

JEE MAIN STRUCTURE OF ATOM — ENERGIES OF ORBITALS — PYQS

Max. Marks: 16

Questions: 4

Section A (MCQ) — 4 questions

Q.1 Arrange the following atomic orbitals of multi electron atoms in order of increasing energy.

- A. $n = 3, l = 2, m = +1$ B. $n = 4, l = 0, m = 0$
 C. $n = 6, l = 1, m = 0$ D. $n = 5, l = 1, m = +1$
 E. $n = 2, l = 1, m = +1$

Choose the correct answer from the options given below: [JEE Main 2026 (Online) 5th April Morning Shift]

- (1) $C < D < B < A < E$ (2) $B < A < E < C < D$
 (3) $E < C < D < B < A$ (4) $E < B < A < D < C$

Scan or tap for the
full solution



Q.2 Which of the following statement(s) is/are true ?

- A. If two orbitals have the same value of $(n + l)$, the orbital with lower value of n will have lower energy.
 B. Energies of the orbitals in the same subshell increase with increase in atomic number.
 C. The size of $2p_x$ orbital is less than the size of $3p_x$ orbital.
 D. Among $5f$, $6s$, $4d$, $5p$ and $5d$ orbitals, none of the orbitals have 2 radial nodes.

Choose the correct answer from the options given below: [JEE Main 2026 (Online) 5th April Evening Shift]

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

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full solution



Q.3 In a multielectron atom, which of the following orbitals described by three quantum numbers will have same energy in absence of electric and magnetic fields?

- A. $n = 1, l = 0, m_l = 0$ B. $n = 2, l = 0, m_l = 0$
 C. $n = 2, l = 1, m_l = 1$ D. $n = 3, l = 2, m_l = 1$
 E. $n = 3, l = 2, m_l = 0$

Choose the correct answer from the options given below:

[JEE Main 2025 (Online) 28th January Morning Shift]

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

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full solution



Q.4 Which of the following is/are not correct with respect to energy of atomic orbitals of hydrogen atom?

- A. $1s < 2p < 3d < 4s$
 B. $1s < 2s = 2p < 3s = 3p$
 C. $1s < 2s < 2p < 3s < 3p$
 D. $1s < 2s < 4s < 3d$

Choose the **correct** answer from the options given below :

[JEE Main 2025 (Online) 28th January Evening Shift]

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

Scan or tap for the
full solution



ANSWER KEY

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