

TALEEMI DUNYA

Test Syllabus: Unit # 8

St. Name		Test	PHYSICS	T. Marks	30	Time	60 Min
F.Name		Class	12 th	T. Code	U#8	T. Date	

NOTE: Four possible answers A, B, C and D to each question are given. The choice which you think is correct, fill that circle in front of that Question with Marker or Pen ink. Cutting or filling two or more circles will result in zero mark in that question. **6.**

1	The dimensions of Plank's constant is same as that of:						
(a)	Energy	(b)	Power	(c)	Acceleration	(d)	Angular momentum
2	Joule-second is the unit of:						
(a)	Energy	(b)	Wein's constant	(c)	Planck's constant	(d)	Boyle's law
3	The energy of photon is given by:						
(a)	$\frac{mv^2}{2}$	(b)	hf	(c)	$V_0 e$	(d)	$m_0 c^2$
4	Potassium cathodes in photocell emit electrons for a light:						
(a)	Visible	(b)	Infra-red	(c)	Ultra-violet	(d)	X-rays
5	Light of 4.5 eV is incident on a Cesium surface and stopping potential is 0.25 eV, maximum K.E. of emitted electrons is:						
(a)	4.5 eV	(b)	4.25 eV	(c)	4.75 eV	(d)	0.25 eV
6	Compton wavelength is:						
(a)	$\frac{h}{m_0 c^2}$	(b)	$\frac{hc}{m_0}$	(c)	$\frac{h}{m_0 c}$	(d)	$\frac{hc}{m_0 \lambda}$

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Q.2 Write short answers of the following questions.

(8x2=16)

1. What happens to total radiation from a black body if its absolute temperature is doubled?
2. What is stopping potential?
3. Write equation of pair production.
4. When light shines on a surface, is momentum transferred to the metal surface?
5. What is wave particle duality? Give its one practical use?
6. Is it possible to create a single electron from energy? Explain.
7. If the following particles have same energy which has the shortest wave length alpha particle or neutron.
8. State uncertainty principle. Give its two mathematical forms.

Q.3 Write long answers of the following questions.

(4+4=8)

- (a) Write a note on Compton effect.
- (b) An electron is accelerated through a potential difference of 50 V calculate its de-Broglie's wavelength.