New Assessment week 3

Due on 2019-08-26, 23:59 IST.

1) When light propagates through an absorbing medium:
   - intensity decreases linearly as a function of optical path length
   - intensity decreases exponentially as a function of optical path length
   - intensity increases linearly as a function of optical path length
   - intensity increases exponentially as a function of optical path length
   - No, the answer is incorrect.
   
   Answer: 1 point

2) If you make an attempt to view a 100-Hz optical pulse using an oscilloscope and a photodiode, what would you see in oscilloscope?

   a) 100 Hz pulse
   b) 100 Hz pulse
   c) Offset by 10 Hz pulse
   d) No, the answer is incorrect.

   Answer: 1 point

3) When light propagates through a loss medium:
   - intensity decreases linearly as a function of optical path length
   - intensity decreases exponentially as a function of optical path length
   - intensity increases linearly as a function of optical path length
   - intensity increases exponentially as a function of optical path length
   - No, the answer is incorrect.
   
   Answer: 1 point

4) If you make an attempt to view a 100-Hz optical pulse using an oscilloscope and a photodiode, what would you see in oscilloscope?

   a) 100 Hz pulse
   b) 100 Hz pulse
   c) Offset by 10 Hz pulse
   d) No, the answer is incorrect.

   Answer: 1 point

5) Population inversion can be achieved for:
   - two-level systems
   - two-level systems
   - three-level systems
   - No, the answer is incorrect.

   Answer: four-level systems

6) Longitudinal modes are those \( L \) which satisfy a cavity of length \( L \), where

\[ L = 2Lm \]

\[ L = Lm \]

\[ L = 2Lm \]

\[ L = 2Lm \]

\[ L = 2Lm \]

\[ L = 2Lm \]

\[ L = 2Lm \]

7) Due to optical Kerr effect:

   a) Reflective index depends on wavelength
   b) Reflective index depends on intensity
   c) Reflective index becomes greater than 1
   d) Reflective index becomes less than 1

   No, the answer is incorrect.

   Answer: 1 point

8) CPA scheme to create a short pulse includes:

   a) compressed pulse and function
   b) chirp-surge
   c) chirp-surge
   d) chirp-surge

   No, the answer is incorrect.

   Answer: chirp-surge and chirp

9) Deconvolution factor for an autocorrelation measurement of a Gaussian pulse is

   a) 1/2
   b) 1/4
   c) 1/2
   d) 1/4

   No, the answer is incorrect.

   Answer: 1/2

10) In a FROG measurement, which detector do you use?

    a) spectrometer
    b) photodiode
    c) a CCD sensor

    No, the answer is incorrect.

    Answer: spectrometer

11) In an autocorrelation measurement, which detector do you use?

    a) spectrometer
    b) photodiode
    c) a CCD sensor
    d) other option (b) or (c)

    No, the answer is incorrect.

    Answer: other option (b) or (c)