

Test - 1
Element of Modern Physics
PS - Vth Sem

16/10/23

Q.1. What is Compton effect. Obtain an expression for the change in wavelength of a photon when it is Compton scattered by a free electron through an angle θ with respect to the original direction.

Q.2. A metal of work function 3.0 eV is illuminated by light of wavelength $3000 \text{ \AA}$. Calculate (a) the threshold frequency (b) the maximum energy of photoelectron and (c) the stopping potential.

Q.3. Find the longest and the shortest wavelength of the Lyman series. $R = 1.097 \times 10^7 / \text{m}$.

Q.4. Show that the de Broglie wavelength of an e^- is equal to its Compton wavelength when its speed is $c/\sqrt{2}$.



Dr. Nidhi Tyagi

Date 16 / 10 / 23

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Class test - PS V
Element of Modern Play.
Attendance

	Name	Roll.No.	Sign.
1	Rohit	21/62043	<u>Rohit</u>
2	Abhishek	21/62046	<u>Abhishek</u>
3	Devishi	21/62011	<u>Devishi</u>
4	Siddharth	21/62036	<u>Siddharth</u>
5	Anshika	21/62054	<u>Anshika</u>
6	Jitender Rathore	21/62056	<u>Jitender Rathore</u>
7	Sunny	21/62010	<u>Sunny</u>
8	Harshit	21/62044	<u>Harshit</u>
9	Nitin	21/62057	<u>Nitin</u>
10	Sakhi	21/62002	<u>Sakhi</u>
11	Ravi	21/62035	<u>Ravi</u>
12	Nishant	21/62017	<u>Nishant</u>
13	Hunney	21/62006	<u>Hunney</u>
14	Anjali Bhargav	21/62015	<u>Anjali</u>
15	Vaishnavi	21/62033	<u>Vaishnavi</u>
16	Pardeep	21/62032	<u>Pardeep</u>