

B.E. Electronics & Communication/Telecommunication Engineering (Model Curriculum) Sem-IV  
**SE203 : Analog and Digital Communication**

P. Pages : 1

Time : Three Hours



**GUG/W/22/13913**

Max. Marks : 80

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- Notes : 1. All questions carry marks as indicated.  
2. Assume suitable data wherever necessary.  
3. Illustrate your answers wherever necessary with the help of neat sketches.

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|-----------|----|--|---|
| 1.        | a) | Draw basic digital communication block diagram and explain in detail.          | 8 |
|           | b) | Explain quadratic amplitude modulation.  | 8 |
| <b>OR</b> |    |  |   |
| 2.        | a) | Write short note on DSB – SC transmission system.                              | 8 |
|           | b) | What is frequency division multiplexing technique. List the advantages of FDM. | 8 |
| 3.        | a) | Write short note on Narrowband FM.   | 8 |
|           | b) | Explain direct method of FM wave generation.                                   | 8 |
| <b>OR</b> |    |  |   |
| 4.        | a) | Describe the concept of phase locked loop in detail.                           | 8 |
|           | b) | Compare Am and Fm techniques.  | 8 |
| 5.        | a) | Draw a neat diagram and explain TRF receiver.                                  | 8 |
|           | b) | Explain any four performance parameters for a receiver.                        | 8 |
| <b>OR</b> |    |  |   |
| 6.        | a) | Write a note on Automatic Gain Control (AGC) technique.                        | 8 |
|           | b) | Write note on Pre emphasis and deemphasis in FM.                               | 8 |
| 7.        | a) | Explain the Aliasing Effect in detail.   | 8 |
|           | b) | Write a note on A – law companding.  | 8 |
| <b>OR</b> |    |  |   |
| 8.        | a) | Explain Adaptive Delta Modulation (ADM) in detail.                             | 8 |
|           | b) | Explain $\mu$ -law companding.   | 8 |
| 9.        | a) | Explain Gram Schmidt orthogonalization process.                                | 8 |
|           | b) | With help of neat sketches explain amplitude shift keying (ASK)                | 8 |
| <b>OR</b> |    |  |   |
| 10.       | a) | Write a note on M – array PSK.   | 8 |
|           | b) | Differentiate coherent and non – coherent detection techniques.                | 8 |

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