Code No: 131AK

R16

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B.Tech I Year I Semester Examinations, July - 2021
BASIC ELECTRICAL AND ELECTRONICS ENGINEERING
(Common to EEE, ECE, CSE, EIE, IT)

Time: 3 hours

Max. Marks: 75

Answer any five questions
All questions carry equal marks
- - -

1.a) Use Source Transformation, to find the voltage v_x in the circuit shown in figure 1.
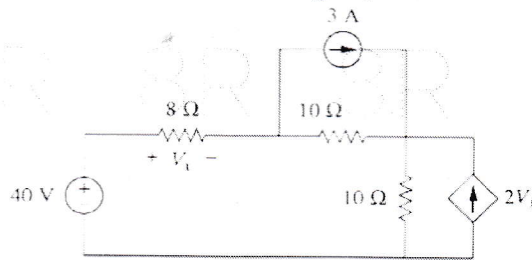

Figure: 1

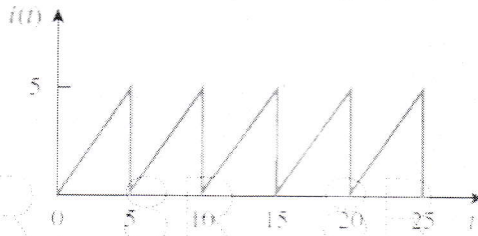b) Calculate the Form Factor and Peak Factor for the following waveform shown in figure 2. [8+7]

Figure: 2
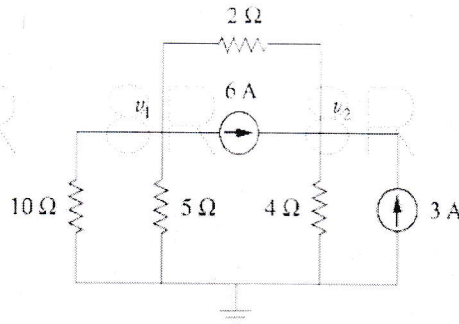
2.a) For the circuit shown in figure 3, find v_1 and v_2.

Figure: 3

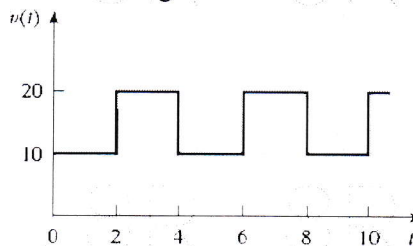b) Find the Effective value of the voltage waveform shown in figure 4. [8+7]

Figure: 4

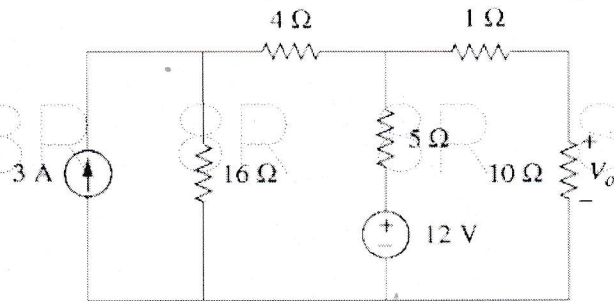3. Apply Thevenin's Theorem to find V_o in the circuit shown in figure 5. [15]

Figure: 5

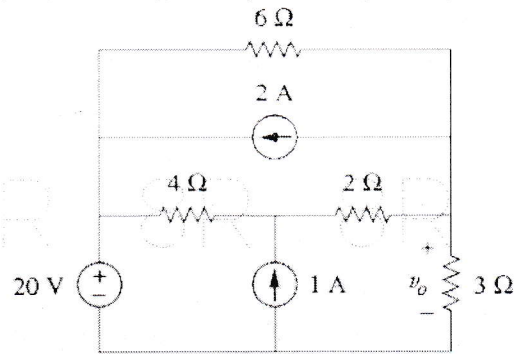4. Applying super position Theorem, find v_o in the Circuit shown in figure 6. [15]

Figure: 6

5.a) Draw the forward and reverse characteristics of a p-n junction diode and explain them qualitatively.

b) Perform load line analysis of a Diode. [8+7]

6.a) Obtain the expression for ripple factor in the case of Full Wave Rectifier Circuit with Capacitor Filter.

b) Explain different types of filters with neat circuit and characteristic diagrams. [7+8]

7. Analyze CE, CB and CC Configurations, by drawing their equivalent h - parameter models. [15]

8. Explain Construction and principle operation of JFET in enhancement and depletion modes. [15]

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