

00560

**B.Tech. ELECTRONICS AND
COMMUNICATION**

Term-End Examination

June, 2013

BIELE-004 : RF CIRCUITS

Time : 3 hours

Maximum Marks : 70

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

1. Discuss the followings : 5x2=10
 - (a) Noise Factor
 - (b) Noise Temperature

2. (a) Discuss the behaviour of 'Interconnects' at Radio - Frequency range. 5x2=10
(b) Discuss the principal of RF transformer.

3. What do you mean by power constrained noise optimization ? Discuss in detail. 10

4. Describe the following : 5x2=10
 - (a) FT doublers
 - (b) Unilateralization

5. Describe Sub-sampling mixers in detail. Also give relevant expression. 10

6. Derive an expression for bandwidth of a high - frequency amplifier. Also show zeros as band width enhancers. 10
 7. What are the considerations for RF power amplifiers ? 10
 8. Derive an expression for the efficiency of class B - power amplifiers. 10
 9. What is phase -noise ? Also discuss its importance. 10
 10. With the help of relevant expression describe negative resistance oscillators. 10
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