NOVA SCOTIA PHYSICS 12 · UNIT E

Modern Physics and Radioactivity — Practice Test

Nova Scotia Physics 12 • 10 questions

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **Light photons of energy 3 electronvolts strike a metal with work function 2 electronvolts. The maximum kinetic energy of emitted electrons, in electronvolts, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

2 **A photon has energy 2.5 electronvolts. A photon of twice the frequency has energy, in electronvolts, of**

ANSWER _____

Understand It with Pulse | Flag a mistake

3 **A photon has energy 4 electronvolts. A photon of twice the frequency has energy, in electronvolts, of**

ANSWER _____

Understand It with Pulse | Flag a mistake

4 **A radio wave has frequency 75 megahertz. Using the speed of light as 300 million metres per second, its wavelength, in metres, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

5 **A radio wave has frequency 1000 megahertz. Using the speed of light as 300 million metres per second, its wavelength, in metres, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

6 **A mass of 3 kilograms is converted to energy. Using the speed of light as 300 million metres per second, the energy, in joules, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

7 **A mass of 0.25 kilograms is converted to energy. Using the speed of light as 300 million metres per second, the energy, in joules, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

8 **The half life of an isotope is the time for half of the**

A nuclei to decay

B mass to disappear

C energy to double

D atoms to fuse

Understand It with Pulse | Flag a mistake

9 **Bohr model states that electrons exist in**

A random positions only

B fixed energy levels

C the nucleus

D continuous orbits only

Understand It with Pulse | Flag a mistake

10 **An isotope has the same number of protons but a different number of**

A electrons

B atoms

C neutrons

D charges

Understand It with Pulse | Flag a mistake

ANSWER KEY

1.	1	**5.**	0.3	**9.**	B
2.	5	**6.**	2.7e+17	**10.**	C
3.	8	**7.**	2.25e+16		
4.	4	**8.**	A		

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