

S.E. (ETRX) SEM (IV) (R) MAY, 2013 27/5/13  
Basic of Analog & Digital comm<sup>n</sup> systems

AGJ 1st half (d+) 13

Con. 6606-13.

(3 Hours)

GS-7209

[ Total Marks : 100

N.B. : (1) Question No. 1 is compulsory.

(2) Attempt any four questions from Q. 2 to Q. 7.

(3) Assume suitable data if required with justification.

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|---|----|
| 1. (a) Explain elements of communication              | 20 |
| (b) Explain short noise                               |    |
| (c) Explain modulation Index for AM, FM               |    |
| (d) Sky wave propagation.                             |    |
| 2. (a) Explain Balance modulator.                     | 10 |
| (b) Explain –   | 10 |
| (i) VSB system  |    |
| (ii) ISB system.                                      |    |
| 3. (a) What is need of superhetrodyne radio receiver. | 10 |
| (b) Explain Indirect F.M. generation method.          | 10 |
| 4. (a) Explain Noise triangle in F.M.                 | 10 |
| (b) Explain Time Division multiplexing.               | 10 |
| 5. (a) Explain pulse code modulation system.          | 10 |
| (b) Explain PPM, PWM.                                 | 10 |
| 6. (a) Explain Adaptive Deltamodulation.              | 10 |
| (b) Explain Quantization.                             | 10 |
| 7. Write short notes on :-                            | 20 |
| (a) Line coding                                       |    |
| (b) Tracking in Radio receiver                        |    |
| (c) Sampling theorem                                  |    |
| (d) Companding.                                       |    |