

JEE MAIN D- AND F-BLOCK ELEMENTS — LANTHANIDS: ELECTRONIC CONFIGURATION, ATOMIC AND IONIC SIZES — PYQS

Max. Marks: 20

Questions: 5

Section A (MCQ) — 5 questions

- Q.1** Pairs of elements with the same number of electrons in their respective 4f orbital are
[Atomic number. Eu-63, Gd-64, Dy-66, Ho-67, Tm-69, Yb-70, Lu-71, Hf-72]

A. (Eu and Gd) B. (Dy and Ho)
C. (Yb and Hf) D. (Lu and Tm)

Choose the correct answer from the options given below : [JEE Main 2026 (Online) 4th April Evening Shift]

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

Scan or tap for the
full solution



- Q.2** Lanthanoid ions with $4f^7$ configuration are :

A. Eu^{2+} B. Gd^{3+}
C. Eu^{3+} D. Tb^{3+}
E. Sm^{2+}

Choose the correct answer from the options given below :

[JEE Main 2025 (Online) 22nd January Morning Shift]

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

Scan or tap for the
full solution



- Q.3** The number of elements from the following that do not belong to lanthanoids is Eu, Cm, Er, Tb, Yb and Lu
[JEE Main 2024 (Online) 6th April Morning Shift]

- (1) 3 (2) 1 (3) 4 (4) 5

Scan or tap for the
full solution



- Q.4** Diamagnetic Lanthanoid ions are :

[JEE Main 2024 (Online) 30th January Morning Shift]

- (1) La^{3+} & Ce^{4+} (2) Nd^{3+} & Ce^{4+}
(3) Lu^{3+} & Eu^{3+} (4) Nd^{3+} & Eu^{3+}

Scan or tap for the
full solution



- Q.5** The electronic configuration for Neodymium is:
[Atomic Number for Neodymium 60]

[JEE Main 2024 (Online) 27th January Morning Shift]

- (1) $[\text{Xe}]4f^46s^2$ (2) $[\text{Xe}]5f^47s^2$
(3) $[\text{Xe}]4f^66s^2$ (4) $[\text{Xe}]4f^15d^16s^2$

Scan or tap for the
full solution



ANSWER KEY

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