Coding theory

Item Text	Option Text 1	Option Text 2	Option Text 3	Option Text 4
If x,y,z be words of length n over the set A then which of the following is correct?	d(x,y) = 0 iff x = y	d(x,y) = 3	d(x,y) = 1	d(x,y) = 0
Let A = {0,1} amd let x = 01010 and y = 01101. Choose the correct option from the following	d(x,y) = 0	d(x,y) = 3	d(x,y) = 1	d(x,y) = 4
For a BSC with crossover probability less than 0.5, the maximum likelihood decoding rule is same as ___	Hamming Distance	Nearest Neighbour Decoding Rule	Communication Channel	Distance of a code
If C = {00000, 00111, 11111} be a binary code then d(C) is equal to __	2	3	5	0
A code C is u-error detecting code if and only if d(C) is greater than or equal to __	u	u+2	u+1	u-1

Coding theory

Consider the memory less binary channel with channel probabilities, P(0 received | 0 sent) = 0.7 and P(1 received | 1 sent) = 0.8. If code word from C = {000,100,111} are sent over this channel then using MLD rule 001 will decode to __	10	11	111	1000
The ternary code C = { 000000, 000111, 111222} is __	Exactly 2 error detecting code	2 error detecting code	3 error detecting code	5 error detecting code
The characteristic of a Field is ___	Either zero or prime number	Neither zero nor prime number	Zero	Composite number
Let C = {0000, 0011, 0010, 0001} be a binary linear code then wt(0011) is_	1	3	4	2
For any prime P and integer n which is greater than or equal to 1 , there exist a unique finite field of __	P elements	P - n elements	n elements	

Coding theory

Every finite Field has __	At most one Primitive element	At least one Primitive element	Only one Primitive element	No Primitive element
If (R, +, .) be a ring then R is called an Integral Domain if and only if R is a commutative ring with unity and ___	Without zero divisors	With zero divisors	Only one zero divisor	More than one zero divisor
Every Field is __	An Integral Domain	Communication Channel	Prime Number	Composite Number
Every finite Integral Domain is __	Field	Empty Set	Group	Infinite ring
In a commutative ring with unity, every Maximal ideal is __	Prime ideal	Field	An Integral Domain	Linear Code
The characteristic of R (the set of realnumbers) is __	Zero	One	Negative Integer	Infinity

Coding theory

Let V be a vector space. If a non empty subset C of V is itself a vector space under same vector addition and scalar multiplication as defined on V then C is know as ___	Subgroup	Subspace	Subring	Subfield
Any set S which contains zero is __	An empty set	Linearly Independent set	Linearly Dependent set	An Universal set
Let V be a vector spaceover a field F. A non empty linearly independent subset B of V which spans V is called as __	Basis of V	Linear span of V	Subgroup of V	Subring of V
If v and w be two vectors such that v.w = 0 then they are said to be __	Zero vectors	Orthogonal vectors	Equal vectors	Orthonormal vectors