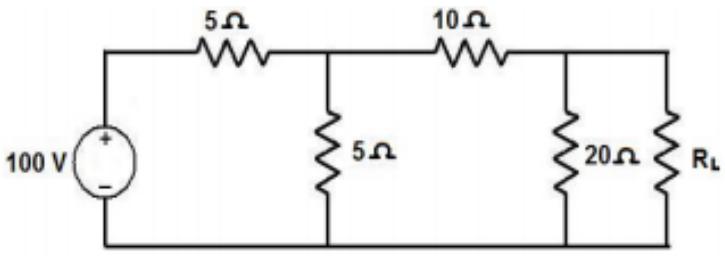
OR

8 M

2) Calculate V_o and I_o in the circuit shown in figure.



3) Find the value of R_L so that maximum power is delivered to the load resistance and also find the maximum power delivered for the figure shown below. **8M**



OR

4 Define the following terms: **8M**

i) Cycle ii) Frequency iii) Time period iv) Amplitude v) Peak factor vi) Form factor of an alternating quantity.

5 a) Explain the Constructional details of DC generator. **4M**

b) A 2000/210 V, 50Hz single phase transformer has emf per turn of approximately 14 V. **4M**
Calculate a) the number of primary and secondary turns b) the cross-sectional area of the core if the maximum flux density is limited to 1.8 T

OR

6 a)Derive the EMF equation of Single phase transformer . **4M**

b) List out the applications of Stepper motor. **4M**

7) Explain the operation of Half Wave Rectifier with necessary waveforms. **8M**

OR

8) Explain the Construction and operation of PNP transistor with neat diagram. **8M**

9 a) Explain about BCD, Excess-3 and gray codes in detail. **4M**

b) Solve for x **4M**

i) $(256)_8 = (x)_2$ (ii) $(437.39)_{10} = (x)_8$ (iii) $(C8F.BD)_{16} = (x)_8$ (iv) $(16)_{10} = (100)_X$

OR

10) Explain about logic GATES **8M**