

Unit 2 - Week 1

Course outline

How to access the portal?

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- Introduction to Spectroscopy - III
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Lecture Slides

Assignment 1

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

Due on 2019-08-14, 23:59 IST.

- 1) Green color of leaf is due to: 1 point
- Reflection
 Scattering
 Refraction
 Absorption

No, the answer is incorrect.
Score: 0

Accepted Answers:
Reflection

- 2) The blue color of sky is due to the light reaching our eye after: 1 point
- Reflection
 Refraction
 Scattering
 Transmission

No, the answer is incorrect.
Score: 0

Accepted Answers:
Scattering

- 3) Properties which are not shown by a wave is 1 point
- Reflection
 Refraction
 Photoelectric effect
 Diffraction

No, the answer is incorrect.
Score: 0

Accepted Answers:
Photoelectric effect

- 4) Properties which were not shown by a particle is 1 point
- Reflection
 Refraction
 Photoelectric effect
 Diffraction

No, the answer is incorrect.
Score: 0

Accepted Answers:
Diffraction

- 5) Which one have zero momentum 1 point
- Baseball
 Electron
 Photon
 None of these

No, the answer is incorrect.
Score: 0

Accepted Answers:
None of these

- 6) Electrons behave as 1 point
- Particle only
 Wave only
 Both as particle and wave
 None of these

No, the answer is incorrect.
Score: 0

Accepted Answers:
Both as particle and wave

- 7) Rayleigh-Jeans law for black body radiation fails at 1 point
- Higher temperature
 Higher frequency
 Lower Frequency
 None of these

No, the answer is incorrect.
Score: 0

Accepted Answers:
Higher frequency

- 8) Why the de-Broglie wave associated with a moving car is not observable? 1 point
- λ is directly proportional to mass
 λ is inversely proportional to mass
 λ is independent of mass
 λ is inversely proportional to square of the mass

No, the answer is incorrect.
Score: 0

Accepted Answers:
 λ is inversely proportional to mass

- 9) What is the frequency of a photon whose energy is 66.3 eV? 1 point
- 1.6×10^{16} Hz
 1.6×10^{12} Hz
 1.6×10^{15} Hz
 1.6×10^{19} Hz

No, the answer is incorrect.
Score: 0

Accepted Answers:
 1.6×10^{16} Hz

- 10) An electron and photon have got the same K.E. Which of the two has greater wavelength? 1 point
- Electron
 Photon
 Both have same energy
 None of these

No, the answer is incorrect.
Score: 0

Accepted Answers:
Photon

- 11) What is the dimension of h/mv ? 1 point
- $[M^0 L T^0]$
 $[M^0 L T]$
 $[MLT^0]$
 $[MLT]$

No, the answer is incorrect.
Score: 0

Accepted Answers:
 $[M^0 L T^0]$

- 12) An electron and a proton has same K.E. Which of the two possesses higher wavelength? 1 point
- Electron
 Proton
 Complete information not provided
 Both have same wavelength

No, the answer is incorrect.
Score: 0

Accepted Answers:
Electron

- 13) A photon of energy 6×10^{-20} J have momentum of 1 point
- 2×10^{-20} kg m s⁻¹
 2×10^{-15} kg m s⁻¹
 2×10^{-28} kg m s⁻¹
 2×10^{-22} kg m s⁻¹

No, the answer is incorrect.
Score: 0

Accepted Answers:
 2×10^{-28} kg m s⁻¹

- 14) Electrons with a kinetic energy of 6.023×10^4 J mol⁻¹ are evolved from the surface of a metal, when exposed to a radiation of wavelength of 600 nm **0 points** (photoelectric effect). The minimum amount of energy required to remove an electron from the metal atom is :

- 22.3125×10^{-19} J
 3×10^{-19} J
 6.02×10^{-19} J
 6.62×10^{-34} J

No, the answer is incorrect.
Score: 0

Accepted Answers:
 22.3125×10^{-19} J

- 15) The work function (Φ) of some metals is listed below. The number of metals which will show photoelectric effect when light of 300 nm wavelength falls on the metal is: 1 point

Metal	Li	Na	K	Mg	Cu	Ag	Fe	Pt	W
Φ (in eV)	2.4	2.3	2.2	3.7	4.8	4.3	4.7	6.3	4.75

- 4
 6
 2
 0

No, the answer is incorrect.
Score: 0

Accepted Answers:
4