RTDC_T4_PRUEBA_DE_CLASE_2022_GRUPO DE MAÑANA

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Parte 1 de 1 - `10.0 / 10.0 Puntos`

Preguntas 1 de 9	1.5
1.5 Puntos	

If the division factor (epsilon) of an optical hybrid in a balanced coherent detector is not 1/2 then: (choose two correct statements)

☐ A. The in-phase and quadrature components cannot be independently retrieved because they are now coupled.

☐ B. The noise term arising from the beat between the signal and the optical noise is cancelled.

☑ C. Both in-phase and quadrature components can be independently retrieved but subject to increased noise contribution.

☑ D. The noise term arising from the beat between the signal and the optical noise is not cancelled.

Preguntas 2 de 9	1.0
1.0 Puntos	

Under typical operation conditions in a balanced coherent receiver signal-amplified spontaneous emission beating noise dominates over shot noise

○ Verdadero

● Falso

Preguntas 3 de 9	1.0
1.0 Puntos	

What is the dominant nonlinear effect in a typical coherent WDM multichannel transmission system at high SNR values?

● A. Interchannel signal-signal beating noise

○ B. Intrachannel signal-signal beating noise

○ C. Intrachannel signal-noise beating noise.

○ D. Interchannel signal-noise beating noise

Preguntas 4 de 9	1.0
1.0 Puntos	

For optimum performance in a coherent system the best constellation is a ring type where all the points in the different rings are equiprobable.

○ Verdadero

● Falso

Preguntas 5 de 9	1.0
1.0 Puntos	

Which of the following tasks are carried in the DSP stage of a coherent receiver

☐ A. Polarization demultiplexing

☑ B. Polarization mode dispersion compensation

☑ C. Clock phase recovery

☐ D. Optical regeneration

Preguntas 6 de 9	1.0
1.0 Puntos	

Pulse para ver instrucciones adicionales

The effective length for a fiber with no gain (g=0) and attenuation 0.2 dB/Km is (remember to use neper/Km units) is 20.2 Km.

Preguntas 7 de 9	1.0
1.0 Puntos	

Under typical operation conditions in a balanced coherent receiver shot noise dominates over signal-amplified spontaneous emission beating noise

● Verdadero

○ Falso

Preguntas 8 de 9	1.5
1.5 Puntos	

Select two correct statements regarding the dependence of the spectral efficiency of a multichannel coherent communication system on its input SNR:

☐ A. At high SNR values the spectral efficiency grows with increasing SNR values

☐ B. At high SNR values the spectral efficiency decreases with SNR due to the limiting effect of ASE noise.

☑ C. At low SNR values the spectral efficiency grows with increasing SNR values

☑ D. At high SNR values the spectral efficiency decreases with SNR due to the limiting effect of nonlinearities

Preguntas 9 de 9	1.0
1.0 Puntos	

Select two effects that cannot be discarded in the evaluation of a modern coherent multichannel communication system.

☑ A. ASE-local oscillator beat noise

☐ B. Intrachannel signal-signal beat noise due to nonlinearities

☑ C. Interchannel signal-signal beat noise due to nonlinearities

☐ D. Pulse spreading due to chromatic dispersion