| **BIELE-004**

00543

B.Tech. ELECTRONICS AND COMMUNICATION
Term-End Examination
December, 2012

BIELE-004 : RF CIRCUITS

Time : 3 hours *Maximum Marks : 70*

*Note : Attempt **any seven** questions. Assume the missing data, if any.*

1. Describe the characteristics of following components at radio frequencies (take the proper assumptions as needed). **5x2=10**
    (a) Capacitors
    (b) Inductors

2. Derive the expression for input Impedance of a transmission line. **10**

3. Discuss the model for active components at radio - frequencies. **10**

4. (a) Describe briefly shunt amplifier. Also give relevant expressions. **5x2=10**
    (b) What do you mean by neutralization ? Explain with relevant expression.

5. (a) Discuss about LNA topologies in brief. 5x2=10
   (b) Analyze LNA for large signal performance.

6. (a) Describe the characteristics of Ideal mixers.
   (b) Compare the performance of Diode - Ring mixer with other common mixer. 5x2=10

7. Discuss the working principle of class AB Power amplifier with suitable circuit diagrams. **10**

8. How the modulation of power amplifiers is done ? Describe in detail. **10**

9. What are the negative resistance oscillators ? Describe their working in detail. **10**

10. Describe RF synthesizer with dithering moduli in detail. **10**

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