Quiz 1 OFC (EC0305) Solutions (Answer key)

This Quiz is applicable for the students who are all registered the subject EC0305.

* Required

1. Email address *

bt.vvts@gmail.com

2. Assuming no ISI, the maximum possible bandwidth of a multimode graded index fiber with 5 MHz, shows the total pulse broadening of 0.1s for the distance of about 12km. What would be the value of bandwidth length product? 2 points

Mark only one oval.

- ◯ 20 MHz
- ◯ 40 MHz
- ● 60 MHz
- ◯ 80 MHz

3. In Rayleigh scattering of light in glass, at which type of temperature does the glass attain the state of thermal equilibrium and exhibits its relativity to annealing temperature? 1 point

Mark only one oval.

- ◯ Junction
- ◯ Breakdown
- ● Fictive
- ◯ Decomposition

4. In the structure of a fiber, which component provides additional strength and prevents the fiber from any damage? 1 point

Mark only one oval.

- ( ) Core
- (•) Buffer Coating
- ( ) Cladding
- ( ) None of the above

5. In the structure of fiber, the light is guided through the core due to total internal _____ 1 point

Mark only one oval.

- ( ) Dispersion
- ( ) Refraction
- ( ) Diffraction
- (•) Reflection

6. Speckle pattern is generated due to interference of nodes from a coherent source especially when the coherence time of source is _____ the intermodal dispersion time in the fiber. 2 points

Mark only one oval.

- (•) Greater than
- ( ) Less than
- ( ) None of the above
- ( ) Equal to

7. Which method determines the dispersion limitation of an optical link? 1 point

Mark only one oval.

- [x] Rise Time Budget
- [ ] Link Power Budget
- [ ] Rise Time as well as Link Power Budget
- [ ] None of the above

8. For a photo-diode with responsivity of 0.50 A/W & optical power of about 12μW, what would be the value of generated photocurrent? 2 points

Mark only one oval.

- [ ] 3 μA
- [x] 6 μA
- [ ] 9 μA
- [ ] 12 μA

9. Which among the following is a key process adopted for the laser beam formation as it undergoes the light amplification? 1 point

Mark only one oval.

- [ ] Absorption
- [ ] Spontaneous Emission
- [x] Stimulated Emission
- [ ] All the above

10. In spontaneous emission, the light source in an excited state undergoes the transition to a state with _____ 1 point

Mark only one oval.

- ( ) Higher Energy
- (•) Lower Energy
- ( ) Equal Energy
- ( ) Moderate Energy

11. The radiative and non radiative recombination life times of minority carriers in the active region of a double heterojunction LED are 60 nsec and 90 nsec respectively. Determine the total carrier recombination life time and optical power generated internally if the peak emission wavelength si 870 nm and the drive currect is 40 mA. 3 points

Mark only one oval.

- (•) 36 ns and 34.22 mW
- ( ) 34.22 ns and 36 mW
- ( ) 26 ns and 45.33 mW
- ( ) 45.33 ns and 26 mW

Quiz 1
03/04/2020

This content is neither created nor endorsed by Google.

Google Forms