Assignment 1

The due date for submitting this assignment has passed. As per our records you have not submitted this assignment.

1. Which part of the sensor converts one form of energy into another form of energy.
   - Source
   - Detector
   - Translator
   - Sensor surface
   No, the answer is incorrect.
   Source: E
   Accepted Answers: Translator
   1 point

2. After its change in concentration of an analyte in a bio-sensor, it gives change in output signal. How is the sensitivity of the sensor defined?
   - QMN
   - LCR
   - QL
   - QD
   No, the answer is incorrect.
   Source: E
   Accepted Answers: QMN
   1 point

3. The electric field intensity in a parallel-plate capacitor is 2.50 kV/m. Filling the space between the plates of a parallel-plate capacitor is 10.0 V. The distance between the plates is 1.25 mm. Calculate the potential difference between the plates.
   - 12.5 V
   - 13.5 V
   - 14 V
   - 20.5 V
   No, the answer is incorrect.
   Source: E
   Accepted Answers: 12.5 V
   1 point

4. The electric field propagating in a direction in free space is given by $E = 3.14 t$ V/m. Calculate the time taken to travel a distance of 1 cm.
   - 3.14 ns
   - 3.14 ns
   - 31.4 ns
   - 21.4 ns
   No, the answer is incorrect.
   Source: E
   Accepted Answers: 3.14 ns
   1 point

5. For an electromagnetic wave passing from one medium of refractive index $n_1$ to second medium of refractive index $n_2$. Calculate the reflectivity of the wave from the interface.
   - 0%
   - 51%
   - 9%
   - 15%
   No, the answer is incorrect.
   Source: E
   Accepted Answers: 9%
   1 point

6. In a special case if one medium is perfect dielectric and the other medium is perfect conductor. An electromagnetic wave passing from one medium to the medium second will be _____.
   - Transmitted
   - Reflected
   - Refracted
   - None of the above
   No, the answer is incorrect.
   Source: E
   Accepted Answers: Reflected
   1 point

7. If the impedance of one medium is 377 Ohm and second medium is 230 Ohm for an electromagnetic wave, how much power is transmitted in second medium from first medium.
   - 50%
   - 98%
   - 96%
   - 90%
   No, the answer is incorrect.
   Source: E
   Accepted Answers: 96%
   1 point

8. If the intensity of a beam of light passing through two polarizer goes down to 1/8 of its initial value. For the first polarizer the overlapping angle is 45 degrees and what it will be for second polarizer in degree.
   - 30
   - 45
   - 50
   - 60
   No, the answer is incorrect.
   Source: E
   Accepted Answers: 45
   1 point

9. The plane of Polarization of an electromagnetic wave is defined by ______.
   - The plane in which electric field vector of wave oscillates.
   - The plane in which electric field vector of wave oscillates.
   - The plane in which electric field vector of wave oscillates.
   - The plane in which electric field vector of wave oscillates.
   No, the answer is incorrect.
   Source: E
   Accepted Answers: The plane in which electric field vector of wave oscillates.
   1 point

10. An oscillating dipole emits the maximum radiation in which direction.
    - Along its axis.
    - Along any direction.
    - Perpendicular to its oscillating axis.
    - 90 degrees to its oscillating axis.
    No, the answer is incorrect.
    Source: E
    Accepted Answers: Perpendicular to its oscillating axis.
    1 point