

Vidya Prasarak Mandal's
Maharshi Parshuram College of Engineering, Velneswar
(Affiliated to University of Mumbai)

Subject: Digital Communication
Class: T.E.ExTC
Date: 24/10/2018

Internal assessment-II
Max. Marks: 20
Time: 10.00 to 11.00 am

N.B.:

- (1) Question No.1 is **compulsory**.
(2) Figures to the right indicate full marks.

Course Outcomes covered in this Test are as follows:-

- CO3** Students will be able to Evaluate different methods to eliminate Inter-symbol interference.
CO4 Students will able to Compare different band-pass modulation techniques.
CO5 Students will able to evaluate performance of different error control codes.

Q. No.		CO#	Questions	Marks	BLL
1	A	CO5	What is the significance of minimum distance in block codes?	2	2
	B	CO4	Explain how QPSK is better than PSK.	2	4
	C	CO4	What is condition for orthogonality of BFSK signal?	2	1
	D	CO3	What do you understand by ISI?	2	2
	E	CO5	What is code rate, code efficiency, systematic & non systematic in the context of linear block code.	2	1
2	A	CO4	How you can design signal space diagram of 16-QASK & Calculate the Euclidean distance & compare with 16-PSK.	5	3
	OR				
	B	CO4	What is M-ary PSK transmitter & plot the spread spectrum & calculate it's B.W.	5	4
3	A	CO5	Design a syndrome calculator for (7,4) Hamming code generated by generator polynomial $1 + x + x^2$, if transmitted codeword $C=(0111001)$ & received codeword $r=(0110001)$.	5	6
	OR				
	B	CO5	Generator vector for 1/3 convolutional encoder are $g_1=(101)$, $g_2=(100)$, $g_3=(111)$. Draw encoder diagram & trellis diagram & find the code vector using trellis if message vector is 101100.	5	6