

III Semester Diploma Examination, Nov./Dec. 2018

ANALOG COMMUNICATION

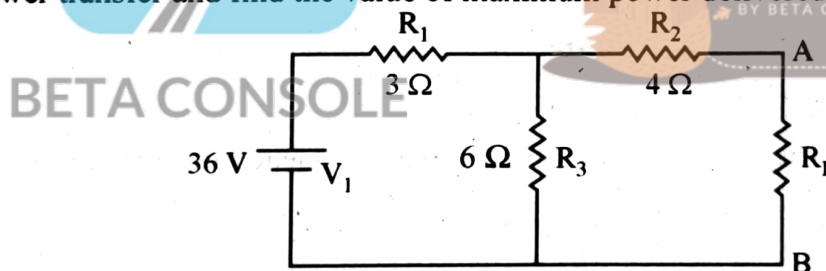
Time : 3 Hours]

[Max. Marks : 100

- Note :**
- (1) Answer any **six** questions from Part – A. ($6 \times 5 = 30$ Marks)
 - (2) Answer any **seven** questions from Part – B. ($7 \times 10 = 70$ Marks)

PART – A

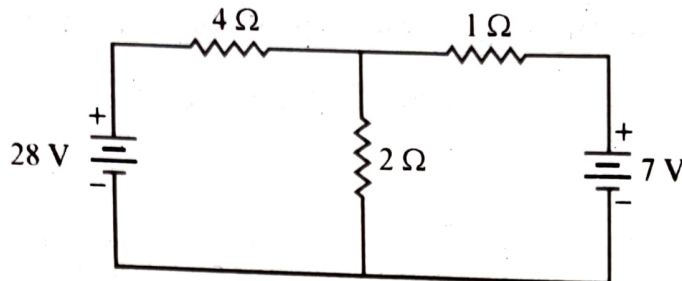
- 1/ State and explain Norton's theorem. 5
2. Find the value of R_L to be connected across the terminals A and B for maximum power transfer and find the value of maximum power delivered. 5



- 3/ Explain how band pass filter can be realized using LPF and HPF sections. 5
4. Define Bel, Decibel, Nepere. 5
5. Derive the relationship between standing wave ratio (SWR) and reflection coefficient (K). 5
- 6/ Explain different types of transmission lines. 5
7. Explain the working of Broadside Array. 5
8. Explain sky wave propagation. 5
9. Define Amplitude modulation and explain the terms USB, LSB and Bandwidth. 5

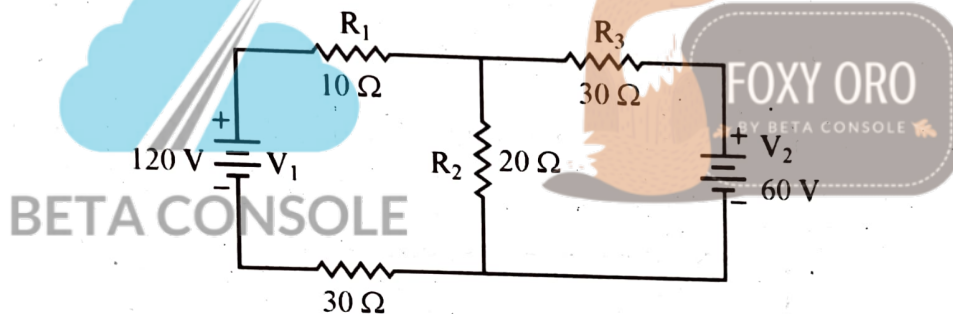
PART - B

10. (a) Draw the Nortons equivalent circuit for the network shown in figure across 2Ω load.



- (b) Write the steps to solve Thevenins theorem.

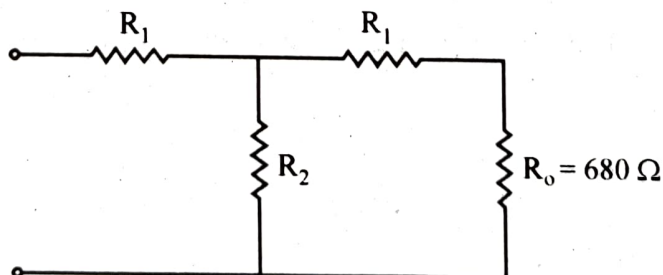
11. Find the current through 20Ω resistor using superposition theorem.



12. Define resonance and derive an expression for resonant frequency in series resonant circuit.

13. (a) Compare series and parallel resonance.

- (b) Design a T type attenuator for attenuation of 40 dB, characteristic impedance of 680Ω .



14. What is impedance matching and explain different methods of impedance matching ?

With neat sketch explain the working of dish antenna.

10

With neat diagram explain the demodulation of an Amplitude modulated wave.

10

- a) Derive the expression for modulation index in terms of V_{\max} and V_{\min} of amplitude modulated carrier signal. 5
- b) Compare DSBSC, SSBSC and VSB. 5
- a) Explain the need for preemphasis and de-emphasis in FM (Frequency Modulation). 5
- b) Compare Amplitude Modulation and Frequency Modulation. 5

Describe the method of FM Generation using varactor diode.

10

BETA CONSOLE

