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Code : 15EC33T

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III Semester Diploma Examination, Nov./Dec. 2017

ANALOG COMMUNICATION

Time : 3 Hours]

[Max. Marks : 100

- Note :** (i) Answer any **six** Question from **PART-A**. ($6 \times 5 = 30$ marks)
(ii) Answer any **seven** full Question from **PART-B**. ($7 \times 10 = 70$ marks)

PART-A

1. State and explain Thevenin's theorem with an example.
2. List the steps to solve a simple dc network for maximum power transfer.
3. What is an attenuator ? Classify the attenuator.
4. Define Q factor and band width of a series resonant circuit.
5. Write a note on secondary constant of a transmission line.
6. What is standing wave ratio ? Derive its expression.
7. Define the following :
 - (i) Polarization
 - (ii) Radiation pattern
 - (iii) Directivity of an antenna
8. Compare the modes of wave propagation.
9. Define modulation. Explain the need for modulation.

BETA CONSOLE!



Diploma - [All Branches]

Beta Console Education



Diploma Question Papers [2015-19]

Beta Console Education

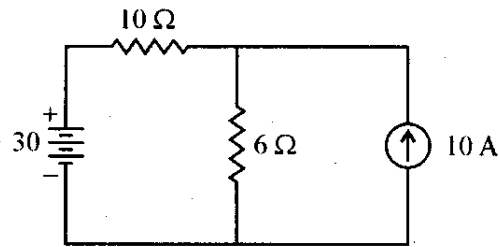


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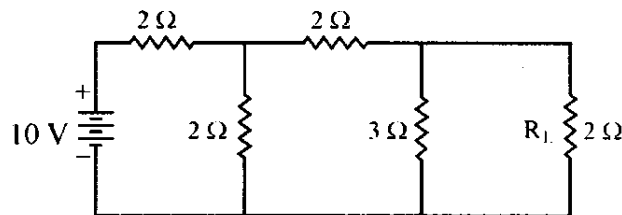
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PART-B

10. Find the current through $6\ \Omega$ resistor of a network by using super position theorem. Also find the power through $6\ \Omega$ resistor.



11. Find the current through R_L using Norton's theorem.



12. Derive the expression for resonance frequency & Q factor for a series resonance circuit.

13. Design TC & type attenuator having attenuation of 40 d/B & characteristic impedance of $600\ \Omega$.

14. Explain single and double stub matching with neat diagram.

15. Describe ionosphere propagation with a neat sketch of layer diagram.

16. (a) Explain the Electronic Communication System with a neat block diagram.
(b) What is modulation ? Explain the need for modulation.

17. A sinusoidal carrier voltage $V_c = 100 \cos 2\pi 10^6 t$ is amplitude modulated by sinusoidal voltage $V_m = 32 \cos 2\pi 10^6 t$.

Find

- (a) Percentage of modulation.
(b) Frequency & amplitude of each side band.
(c) RMS value of modulated carrier voltage.
18. Explain the need for pre-emphasis and de-emphasis with circuits and waveforms.
19. Explain :
(a) Ratio detector
(b) Double spotting and Noise figure