

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

Max. Marks: 12

Questions: 3

Section A (MCQ) — 2 questions

- Q.1** The wavelength of photon 'A' is 400 nm. The frequency of photon 'B' is 10^{16} s^{-1} . The wave number of photon 'C' is 10^4 cm^{-1} . The correct order of energy of these photons is :

[JEE Main 2026 (Online) 28th January Evening Shift]

- (1) $A > C > B$ (2) $C > B > A$
 (3) $B > A > C$ (4) $A > B > C$

Scan or tap for the full solution



- Q.2** Identify the **INCORRECT** statements from the following :

- A. Notation ${}^{24}_{12}\text{Mg}$ represents 24 protons and 12 neutrons.
 B. Wavelength of a radiation of frequency $4.5 \times 10^{15} \text{ s}^{-1}$ is $6.7 \times 10^{-8} \text{ m}$.
 C. One radiation has wavelength $= \lambda_1 (900 \text{ nm})$ and energy $= E_1$. Other radiation has wavelength $= \lambda_2 (300 \text{ nm})$ and energy $= E_2$. $E_1:E_2 = 3:1$.
 D. Number of photons of light of wavelength 2000 pm that provides 1 J of energy is 1.006×10^{16} .
 Choose the correct answer from the options given below :

[JEE Main 2026 (Online) 23rd January Evening Shift]

- (1) A and D Only (2) A and C Only
 (3) A and B Only (4) B and C Only

Scan or tap for the full solution



Section B (Numerical) — 1 question

- Q.3** Consider two radiations of wavelengths
 1. $\lambda_1 = 2000 \text{ Å}$
 2. $\lambda_2 = 6000 \text{ Å}$
 The ratio of the energies of these two radiations $\left(\frac{E_1}{E_2}\right)$ is _____ (Nearest integer).

[JEE Main 2026 (Online) 8th April Evening Shift]

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ANSWER KEY

Section A (MCQ) — 2 questions

Ques.	1	2											
Ans.	3	2											

Section B (Numerical) — 1 question

Ques.	3												
Ans.	3												