

A project of

 NPTEL
 National Programme on

 Technology Enhanced Learning



Quiz : Assignment 11	ce De $\begin{bmatrix} x_1 & -x_2^* & x_3^* & 0 \\ x_2 & x_2^* & 0 & x_2^* \end{bmatrix}$	
Week 12	Consider the code given by $G = \begin{bmatrix} x_1 & -x_2^* & x_3^* & 0 \\ x_2 & x_1^* & 0 & x_3^* \\ x_3 & 0 & -x_1^* & -x_2^* \\ 0 & x_2 & x_2 & -x_1 \end{bmatrix}$. The values of <i>N</i> , <i>K</i> and <i>T</i>	
Additional Lectures	$\begin{bmatrix} 0 & x_3 & x_2 & -x_1 \end{bmatrix}$ are	
	N = 4, K = 2, T = 4	
	N = 4, K = 3, T = 3	
	N = 3, K = 3, T = 4	
	N = 4, K = 3, T = 4	
	No, the answer is incorrect.	
	Score: 0 Accepted Answers:	
	N = 4, K = 3, T = 4	
	4) $\begin{bmatrix} x_1 & x_3 & x_2 \end{bmatrix}$	1 point
	4) Consider the code given by $G = \begin{vmatrix} x_1 & x_3 & x_2 \\ -x_2 & -x_4 & x_1 \\ -x_3 & x_1 & x_4 \\ -x_4 & x_2 & -x_3 \end{vmatrix}$. Which of the following	
	statements is corect	
	It is orthogonal	
	it is delay optimal	
	0 N = 3, T = 4	
	All of the above	
	No, the answer is incorrect. Score: 0	
	Accepted Answers: All of the above	
	5) The rank criteria suggests that in order to achieve maximum diversity	1 point
	The matrix A(C ⁱ , C ^j) should be of full rank for any two codewords, $C^i \neq C^j$	
	The matrix A(C ⁱ , C ^j) should be orthogonal for any two codewords, $C^i \neq C^j$	
	The matrix A(C ⁱ , C ^j) should be unitary for any two codewords, C ⁱ \neq C ^j	
	None of the above	
	No, the answer is incorrect. Score: 0	
	Accepted Answers: The matrix $A(C^i, C^i)$ should be of full rank for any two codewords, $C^i \neq C^i$	
	6) The determinant criteria suggests that in order to achieve maximum coding gain	1 point
	The maximum determinant of the matrix A(C ⁱ , C ^j) should be minimized for any two codewords, C ⁱ \neq C ^j	
	The minimum determinant of the matrix A(C ⁱ , C ^j) should be maximized for any two codewords, C ⁱ \neq C ^j	
	The minimum determinant of the matrix A(C ⁱ , C ^j) should be minimized for any two codewords, C ⁱ \neq C ^j	
	None of the above	

Simple decoding Maximum diversity Both a. and b. None of the above No, the answer is incorrect. Score: 0 Accepted Answers: Both a. and b. A real orthogonal design of size N is an NXN generator matrix such that $G^TG = \left(\sum_{i=1}^N x_i\right) I_N$ $G^TG = \left(\sum_{i=1}^N x_i\right) I_N$ $G^TG = \left(\sum_{i=1}^N x_i^2\right) I_N$ None of the above No, the answer is incorrect. Score: 0 Accepted Answers: $G^TG = \left(\sum_{i=1}^N x_i^2\right) I_N$) A real orthogonal design exists if and only if N is equal to 2 4 8 All of the above No, the answer is incorrect. Score: 0 Accepted Answers: $G^TG = \left(\sum_{i=1}^N x_i^2\right) I_N$	Accepted Ans		
Simple decoding Maximum diversity Both a. and b. None of the above No, the answer is incorrect. Score: 0 Accepted Answers: Both a. and b. Accepted Answers: Both a. and b. Accepted Answers: $G^TG = \left(\sum_{i=1}^{N} x_i^i\right) I_N$ $G^TG = \left(\sum_{i=1}^{N} x_i^2\right) I_N$ None of the above No, the answer is incorrect. Score: 0 Accepted Answers: $G^TG = \left(\sum_{i=1}^{N} x_i^2\right) I_N$ A real orthogonal design exists if and only if N is equal to 2 4 B All of the above No, the answer is incorrect. Score: 0 Accepted Answers: All of the above No, the answer is incorrect. Score: 0 Accepted Answers: All of the above N_0 , the answer is incorrect. Score: 0 Accepted Answers: All of the above N_0 , the answer is incorrect. Score: 0 C_{10} For $G_{44} = \begin{bmatrix} x_1 & -x_2^* & -x_3^* & 0 \\ x_2 & x_1^* & 0 & x_2^* \\ 0 & -x_3 & x_2 & x_1 \end{bmatrix}$, the rate, R , is			
Maximum diversity Both a. and b. None of the above No, the answer is incorrect. Score: 0 Accepted Answers: Both a. and b. A real orthogonal design of size N is an NXN generator matrix such that $G^TG = \left(\sum_{i=1}^{N} x_i\right) I_N$ $G^TG = \left(\sum_{i=1}^{N} x_i^2\right) I_N$ $G^TG = \left(\sum_{i=1}^{N} x_i^2\right) I_N$ None of the above No, the answer is incorrect. Score: 0 Accepted Answers: $G^TG = \left(\sum_{i=1}^{N} x_i^2\right) I_N$ Accepted Answers: $G^TG = \left(\sum_{i=1}^{N} x_i^2\right) I_N$ Accepted Answers: $G^TG = \left(\sum_{i=1}^{N} x_i^2\right) I_N$ A real orthogonal design exists if and only if N is equal to 2 4 8 All of the above No, the answer is incorrect. Score: 0 Accepted Answers: $G^TG = \left(\sum_{i=1}^{N} x_i^2\right) I_N$ A real orthogonal design exists if and only if N is equal to $248A ll of the above No, the answer is: A real orthogonal design exists if and only if N is equal to1 pC = \frac{1}{2}466C = \frac{1}{2}466C = \frac{1}{2}466C = \frac{1}{2}46C = \frac{1}{2}466C = \frac{1}{2}466C = \frac{1}{2}4666777777877777777$	7) Orthogonal S	pace-time block codes provide	1 poir
Both a. and b. None of the above No, the answer is incorrect. Score: 0 Accepted Answers: Both a. and b. A real orthogonal design of size N is an NXN generator matrix such that $G^TG = \left(\sum_{i=1}^{N} x_i\right) I_N$ $G^TG = \left(\sum_{i=1}^{N} x_i^2\right) I_N$ $G^TG = \left(\sum_{i=1}^{N} x_i^2\right) I_N$ None of the above No, the answer is incorrect. Score: 0 Accepted Answers: $G^TG = \left(\sum_{i=1}^{N} x_i^2\right) I_N$ O A real orthogonal design exists if and only if N is equal to I p Q Q A A A II of the above No, the answer is incorrect. Score: 0 Accepted Answers: $G^TG = \left(\sum_{i=1}^{N} x_i^2\right) I_N$ A II of the above No, the answer is incorrect. Score: 0 Accepted Answers: $G^TG = \left(\sum_{i=1}^{N} x_i^2\right) I_N$ A II of the above A II of the above A II of the above A G $For G_{i=i} = \begin{bmatrix} x_1 - x_2^* - x_3^* & 0 \\ x_2 & x_1^* & 0 & x_3^* \\ x_3 & 0 & x_1^* & -x_2^* \\ 0 & -x_3 & x_2 & x_1 \end{bmatrix}$, the rate, R , is	Simple	decoding	
None of the above No, the answer is incorrect. Score: 0 Accepted Answers: Bath a. and b. () A real orthogonal design of size N is an NXN generator matrix such that $G^TG = \left(\sum_{i=1}^{N} x_i\right)^I x_i$ $G^TG = \left(\sum_{i=1}^{N} x_i^2\right)^I x_i$ $G^TG = \left(\sum_{i=1}^{N} x_i^2\right)^I x_i$ None of the above No, the answer is incorrect. Score: 0 Accepted Answers: $G^TG = \left(\sum_{i=1}^{N} x_i^2\right)^I x_i$ () A real orthogonal design exists if and only if N is equal to 2 4 8 All of the above No, the answer is incorrect. Score: 0 Accepted Answers: All of the above No, the answer is incorrect. Score: 0 Accepted Answers: All of the above $C_{rad} = \begin{bmatrix} x_1 & -x_2^* & -x_3^* & 0 \\ x_2 & x_1^* & 0 & x_3^* \\ x_3 & 0 & x_1^* & -x_2^* \\ 0 & -x_3 & x_2 & x_1 \end{bmatrix}$, the rate, R , is	Maximi	um diversity	
No, the answer is incorrect. Score: 0 Accepted Answers: Both a. and b. a) A real orthogonal design of size N is an NXN generator matrix such that $G^{T}G = \left(\sum_{i=1}^{N} x_{i}\right) I_{N}$ $G^{T}G = \left(\sum_{i=1}^{N} x_{i}^{2}\right) I_{N}$ $G^{T}G = \left(\sum_{i=1}^{N} x_{i}^{2}\right) I_{N}$ None of the above No, the answer is incorrect. Score: 0 Accepted Answers: $G^{T}G = \left(\sum_{i=1}^{N} x_{i}^{2}\right) I_{N}$ $Q = \left(\sum_{i=1}^{N} x_{i}^{2}\right) I_{N}$ A real orthogonal design exists if and only if N is equal to $Q = \left(\sum_{i=1}^{N} x_{i}^{2}\right) I_{N}$ A real orthogonal design exists if and only if N is equal to $Q = \left(\sum_{i=1}^{N} x_{i}^{2}\right) I_{N}$ A real orthogonal design exists if and only if N is equal to $Q = \left(\sum_{i=1}^{N} x_{i}^{2}\right) I_{N}$ A real orthogonal design exists if and only if N is equal to $Q = \left(\sum_{i=1}^{N} x_{i}^{2}\right) I_{N}$ the answer is incorrect. Score: 0 Accepted Answers: All of the above $Q = \left(\sum_{i=1}^{N} x_{i}^{2} - x_$	Both a.	and b.	
Score: 0 Accepted Answers: Both a. and b. a) A real orthogonal design of size N is an NXN generator matrix such that $G^{T}G = \left(\sum_{i=1}^{N} x_{i}\right) I_{N}$ $G^{T}G = \left(\sum_{i=1}^{N} x_{i}^{2}\right) I_{N}$ $G^{T}G = \left(\sum_{i=1}^{N} x_{i}^{2}\right) I_{N}$ None of the above No, the answer is incorrect. Score: 0 Accepted Answers: $G^{T}G = \left(\sum_{i=1}^{N} x_{i}^{2}\right) I_{N}$ a) A real orthogonal design exists if and only if N is equal to 2 4 3 4 5 6 7 7 7 7 7 7 7 7 7 7 7 7 7	None of the second s	f the above	
Both a. and b. (a) A real orthogonal design of size N is an NXN generator matrix such that $G^{T}G = \left(\sum_{i=1}^{N} x_{i}\right) I_{N}$ $G^{T}G = \left(\sum_{i=1}^{N} x_{i}^{2}\right) I_{N}$ $G^{T}G = \left(\sum_{i=1}^{N} x_{i}^{2}\right) I_{N}$ (b) None of the above No, the answer is incorrect. Score: 0 Accepted Answers: $G^{T}G = \left(\sum_{i=1}^{N} x_{i}^{2}\right) I_{N}$ (c) A real orthogonal design exists if and only if N is equal to 2 4 6 7 8 6 All of the above No, the answer is incorrect. Score: 0 Accepted Answers: All of the above 0 For $G_{a34} = \begin{bmatrix} x_{1} & -x_{2}^{*} & -x_{3}^{*} & 0 \\ x_{2} & x_{1}^{*} & 0 & x_{3}^{*} \\ x_{3} & 0 & x_{1}^{*} & -x_{2}^{*} \\ 0 & -x_{3} & x_{2} & x_{1} \end{bmatrix}$, the rate, <i>R</i> , is	No, the answe Score: 0	er is incorrect.	
$G^{T}G = \left(\sum_{i=1}^{N} x_{i}\right)I_{N}$ $G^{T}G = \left(\sum_{i=1}^{N} x_{i} \right)I_{N}$ $G^{T}G = \left(\sum_{i=1}^{N} x_{i}^{2}\right)I_{N}$ None of the above No, the answer is incorrect. Score: 0 Accepted Answers: $G^{T}G = \left(\sum_{i=1}^{N} x_{i}^{2}\right)I_{N}$ and a rate orthogonal design exists if and only if N is equal to $I p$ Q $A real orthogonal design exists if and only if N is equal to I p Q A real orthogonal design exists if and only if N is equal to I p Q A real orthogonal design exists if and only if N is equal to I p Q A real orthogonal design exists if and only if N is equal to I p Q A real orthogonal design exists if and only if N is equal to I p Q A real orthogonal design exists if and only if N is equal to I p A real orthogonal design exists if and only if N is equal to I p A real orthogonal design exists if and only if N is equal to I p A real orthogonal design exists if and only if N is equal to I p A real orthogonal design exists if and only if N is equal to I p A real orthogonal design exists if and only if N is equal to I p A real orthogonal design exists if and only if N is equal to I p A real orthogonal design exists if and only if N is equal to I p A real orthogonal design exists if and only if N is equal to I p A real orthogonal design exists if and only if N is equal to I p A real orthogonal design exists if and only if N is equal to I p A real orthogonal design exists if and only if N is equal to I p A real orthogonal design exists if and only if N is equal to I p A real orthogonal design exists if and only if N is equal to I p A real orthogonal design exists if and only if N is equal to I p A real orthogonal design exists if and only if N is equal to I p A real orthogonal design exists if and only if N is equal to I p A real orthogonal design exists if and only if N is equal to I p A real orthogonal design exists if and only if N is equal to I p A real orthogonal design exists if an A real orthogonal design exists if and on$	-		
$G^{T}G = \left(\sum_{i=1}^{N} x_{i}^{2}\right)I_{N}$ None of the above No, the answer is incorrect. Score: 0 Accepted Answers: $G^{T}G = \left(\sum_{i=1}^{N} x_{i}^{2}\right)I_{N}$ A real orthogonal design exists if and only if N is equal to Q A A A real orthogonal design exists if and only if N is equal to P A A real orthogonal design exists if and only if N is equal to P A A real orthogonal design exists if and only if N is equal to P A A real orthogonal design exists if and only if N is equal to P A A real orthogonal design exists if and only if N is equal to P A A real orthogonal design exists if and only if N is equal to P A A real orthogonal design exists if and only if N is equal to P A A real orthogonal design exists if and only if N is equal to P A A A A A A A A			1 poir
$G^{T}G = \left(\sum_{i=1}^{N} x_{i}^{2}\right)I_{N}$ None of the above No, the answer is incorrect. Score: 0 Accepted Answers: $G^{T}G = \left(\sum_{i=1}^{N} x_{i}^{2}\right)I_{N}$ A real orthogonal design exists if and only if N is equal to Q A A A real orthogonal design exists if and only if N is equal to P A A real orthogonal design exists if and only if N is equal to P A A real orthogonal design exists if and only if N is equal to P A A real orthogonal design exists if and only if N is equal to P A A real orthogonal design exists if and only if N is equal to P A A real orthogonal design exists if and only if N is equal to P A A real orthogonal design exists if and only if N is equal to P A A real orthogonal design exists if and only if N is equal to P A A A A A A A A	G ^I G=	$\left(\sum_{i=1}^{N} x_i\right) I_N$	
$G^{T}G = \left(\sum_{i=1}^{N} x_{i}^{2}\right)I_{N}$ None of the above No, the answer is incorrect. Score: 0 Accepted Answers: $G^{T}G = \left(\sum_{i=1}^{N} x_{i}^{2}\right)I_{N}$ A real orthogonal design exists if and only if N is equal to Q A A A real orthogonal design exists if and only if N is equal to P A A real orthogonal design exists if and only if N is equal to P A A real orthogonal design exists if and only if N is equal to P A A real orthogonal design exists if and only if N is equal to P A A real orthogonal design exists if and only if N is equal to P A A real orthogonal design exists if and only if N is equal to P A A real orthogonal design exists if and only if N is equal to P A A real orthogonal design exists if and only if N is equal to P A A A A A A A A	G ^I G	$= \left(\sum_{i=1}^{N} \left x_i \right \right) \boldsymbol{I}_N$	
No, the answer is incorrect. Score: 0 Accepted Answers: $G^{T}G = \left(\sum_{i=1}^{N} x_{i}^{2}\right)I_{N}$ a) A real orthogonal design exists if and only if N is equal to 2 4 8 All of the above No, the answer is incorrect. Score: 0 Accepted Answers: All of the above 0 For $G_{434} = \begin{bmatrix} x_{1} & -x_{2}^{*} & -x_{3}^{*} & 0 \\ x_{2} & x_{1}^{*} & 0 & x_{3}^{*} \\ x_{3} & 0 & x_{1}^{*} & -x_{2}^{*} \\ 0 & -x_{3} & x_{2} & x_{1}^{*} \end{bmatrix}$, the rate, <i>R</i> , is			
Score: 0 Accepted Answers: $G^{T}G = \left(\sum_{i=1}^{N} x_{i}^{2}\right)I_{N}$ a) A real orthogonal design exists if and only if N is equal to 2 4 8 All of the above No, the answer is incorrect. Score: 0 Accepted Answers: All of the above 0 For $G_{434} = \begin{bmatrix} x_{1} - x_{2}^{*} - x_{3}^{*} & 0 \\ x_{2} & x_{1}^{*} & 0 & x_{3}^{*} \\ x_{3} & 0 & x_{1}^{*} - x_{2}^{*} \\ 0 & -x_{3} & x_{2} & x_{1} \end{bmatrix}$, the rate, <i>R</i> , is	None of the second s	f the above	
$G^{T}G = \left(\sum_{i=1}^{N} x_{i}^{2}\right) I_{N}$ () A real orthogonal design exists if and only if N is equal to 2 4 8 All of the above No, the answer is incorrect. Score: 0 Accepted Answers: All of the above 0 For $G_{434} = \begin{bmatrix} x_{1} & -x_{2}^{*} & -x_{3}^{*} & 0 \\ x_{2} & x_{1}^{*} & 0 & x_{3}^{*} \\ x_{3} & 0 & x_{1}^{*} & -x_{2}^{*} \\ 0 & -x_{3} & x_{2} & x_{1}^{*} \end{bmatrix}$, the rate, <i>R</i> , is () A read orthogonal design exists if and only if N is equal to 1 p	No, the answe Score: 0	er is incorrect.	
(1) A real orthogonal design exists if and only if N is equal to 2 4 8 All of the above No, the answer is incorrect. Score: 0 Accepted Answers: All of the above 0 For $G_{434} = \begin{bmatrix} x_1 & -x_2^* & -x_3^* & 0 \\ x_2 & x_1^* & 0 & x_3^* \\ x_3 & 0 & x_1^* & -x_2^* \\ 0 & -x_3 & x_2 & x_1 \end{bmatrix}$, the rate, <i>R</i> , is			
$ \begin{array}{c} 2 \\ 4 \\ 8 \\ \end{array} \\ All of the above \\ \end{tabular} No, the answer is incorrect. \\ \end{tabular} Score: 0 \\ \end{tabular} Accepted Answers: \\ All of the above \\ \end{tabular} \\ \begin{array}{c} n \\ x_2 & x_1^* & 0 & x_3^* \\ x_3 & 0 & x_1^* & -x_2^* \\ 0 & -x_3 & x_2 & x_1 \end{array} \end{array} , the rate, R, is \\ \begin{array}{c} 1p \\ n \\ $	$\boldsymbol{G}^{T}\boldsymbol{G} = \left(\sum_{i=1}^{N} x_{i}\right)$	I_N	
$ \begin{array}{c} & 4 \\ & 8 \\ & & $	9) A real orthog	onal design exists if and only if N is equal to	1 poir
All of the above No, the answer is incorrect. Score: 0 Accepted Answers: All of the above 0 For $G_{434} = \begin{bmatrix} x_1 & -x_2^* & -x_3^* & 0 \\ x_2 & x_1^* & 0 & x_3^* \\ x_3 & 0 & x_1^* & -x_2^* \\ 0 & -x_3 & x_2 & x_1 \end{bmatrix}$, the rate, <i>R</i> , is	O 2		
All of the above No, the answer is incorrect. Score: 0 Accepted Answers: All of the above 0 For $G_{434} = \begin{bmatrix} x_1 & -x_2^* & -x_3^* & 0 \\ x_2 & x_1^* & 0 & x_3^* \\ x_3 & 0 & x_1^* & -x_2^* \\ 0 & -x_3 & x_2 & x_1 \end{bmatrix}$, the rate, <i>R</i> , is	4		
No, the answer is incorrect. Score: 0 Accepted Answers: All of the above 0 For $G_{434} = \begin{bmatrix} x_1 & -x_2^* & -x_3^* & 0 \\ x_2 & x_1^* & 0 & x_3^* \\ x_3 & 0 & x_1^* & -x_2^* \\ 0 & -x_3 & x_2 & x_1 \end{bmatrix}$, the rate, <i>R</i> , is	8		
Score: 0 Accepted Answers: All of the above 0 For $G_{434} = \begin{bmatrix} x_1 & -x_2^* & -x_3^* & 0 \\ x_2 & x_1^* & 0 & x_3^* \\ x_3 & 0 & x_1^* & -x_2^* \\ 0 & -x_3 & x_2 & x_1 \end{bmatrix}$, the rate, <i>R</i> , is	All of the second se	ie above	
All of the above	No, the answe Score: 0	er is incorrect.	
	10	$x_1 - x_2^* - x_3^* = 0$	1 poir
	For $G_{434} =$	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	
	0 1		
0 1/2	-		
2/3	2/3		

Information Theory, Coding and Cryptography - ...

https://onlinecourses.nptel.ac.in/noc18_ee39/un...

No, the answer is incorrect.
Score: 0
Accepted Answers:
3/4

Previous Page

End