**Code: R7311303**

R07

B.Tech III Year I Semester (R07) Supplementary Examinations, May 2013

## PRINCIPLES OF COMMUNICATIONS

(Electronics & Control Engineering)

Time: 3 hours                                                                          Max. Marks: 80

Answer any FIVE questions
All questions carry equal marks

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1.  (a) Differentiate between analog modulation and pulse modulation.
    (b) What are the properties of convolution?

2.      Explain about:
    (a) DSB-FC.
    (b) DSB-SC.
    (c) VSB modulation schemes with neat sketches also compare the merits and demerits.

3.  (a) Explain about the transmission bond width of frequency modulation.
    (b) Explain how WBFM can be generated by using Armstrong method.

4.  (a) Distinguish between TDM and FDM with block diagram.
    (b) Explain the method of generating PDM.

5.  (a) Explain the principles of operation of PCM with a neat sketch.
    (b) A signal to be transmitted in of the form $S(t) = 10 \cos 1000 \, \pi t + 5 \cos 1500 \, \pi t$. By choosing $f_s = 15000 \, H_z$ ad appropriate step size for the delta modulator find the SNR.

6.      Explain the principle of operation of a BPSK transmitter and receiver with neat block diagram.

7.      Write short notes on:
    (a) BCH code.
    (b) R-S codes.
    (c) Golay codes.
    (d) Hamming codes.

8.      Explain in detail about error detection ad correction codes.

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