Code :R7310406

R7

III B.Tech I Semester(R07) Supplementary Examinations, May 2011
DIGITAL COMMUNICATIONS
(Electronics & Communication Engineering)

Time: 3 hours **Max Marks: 80**

Answer any FIVE questions
All questions carry equal marks

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1. (a) Write the differences between uniform and non - uniform Quantization.
   (b) Find the fidelity of the uniform quantizer.
2. (a) What are the problems encountered in linear delta modulation and explain in detail.
   (b) Explain with a neat block diagram the operation of a continuously variable slope delta modulator (CVSD).
3. (a) Explain coherent and non - coherent detection of BFSK waves.
   (b) Give the comparisons of M-ary digital modulation techniques.
4. (a) Find the impulse response of duo - binary filter and draw the response.
   (b) Why the overall transfer function of the duo - binary filter is called as half cycle cosine function.
5. (a) Show that I(X;Y)= H(X)-H(X/Y) and I(X;Y)=I(Y;X)
   (b) Show that I(x;y)= H(X)+ H(y)-H(X,Y) and I(X;Y) $\geq$ 0
6. Explain Shannon-Fano algorithm with an example.
7. What are cyclic codes? Why they are called subclass of block codes.
8. (a) Explain the encoding and decoding principle in convolutional code.
   (b) Write the advantages of convolutional codes over block codes.

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