Code : 15EC33T

Register Number | | | | | | | | | | |

III Semester Diploma Examination, April/May-2019

ANALOG COMMUNICATION

Time : 3 Hours] **[Max. Marks : 100**

Instructions : (i) Answer any **six** questions from Part – **A**. (5 × 6 = 30 marks)
(ii) Answer any **seven** full questions from Part – **B**. (7 × 10 = 70 marks)

PART – A

1. State and explain Thevenin's theorem with an example. 5

2. State and prove superposition theorem. 5

3. Classify the attenuators. 5

4. List the characteristics of series resonant circuit. 5

5. Define the following :
   (i) Reflection coefficient
   (ii) Standing Wave Ratio 5

6. Mention the different types of transmission lines. 5

7. Compare Ground Wave, Sky wave and Space wave propagation. 5

8. Write a short note on 'Parabolic Reflector'. 5

9. Draw the block diagram of an electronic communication system and explain. 5

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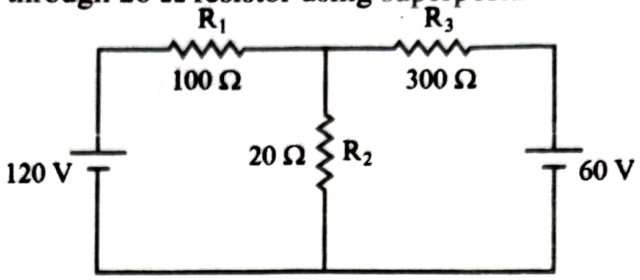
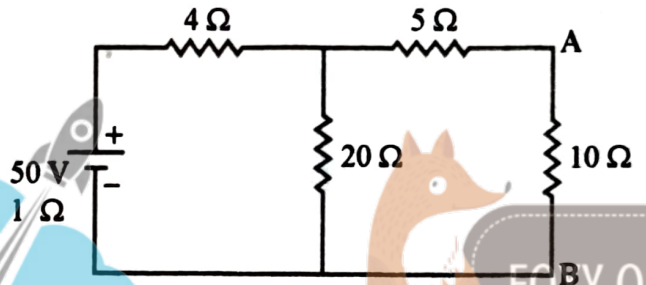
PART – B

10. Find the current through 20 Ω resistor using superposition theorem. **10**



11. Find the current through 10 Ω resistor by Thevenin's Theorem. **10**



12. Derive an expression for antiresonant frequency for RLC circuit. **10**

13. Design a constant 'K' type π section high power filter having characteristic impedance of R_0 = 1 kΩ and cut off frequency f_c = 5 kHz. **10**

14. (a) Draw the electrical model of a transmission line and indicate the primary constants. **5**
    (b) List the applications of transmission lines. **5**

15. Explain the line of sight propagation with a neat sketch. **10**

16. Define demodulation. Explain linear diode detector with suitable sketch. **10**

17. Define modulation. Explain the need for modulation. **10**

18. Define AM & FM. Compare both AM & FM. **10**

19. Explain the working of a Ratio detector with suitable circuit diagram. Explain how amplitude limiting is achieved. **10**