

NEET STRUCTURE OF ATOM — PARTICLE NATURE OF ELECTROMAGNETIC RADIATION: PLANCK'S QUANTUM THEORY — PYQS

Max. Marks: 20

Questions: 5

Section A (MCQ) — 5 questions

Q.1 A bulb is rated at 150 watt, converting 8% energy into light. If energy of one photon is 4.42×10^{-19} J, how many photons are emitted by the bulb per second? [NEET (UG) 2026]

- (1) 27.2×10^{19} (2) 4.06×10^{19}
(3) 1.35×10^{19} (4) 2.71×10^{19}

Scan or tap for the
full solution



Q.2 Calculate the energy in joule corresponding to light of wavelength 45 nm. (Planck's constant, $h = 6.63 \times 10^{-34}$ J s, speed of light, $c = 3 \times 10^8$ m s⁻¹) [AIPMT 2014]

- (1) 6.67×10^{15} (2) 6.67×10^{11}
(3) 4.42×10^{-15} (4) 4.42×10^{-18}

Scan or tap for the
full solution



Q.3 According to law of photochemical equivalence the energy absorbed (in ergs/mole) is given as ($h = 6.62 \times 10^{-27}$ ergs, $c = 3 \times 10^{10}$ cm s⁻¹, $N_A = 6.02 \times 10^{23}$ mol⁻¹) [NEET 2013 (Karnataka)]

- (1) $\frac{1.196 \times 10^8}{\lambda}$ (2) $\frac{2.859 \times 10^5}{\lambda}$
(3) $\frac{2.859 \times 10^{16}}{\lambda}$ (4) $\frac{1.196 \times 10^{16}}{\lambda}$

Scan or tap for the
full solution



Q.4 The energies E_1 and E_2 of two radiations are 25 eV and 50 eV respectively. The relation between their wavelengths i.e., λ_1 and λ_2 will be [AIPMT 2011 (Prelims)]

- (1) $\lambda_1 = \lambda_2$ (2) $\lambda_1 = 2\lambda_2$ (3) $\lambda_1 = 4\lambda_2$ (4) $\lambda_1 = \frac{1}{2}\lambda_2$

Scan or tap for the
full solution



Q.5 For given energy, $E = 3.03 \times 10^{-19}$ Joules corresponding wavelength is ($h = 6.626 \times 10^{-34}$ J sec, $c = 3 \times 10^8$ m/sec)

[AIPMT 2000]

- (1) 65.6 nm (2) 6.56 nm (3) 3.4 nm (4) 656 nm

Scan or tap for the
full solution



ANSWER KEY

Ques.	1	2	3	4	5						
Ans.	4	4	1	2	4						