**1133**

**Code : 15EC-33T**

*Register Number* | | | | | | | |

**III Semester Diploma Examination, April/May-2017**

# ANALOG COMMUNICATION

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

*Note :* (i) Answer any **six** questions from **Part-A**.
(ii) Answer any **seven** full questions from **Part-B**.

## PART – A

1. State and explain Superposition theorem. **5**

2. State the Norton's theorem and write the steps to solve the network using Norton's theorem. **5**

3. Derive an expression for series resonant frequency. **5**

4. Define filter, and give the classification of filters. **5**

5. What are the primary and secondary constants of transmission line ? **5**

6. Write a note on Single-stub matching and double-stub matching. **5**

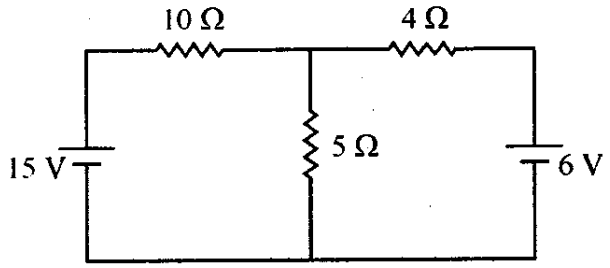
7. Explain briefly the working of broadside antenna array. **5**

8. Write two merits and three demerits of ground wave propogation. **5**

9. Explain the Electronic communication system with Block diagram. **5**

## PART – B

10. Find the current through 4Ω resistor, using Thevenin's theorem. **10**




11. Illustrate the application of maximum power transfer theorem with an Example. **10**

12. Derive expression for frequency of resonance, Q factor, power factor and Band width & selectivity, for parallel resonance. **10**

13. Design a symmetrical T-type and π-type attenuator whose attenuation factor of 30 dB and characteristic resistance is 600 Ω and sketch the ckt's. **10**

14. What are transmission lines ? Mention their classification and Explain any one of them with a neat figure. **10**

15. (a) Explain briefly the working of end fire array. **5**
    (b) Explain the working of parabolic reflector. **5**

16. (a) Explain the need for modulation and list the modulation techniques. **5**
    (b) Explain AM linear diode detector circuit. **5**

17. Explain the working principle of
    (a) SSBSC **5**
    (b) DSBSC **5**

18. (a) Explain the working of varactor diode method of FM generation. **5**
    (b) Write note on Pre-emphasis and De-emphasis circuits. **5**

19. Explain the Foster-Seeley method of FM detection with a, neat diagram. **10**