Unit 2 - Week 1

Assignment 1

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

Due on 2020-02-12, 23:59 IST.

1) Which part of the sensor converse one form of energy into another form of energy. *1 point*

- Source
- Detector
- Transducer
- Sensor surface

No, the answer is incorrect.
Score: 0
Accepted Answers:
Transducer

2) After △c change in concentration of an analyte in a bio-sensor , it gives change $\triangle\theta$ in phase. How is the sensitivity of the sensor defined? *1 point*

- (△Θ)/(△c)
- (△c)/(△Θ)
- △c
- △Θ

No, the answer is incorrect.
Score: 0
Accepted Answers:
(△Θ)/(△c)

3) The electric field intensity in Polystyrene having relative dielectric constant 2.55 filling the space between the plates of a parallel plate capacitor is 10KV/m. The distance between the plates is 1.5mm. Calculate the potential difference between the plates. *1 point*

- 10V
- 12.25V
- 15V
- 20.05V

No, the answer is incorrect.
Score: 0
Accepted Answers:
15V

4) The electric field propagating in y direction in free space is given by *1 point*
E=50cos ((10)^8 t+βx) V/m
Calculate the time taken to travel a distance λ/2.

- 3.142 ns
- 5.142 ns
- 31.42 ns
- 21.42 ns

No, the answer is incorrect.
Score: 0
Accepted Answers:
31.42 ns

5) For an electromagnetic wave passing from one medium of refractive index 1 to second medium of refractive index 1.8. Calculate the reflectivity of the wave from the interface. *1 point*

- 6%
- 4%
- 8%
- 10%

No, the answer is incorrect.
Score: 0
Accepted Answers:
8%

6) For a special case if on medium is perfect dielectric and the other medium is perfect conductor. An electromagnetic wave passing from one medium to the medium second will be as_____. *1 point*

- Transmitted
- Totally reflected
- Travel through the interface
- Partially reflected

No, the answer is incorrect.
Score: 0
Accepted Answers:
Totally reflected

7) If the impedance of one medium is 377Ω and second medium is 250 Ω for an electromagnetic wave. How much power is transmitted in second medium from first medium. *1 point*

- 96%
- 86%
- 80%
- 90%

No, the answer is incorrect.
Score: 0
Accepted Answers:
96%

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 polarizing angle is 45 degree and what it will be for second polarizer in degree. *1 point*

- 30
- 45
- 60
- 90

No, the answer is incorrect.
Score: 0
Accepted Answers:
60

9) The plane of Polarization of an electromagnetic wave is defined by_____. *1 point*

- The plane in which wave make incidence.
- The plane in which electric field vector of wave oscillate.
- The plane in which magnetic field vector of wave oscillate.
- The plane containing both electric and magnetic field vector.

No, the answer is incorrect.
Score: 0
Accepted Answers:
The plane in which electric field vector of wave oscillate.

10) An oscillating dipole emits the maximum radiation in the which direction. *1 point*

- Along its axis.
- In any direction.
- Perpendicular to its oscillating axis.
- 60 degree to its oscillating axis.

No, the answer is incorrect.
Score: 0
Accepted Answers:
Perpendicular to its oscillating axis.