

NADAR SARASWATHI COLLEGE OF ENGINEERING AND TECHNOLOGY, THENI.

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| Course/Branch : B.E/ECE | Year / Semester :IV/VII | Format No. | NAC/TLP-07a.13 |
| Subject Code :EC8092 | Subject Name :Advanced Wireless Communication | Rev. No. | 02 |
| Unit No : IV | Unit Name : SPACE TIME TRELIS CODES | Date | 30.09.2020 |

OBJECTIVE TYPE QUESTION BANK

| S. No. | Objective Questions (MCQ /True or False / Fill up with Choices) | BTL |
|---------------|--|------------|
| 1 | _____ is a method employed to improve the reliability of data transmission in wireless communications systems using multiple transmit antennas. A. space time coded systems B. source and channel coding C. spatial coding D. all the above | L3 |
| 2 | STTC is known as _____ in space time coded. A. selected time trellis codes B. space time trellis codes C. selected time to codes D. space time to codes | L3 |
| 3 | STLC is known as _____ in space time coded . A. space time line codes B. speed time line codes C. speed text line codes D. none of the above | L3 |
| 4 | STBC is known as _____ in space time code. A. Special time block codes B. Speech to block codes C. space time block codes D. none of the above | L3 |
| 5 | _____ is a space time coded which transmits multiple, redundant copies of a generalised TCM distributed over time and a number of antennas . A. selected time trellis codes B. space time trellis codes C. selected time to codes | L3 |

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| | D. space time to code | |
| 6 | In _____ the space time codes receiver does not know the channel impairments but knows the statistics of the channel. A. noncoherent B. Coherent c. both d. none | L3 |
| 7 | Space time block codes are optimal with respect to capacity when Code rate is _____ . A.one B. two C. three D. four | L3 |
| 8 | PLC is known as _____ . A. power load computing B. power line computing C. power link code D. Powerline Communication | L3 |
| 9 | In space time trellis codes the slope _____ in diversity gain . A. Decreases B. Increases C. Increases then decreases D. Decreases then increases | L3 |
| 10 | In alamouti model it is assumed that _____ transmit antennas and _____ receive antenna . | L3 |

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| | <p>A.one , one B. two , one C. two ,two d.one ,two</p> | |
| 11 | <p>For fast fading channels the coherence time of the channel is smaller than of <u>transmitted signal</u> .</p> <p>A. Symbol Period B. Baud rate C. Wave length D. Band width</p> | L3 |
| 12 | <p>Which of the following is not a channel parameter ?</p> <p>A. Symbol period B. Baud rate C. Bandwidth D. Wave length</p> | L3 |
| 13 | <p>Level crossing rate is a function of _____.</p> <p>A. Data speed B. System speed C. Signal speed D. Mobile speed</p> | L3 |
| 14 | <p>which of the reception problems below that is not due to multipath</p> <p>A. Slow fading B. Fast fading C. Both D. none</p> | L3 |

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| 15 | Which of the following is not a principle of shape factor? A.Angle of arrival B.Angle of reflection C.Angle of dispersion D.Angle of refraction | L3 |
| 16 | Anular construction is a measure of hoe multipath concentrates about azimuthal direction A.ONE B.TWO C.THREE D.FOUR | L3 |
| 17 | In slow fading channel Doppler spread of the channel much less than the __of baseband signal A.Wave length B.Bit rate C.Data speed D.Band width | L3 |
| 18 | For a Rayleigh fading signal mean and median differ by A.055 db B.066 db c.077 db D. 044 db | L3 |
| 19 | What do you call an attenuation that occurs over many different wavelength of the carrier ? A. Slow fading B. Fast fading C. Both D. None | L3 |
| 20 | A rare receiver uses multiple A. Correlators B. Detector | L3 |

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| C.Multipliers D.Adders | |
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| 21 | The complexity of the receiver is an exponential function of the product of the number of _____ & _____ a) transmit antennas and the code memory order b) receiver antenna and the code memory order c) transmit & _____ d) receiver antenna and the code memory order | L3 |
| 22 | Iterative receiver can be applied only to coded _____ systems. a) HST b) LST c) MST d) LLT | L3 |
| 23 | The interleaved output is canceled a _____ from the preceding received signal. a) inferiori b) superiori c) posteriori d) None | L3 |
| 24 | Interleaving helps receiver convergence. This is called _____ interference cancellation. a) soft iterative b) hard iterative c) soft & hard iterative d) None | L3 |
| 25 | A posteriori algorithm is optimum in the sense that it minimizes the _____ at the decoder output. a) error probability b) bit probability c) Bit error probability d) None | L3 |

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| 26 | The capacity behavior of wireless OFDM based on _____ a) time division multiplexing b) spatial multiplexing systems c) multiplexing system d) None | L3 |
| 27 | The influence of physical parameters such as the amount of delay spread, cluster angle spread, and _____ a) total delay spread b) total cluster angle c) total angle spread d) None | L3 |
| 28 | System parameters such as the number of antennas and antenna spacing on _____ a) ergodic capacity and outage capacity b) non ergodic capacity and outage performance c) ergodic & non ergodic capacity d) None | L3 |
| 29 | In OFDM-based spatial multiplexing, each antenna transmits Statistically independent data symbols from _____ & _____ a) same antennas and different tones b) same antennas and same tones c) different antennas and different tones. d) None | L3 |
| 30 | A delay path across the channel are also called _____ a) data pipes. b) data path c) data symbols d) None | L3 |

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| 31 | <p>The orthogonality between the data streams is dependent on the fact that these paths are _____</p> <p>a) mutually dependent b) not dependent c) mutually independent. d) None</p> | L3 |
| 32 | <p>_____ variations within the scatterers will be neglected.</p> <p>a) Microdelay b) macrodelay c) delay spread d) None</p> | L3 |
| 33 | <p>The subscriber unit (SU) is surrounded by local scatterers so that fading at the SU antennas is _____</p> <p>a) spatially correlated b) spatially uncorrelated c) spatially dependent d) None</p> | L3 |
| 34 | <p>BTS is high enough so that it is _____ and no local scattering occurs.</p> <p>a) unobstructed b) obstructed c) correlated d) None</p> | L3 |
| 35 | <p>The relative antenna spacing is denoted as _____</p> <p>a) = f/d b) = d/λ c) = $d/$ d) None</p> | L3 |

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| 36 | <p>The correlation matrixes already take into account the _____profile of the channel.</p> <p>a) power delay b) time delay c) path delay d) None</p> | L3 |
| 37 | <p>Spatial multiplexing has the potential to drastically _____the capacity of wireless radio links with no additional power or bandwidth consumption.</p> <p>a) stable b) decrease c) increase d) None</p> | L3 |
| 38 | <p>The gain in terms of ergodic capacity over SISO systems resulting from the use of multiple antennas is called _____</p> <p>a) multiplexing gain. b) spatial gain c) time gain d) None</p> | L3 |
| 39 | <p>_____turns a frequency-selective channel into a frequency-nonselective one.</p> <p>a) MIMO b) TDM c) OFDM d) None</p> | L3 |
| 40 | <p>It is clearly seen that the outage probability decreases significantly with increasing_____.</p> <p>a) cluster spread b) time spread c) delay spread. d) None</p> | L3 |