## G. PULLAIAH COLLEGE OF ENGINEERING \& TECHNOLOGY::KURNOOL

 DEPARTMENT OF ECEClass: III-B.Tech I Sem
Branch: ECE
Mid: II (OBJECTIVE)
Subject: Digital Communication Systems
Date:08-11-2017
Time: 20 min

## GPCET

Invigilator Signature
Max. Marks: 10 Roll No.:

## Choose correct answer

1. The code rate of an ( $\mathrm{n}, \mathrm{k}$ ) block code is $\qquad$
A). $\mathrm{k} / \mathrm{n}$
B). $\mathrm{n} / \mathrm{k}$
C). $1-\mathrm{k} / \mathrm{n}$
D).none
2. The minimum distance in hamming code is
C). 1
D).none
B). 2
3. The relation between syndrome vector and error pattern
A). $S=E H^{1}$
B). $S=E H$
C). $S=E^{T} H$
D). none
[ ]
]
4. Properties of cyclic codes

## C).both A \& B D). none

5. Geometric representation of signals is the representation of signals in terms of
A). points
B). lines
C). both A and B
D).none
6. The relation between symbol energy and bit energy for M-ary PSK
$\begin{array}{llll}\text { A). } E_{s}=N E_{b} & \text { B). } E_{b}=\mathrm{NE}_{s} & \text { C). } E_{s}=E_{b} & \text { D). none }\end{array}$
7. Multiplier followed by integrator is called.
C). $\mathrm{E}_{\mathrm{s}}=\mathrm{E}_{\mathrm{b}}$
A).correlator
B). matched filter
C). both A \& B
D). none
8. Code trellis is the compact representation of
C). both A \& B
D).none
A). code tree
B). state diagram
]
A). $n-k$
B). $\mathrm{n}+\mathrm{k}$
C). $n$
D). none
10.Bit error rate (BER) for all systems......monotonically with increase in $\mathrm{E}_{\mathrm{b}} / \mathrm{N}_{0}$ [ ]
A). increases
B).decrease
C). constant
D). none
9. To detect ' $s$ ' errors per word $d_{\text {min }} \geq \ldots \ldots \ldots \ldots \ldots$
10. In Viterbi algorithm discrepancy $b / w$ received signal \& decoded signal is called..........
11. The number of surviving paths in viterbi algorithm $=$ $\qquad$
12. Bandwidth of $\mathrm{QPSK}=\mathrm{B}_{\mathrm{T}}=\ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots$
15.Error probability of BPSK $=\mathrm{P}_{\mathrm{e}}=\ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots$
13. Bandwidth of $\mathrm{BFSK}=\mathrm{B}_{\mathrm{T}}=$. $\qquad$
14. The quadrature and M -ary systems increase the bandwidth
15. Gram-schmith orthogonalization procedure finds the orthonormal basis functions $\mathrm{T} / \mathrm{F}$
16. In systematic block code message bits appear at the beginning of the code word. T/F
17. Due to white gaussian noise random errors occur .

## G. PULLAIAH COLLEGE OF ENGINEERING \& TECHNOLOGY::KURNOOL

DEPARTMENT OF ECE

| Class: III-B.Tech I Sem |  |
| :--- | :---: |
| Branch: ECE | Mid: II (OBJECTIVE) |
| Subject: Digital Communication Systems | Date:08-11-2017 |
| Invigilator Signature__ Max. Marks: 10 | Roll No: 20 min |

## Choose correct answer

1. The code rate of an ( $\mathrm{n}, \mathrm{k}$ ) block code is.
]
A). $\mathrm{k} / \mathrm{n}$
B). $n / k$
C) $1-k / n$
D).none
2. The minimum distance in hamming code is
B). 2
C). 1
D).none
3. The relation between syndrome vector and error pattern
D). none
A). $\mathrm{S}=\mathrm{EH}^{\mathrm{T}}$
B). $\mathrm{S}=\mathrm{EH}$
C). $S=E^{T} H$
4. Properties of cyclic codes
C).both A \& B D). none
5. Geometric representation of signals is the representation of signals in terms of
A). points
B). lines
C). both A and B
D).none
6. The relation between symbol energy and bit energy for M-ary PSK
D). none
7. Multiplier followed by integrator is called.
C). $\mathrm{E}_{\mathrm{s}}=\mathrm{E}_{\mathrm{b}}$
A).correlator
B). matched filter
C). both A \& B
D). none
8. Code trellis is the compact representation of -----------------
A). code tree
B). state diagram
C). both A \& B
D).none
9. In ( $\mathrm{n}, \mathrm{k}$ ) block code the number of redundant bits=........... [ ]
A). $n-k$
B). $n+k$
C). $n$
D). none
10.Bit error rate (BER) for all systems......monotonically with increase in $\mathrm{E}_{\mathrm{b}} / \mathrm{N}_{0} \quad$ [ ]
A). increases
B).decreases
C). constant
D). none
10. To detect ' s ' errors per word $\quad d_{\min } \geq \ldots \ldots \ldots \ldots \ldots$
11. In Viterbi algorithm discrepancy $\mathrm{b} / \mathrm{w}$ received signal \& decoded signal is called. $\qquad$
12. The number of surviving paths in viterbi algorithm $=\ldots \ldots \ldots \ldots$
13. Bandwidth of $\mathrm{QPSK}=\mathrm{B}_{\mathrm{T}}=$. $\qquad$
14. Error probability of BPSK $=\mathrm{P}_{\mathrm{e}}=$ $\qquad$
15. Bandwidth of $\mathrm{BFSK}=\mathrm{B}_{\mathrm{T}}=$ $\qquad$
16. The quadrature and $M$-ary systems increase the bandwidth
17. Gram-schmith orthogonalization procedure finds the orthonormal basis functions $\mathrm{T} / \mathrm{F}$
18. In systematic block code message bits appear at the beginning of the code word. T/F
19. Due to white gaussian noise random errors occur .

## G. PULLAIAH COLLEGE OF ENGINEERING \& TECHNOLOGY::KURNOOL

 DEPARTMENT OF ECEClass: III-B.Tech I Sem
Branch: ECE
Mid: II (OBJECTIVE)

Subject: Digital Communication Systems
Date: 08-11-2017
Time: 20 min

## GPCET

## SET-2

## Invigilator Signature

Max. Marks: 10 Roll No.

## Choose correct answer

1. The minimum distance for hamming code is
C). 1
D).none A). 3
B) 2
2. Properties of cyclic codes
C).both A and B D). none A).linearity
B). cyclic shift
3. The relation between symbol energy and bit energy for M-ary PSK
$\begin{array}{llll}\text { A). } E_{s}=N E_{b} & \text { B). } E_{b}=N E_{s} & \text { C) } \cdot E_{s}=E_{b} & \text { D). none }\end{array}$
]
4. Geometric representation of signals is the representation of signals in terms of [ ]
A). points
B). lines
C). both A and B D).none
5. The bit error rate(BER) for all systems...monotonically with increase in $\mathrm{E}_{\mathrm{b}} / \mathrm{N}_{0}$ [ ]
A). increases
B).decreases
C). constant
D). none
6. The code rate of an ( $\mathrm{n}, \mathrm{k}$ ) block code is....................
A). $k / n$
B). $\mathrm{n} / \mathrm{k}$
C). $1-\mathrm{k} / \mathrm{n}$
D).none

The relation between syndrome vector and error pattern
A). $S=E H^{T}$
B). $S=E H$
C). $S=E^{T} H$
D). none
8. Multiplier followed by integrator is called.
...............
C). both A \& B
D). none
9. Code trellis is the compact representation of
D).
A). code tree
B). state diagram
C). both A \& B
D).none
A). $\mathrm{n}-\mathrm{k}$
B). $n+k$
C). $n$
D). none
11. In Viterbi algorithm discrepancy b/w received signal \& decoded signal is called......
12. Bandwidth of $\mathrm{QPSK}=\mathrm{B}_{\mathrm{T}}=$ $\qquad$
13. Bandwidth of $\mathrm{BFSK}=\mathrm{B}_{\mathrm{T}}=$. $\qquad$
14. To detect 's' errors per word $\quad d_{\min } \geq$.
15. The number of surviving paths in viterbi algorithm = $\qquad$
16. Error probability of $\mathrm{BPSK}=\mathrm{P}_{\mathrm{e}}=$. $\qquad$
17. Gram-schmith orthogonalization procedure finds orthonormal basis functions. T/F
18. Due to white gaussian noise random errors occur. T/F
19.The quadrature and M -ary systems increases the bandwidth .

## G. PULLAIAH COLLEGE OF ENGINEERING \& ECHNOLOGY::KURNOOL

 DEPARTMENT OF ECE
A). code tree
B). state diagram
C). both A \& B
D).none
A). $\mathrm{n}-\mathrm{k}$
B). $n+k$
C). n
D). none
11. In Viterbi algorithm discrepancy b/w received signal \& decoded signal is called.....
12. Bandwidth of $\mathrm{QPSK}=\mathrm{B}_{\mathrm{T}}=$. $\qquad$
13. Bandwidth of $B F S K=B_{T}=$ $\qquad$
14. To detect ' $s$ ' errors per word $d \min \geq$
15. The number of surviving paths in viterbi algorithm = $\qquad$
16. Error probability of $\mathrm{BPSK}=\mathrm{P}_{\mathrm{e}}=$ $\qquad$
17. Gram-schmith orthogonalization procedure finds orthonormal basis functions. T/F
18. Due to white gaussian noise random errors occur. T/B
19.The quadrature and M-ary systems increases the bandwidth .

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## G. PULLAIAH COLLEGE OF ENGINEERING \& TECHNOLOGY::KURNOOL

 DEPARTMENT OF ECEClass: III-B.Tech I Sem
Branch: ECE
Subject: Digital Communication Systems
Mid: II (OBJECTIVE)
Date: 08-11-2017
Time: 20 min

## Invigilator Signature

Max. Marks: 10 Roll No.

## Choose correct answer

1. The relation between syndrome vector and error pattern
C). $S=E^{\mathrm{T}} H$
D). none
2. Geometric representation of signals is the representation of signals in terms of [ ]
A). points
B). lines
C). both A and B
D).none
3. Multiplier followed by integrator is called
D). none
C). both A \& B A).correlator
B). matched filter
4. In ( $\mathrm{n}, \mathrm{k}$ ) block code the number of redundant bits $=\ldots \ldots \ldots \ldots$
D). none
5. The bit error rate(BER) for all systems...monotonically with increase in $E_{b} / N_{0} \quad$ [ ]
A). increases
B).decreases
C). constant
D). none
6. The minimum distance for hamming code is A). 3
C). 1
D).none
7. Properties of cyclic codes
C).both A and B D). none
$\begin{array}{lll}\text { A).linearity } & \text { B). cyclic shift } & \text { C).both A and B D) } \\ \text { 8. The relation between symbol energy and bit energy for M-ary PSK }\end{array}$
]
A). $\mathrm{E}_{\mathrm{s}}=\mathrm{NE}_{\mathrm{b}}$
B). $\mathrm{E}_{\mathrm{b}}=\mathrm{NE}_{\mathrm{s}}$
C). $\mathrm{E}_{\mathrm{s}}=\mathrm{E}_{\mathrm{b}}$
D). none
8. Code trellis is the compact representation of
C). both A \& B
D).none
A). code tree
B). state diagram
C). $1-\mathrm{k} / \mathrm{n}$
D).none
A).k/n
B). $\mathrm{n} / \mathrm{k}$
(
9. The number of surviving paths in viterbi algorithm $=$.
10. Bandwidth of $\mathrm{QPSK}=\mathrm{B}_{\mathrm{T}}=$. $\qquad$
13.To detect ' $s$ ' errors per word $d_{\min } \geq \ldots \ldots \ldots \ldots \ldots$
11. Error probability of $\mathrm{BPSK}=\mathrm{P}_{\mathrm{e}}=$. $\qquad$
15.In Viterbi algorithm discrepancy b/w received signal and decoded signal is called....
12. Bandwidth of $\mathrm{BFSK}=\mathrm{B}_{\mathrm{T}}=\ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots$
13. Due to white gaussian noise random errors occur.
14. Gram-schmith orthogonalization procedure finds orthonormal basis functions. T/T T/F
15. In systematic block code message bits appear at the beginning of the code word. T/F
16. The quadrature and M-ary systems increases the bandwidth .

## G. PULLAIAH COLLEGE OF ENGINEERING \& TECHNOLOGY::KURNOOL

 DEPARTMENT OF ECEGPCET
Mid: II (OBJECTIVE)
Branch: ECE
Date: 08-11-2017

## Subject: Digital Communication Systems

Time: $\mathbf{2 0} \mathbf{~ m i n}$

## Invigilator Signature__ Max. Marks: $10 \quad$ Roll No.:

## Choose correct answer

1. The relation between syndrome vector and error pattern
[ ]
A). $S=E H^{T}$
B). $S=E H$
C). $S=E^{T} H$
D). none
2. Geometric representation of signals is the representation of signals in terms of [ ]
A). points
B). lines
C). both A and B
D).none
3. Multiplier followed by integrator is called....................
$\begin{array}{llll}\text { A).correlator } & \text { B). matched filter } & \text { C). both A \& B } & \text { D). none }\end{array}$
4. In ( $\mathrm{n}, \mathrm{k}$ ) block code the number of redundant bits=.
A). n-k
B). $n+k$
C). n
D). none
5. The bit error rate(BER) for all systems...monotonically with increase in $\mathrm{E}_{\mathrm{b}} / \mathrm{N}_{0}$ [ ]
A). increases
B).decreases
C). constant
D). none
6. The minimum distance for hamming code is $\quad 1 \quad$ D)
A). 3
B). 2
C). 1
D).none
7. Properties of cyclic codes
C).both A and B D). none
8. The relation between symbol energy and bit energy for M-ary PSK
]
A). $\mathrm{E}_{\mathrm{s}}=\mathrm{NE}_{\mathrm{b}}$
B). $E_{b}=N E_{s}$
D). none
$\qquad$
9. Code trellis is the compact representation of -------------------
]
A). code tree
B). state diagram
C). both A \& B
D).none
A).k/n
B). $\mathrm{n} / \mathrm{k}$
C). $1-\mathrm{k} / \mathrm{n}$
D).none
10. The number of surviving paths in viterbi algorithm $=\ldots$
11. Bandwidth of $\mathrm{QPSK}=\mathrm{B}_{\mathrm{T}}=$ $\qquad$
13.To detect ' $s$ ' errors per word $\quad d_{\min } \geq \ldots \ldots . . . . . . .$.
12. Error probability of $\mathrm{BPSK}=\mathrm{P}_{\mathrm{e}}=$. $\qquad$
15.In Viterbi algorithm discrepancy $b / w$ received signal and decoded signal is called........
13. Bandwidth of $\mathrm{BFSK}=\mathrm{B}_{\mathrm{T}}=$. $\qquad$
14. Due to white gaussian noise random errors occur.
15. Gram-schmith orthogonalization procedure finds orthonormal basis functions. T/F
16. In systematic block code message bits appear at the beginning of the code word. T/F
17. The quadrature and M-ary systems increases the bandwidth .

## G. PULLAIAH COLLEGE OF ENGINEERING \& TECHNOLOGY::KURNOOL

 DEPARTMENT OF ECE| Class: III-B.Tech I Sem | - | Mid: II (OBJECTIVE) | , mememe |
| :---: | :---: | :---: | :---: |
| anch: ECE |  | Date: 08-11-2017 |  |
| Subject: Digital Commun | ation Systems | Time: 20 min | SET-4 |

## Subject: Digital Communication Systems <br> Time: 20 min

Invigilator Signature __ Max. Marks: 10 Roll No.:

## Choose correct answer

1. Properties of cyclic codes
A).linearity
B). cyclic shift
C).both A and B D). none
2. The relation between symbol energy and bit energy for M-ary PSK
[ ]
A). $\mathrm{E}_{\mathrm{s}}=\mathrm{NE}_{\mathrm{b}}$
B). $\mathrm{E}_{\mathrm{b}}=\mathrm{NE}_{\mathrm{s}}$
C). $\mathrm{E}_{\mathrm{s}}=\mathrm{E}_{\mathrm{b}}$
D). none
3. Geometric representation of signals is the representation of signals in terms of [ ]
A). points
B). lines
C). both A and B
D).none
4. The bit error rate(BER) for all systems...onotonically with increase in $\mathrm{E}_{\mathrm{b}} / \mathrm{N}_{0} \quad[\quad]$
A). increases
B).decreases
C). constant
D). none
5. The code rate of an ( $n, k$ ) block code is.................... ]
A).k/n
B). $\mathrm{n} / \mathrm{k}$
C). $1-\mathrm{k} / \mathrm{n}$
D).none
6. The relation between syndrome vector and error pattern
]
A). $\mathrm{S}=\mathrm{EH}^{\mathrm{T}}$
B). $S=E H$
C). $S=E^{T} H$
D). none
7. The minimum distance for hamming code is
C). 1
D).none
A). 3
B). 2
8. Multiplier followed by integrator is called
C). both A \& B
9. Code trellis is the compact representation of
D). none
A). code tree
B). state diagram
C). both A \& B
D).none
10. In ( $\mathrm{n}, \mathrm{k}$ ) block code the number of redundant bits=............
A). $n-k$
B).n+k
C). n
D). none
11. Bandwidth of $\mathrm{QPSK}=\mathrm{B}_{\mathrm{T}}=$
12. Error probability of $\operatorname{BPSK}=\mathrm{P}_{\mathrm{e}}=$ $\qquad$
13. In Viterbi algorithm discrepancy $\mathrm{b} / \mathrm{w}$ received signal \& decoded signal is called. $\qquad$ 14.To detect ' $s$ ' errors per word
$\mathrm{d}_{\text {min }} \geq$. $\qquad$
14. The number of surviving paths in viterbi algorithm $=$ $\qquad$
15. Bandwidth of $\mathrm{BFSK}=\mathrm{B}_{\mathrm{T}}=$ $\qquad$
16. In systematic block code message bits appear at the beginning of the code word. T/F
17. Due to white gaussian noise random errors occur.
18. The quadrature and M -ary systems increases the bandwidth .
19. Gram-schmith orthogonalization procedure finds orthonormal basis functions. T/F

## G. PULLAIAH COLLEGE OF ENGINEERING \& TECHNOLOGY::KURNOOL

DEPARTMENT OF ECE

| Class: III-B.Tech I Sem |  | Mid: II (OBJECTIVE) | momer |
| :---: | :---: | :---: | :---: |
| Branch: ECE |  | Date: 08-11-2017 | SET-4 |
| Subject: Digital Commu | tion Systems | Time: 20 min |  |

Invigilator Signature_ Max. Marks: 10 Roll No.:

## Choose correct answer

1. Properties of cyclic codes
]
A).linearity
B). cyclic shift
C).both A and B D). none
2. The relation between symbol energy and bit energy for M-ary PSK
]
A). $\mathrm{E}_{\mathrm{s}}=\mathrm{NE}_{\mathrm{b}}$
B). $\mathrm{E}_{\mathrm{b}}=\mathrm{NE}_{\mathrm{s}}$
C). $\cdot \mathrm{E}_{\mathrm{s}}=\mathrm{E}_{\mathrm{b}}$
D). none
3. Geometric representation of signals is the representation of signals in terms of [ ]
A). points
B). lines
C). both A and B
D).none
4. The bit error rate(BER) for all systems...onotonically with increase in $\mathrm{E}_{\mathrm{b}} / \mathrm{N}_{0} \quad$ [ ]
A). increases
B).decreases
C). constant
D). none
5. The code rate of an $(\mathrm{n}, \mathrm{k})$ block code is
C). $1-\mathrm{k} / \mathrm{n}$
D).none
6. The relation between syndrome vector and error pattern
D). none
7. The minimum distance for hamming code is
$\begin{array}{llll}\text { A). } 3 & \text { B). } 2 & \text { C). } 1 & \text { D).none }\end{array}$
8. Multiplier followed by integrator is calle
C). both A \& B
D). none
A).correlator
B). matched filter C). both A \&
9. Code trellis is
[ ]
B). state diagram
C). both A \& B
D).none
10. In ( $\mathrm{n}, \mathrm{k}$ ) block code the number of redundant bits $=\ldots \ldots \ldots \ldots$
A). $n-k$
B). $n+k$
C). $n$
D). none
11. Bandwidth of $\mathrm{QPSK}=\mathrm{B}_{\mathrm{T}}=$ $\qquad$
12. Error probability of $\operatorname{BPSK}=\mathrm{P}_{\mathrm{e}}=$ $\qquad$
13. In Viterbi algorithm discrepancy $b / w$ received signal \& decoded signal is called......... 14.To detect ' $s$ ' errors per word $d_{\min } \geq \ldots \ldots \ldots \ldots .$.
14. The number of surviving paths in viterbi algorithm $=$
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[^0]:    20. In systematic block code message bits appear at the beginning of the code word. T/F
