



Date: - 03/01/2018

Bloom's Taxonomy Levels – 1. Remember 2. Understand 3. Apply 4. Analyze 5. Evaluate 6. Create

Question no 1, 2, 3 are based on CO604.1 - Model the digital communication system using appropriate mathematical techniques.

Question no 4, 5, 6 are based on CO604.2 - Apply the concept of Source coding and decoding techniques used in digital Communication

Que. No	Question	BTL level
Q.1 (a)	<p>Apply Gram Schmidt process to find &amp; Draw an orthonormal basis function for this set of signals.</p>	L3
(b)	State & Prove the central Limit Theorem	L2
Q.2 (a)	Write Short notes on Correlation Receiver	L3
Q.4 (a)	Find L – Z source code for the binary source sequence given below, Assume that 0 & 1 are already present in the code book: 10101101001001110101000011001110101100011011.	L3
Q.5 (a)	<p>The o/p of the DMS consists of three source symbols with probabilities 0.45, 0.35, 0.2 resp.</p> <p>a. Calculate the entropy of the source, develop the Huffman code &amp; also calculate it's efficiency.</p> <p>b. Show that for a pair of symbols, efficiency of the encoding increases</p>	L2
Q.6 (a)	Give Comparison between Scalar & Vector quantization.	L3

Last date for submission is 11/01/2018

S. A. Bagal



**Assignment No-II**

**Bloom's Taxonomy Levels – 1. Remember    2. Understand    3. Apply    4. Analyze    5. Evaluate    6. Create**

Question no 1, 2, 3 are based on CO604.6 - Describe the spread spectrum Communication concepts

Question no 4, 5, 6 are based on CO604.3 - Describe digital modulation concept and Compare different digital modulation techniques

Que. No	Question	BTL level
<b>Q.1 (a)</b>	Explain the PN Sequence Generation Mechanism	L2
<b>(b)</b>	Explain following terms (i) Processing Gain (ii) Jamming Margin (iii) Chip Period	L2
<b>Q.2 (a)</b>	Write Short notes on DS-SS	L2
<b>(b)</b>	Explain FDMA, TDMA in brief	L2
<b>Q.3 (a)</b>	Explain the Slow & Fast FH-SS	L2
<b>(b)</b>	Explain CDMA in Details	L2
<b>Q.4)</b>	Draw & Explain the BPSK receiver, also obtain its bandwidth.	L3
<b>Q.5</b>	Draw & Explain the DPSK Transmitter. Also state the advantages of DPSK.	L3
<b>Q.6</b>	Explain MSK Modulation Technique with neat sketch.	L3

Last date for submission is 20/02/2018

S. A. Bagal  
Subject Teacher



**Assignment No-III**

**Bloom's Taxonomy Levels – 1. Remember 2. Understand 3. Apply 4. Analyze 5. Evaluate 6. Create**

**Question no 1, 2, 3 are based on CO604.4-** Describe and apply the concept of Waveform coding and decoding techniques

**Question no 4, 5, 6 are based on CO604.5 -** Describe and apply the concept of coding and decoding techniques used in telecommunication

Que. No	Question	BTL level
Q.1	Explain Automatic repeat request system	L2
Q.2	Explain in details the forward error correction system	L2
Q.3	A rate 1/3 conventional encoder has the generator vectors as $g_1 = [1\ 0\ 0]$ , $g_2 = [1\ 0\ 1]$ , $g_3 = [1\ 1\ 1]$ Draw the block diagram of the encoder & code Tree Draw the Trellis Diagram Using Viterbi Algorithm find most likely data sequence if the received sequence is (111, 101, 010, 111).	L3
Q.4	Explain Trellis coded modulation encoder in detail	L2
Q.5	Explain Turbo encoding and decoding with suitable block diagram	L2
Q.6	What are the different parameters of Reed-Solomon codes & obtain the generator polynomial for (7, 3) double - error correcting R S code using $GF(2^3)$ whose modulo polynomial is $X^3 + X + 1$	L3

Last date for submission is 22/03/2018

S. A. Bagal  
Subject Teacher