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CHEMISTRY · EAPCET (EAMCET)

d- and f-Block Elements

Previous Year Questions with answers

158 questions · **122** papers · **2010–2026** · newest paper first

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What is in this PDF: every d- and f-Block Elements question we hold from past AP and TS EAPCET (called EAMCET until 2020 in Andhra Pradesh and 2023 in Telangana) papers, with its options and answer. Where an answer comes from a source other than the official final key, it says so next to the answer.

Step-by-step solutions for every question are free in the EdLoop EAPCET app (Google Play) and on app.edloop.in. More chapters: pyq.edloop.in/free-pdfs/

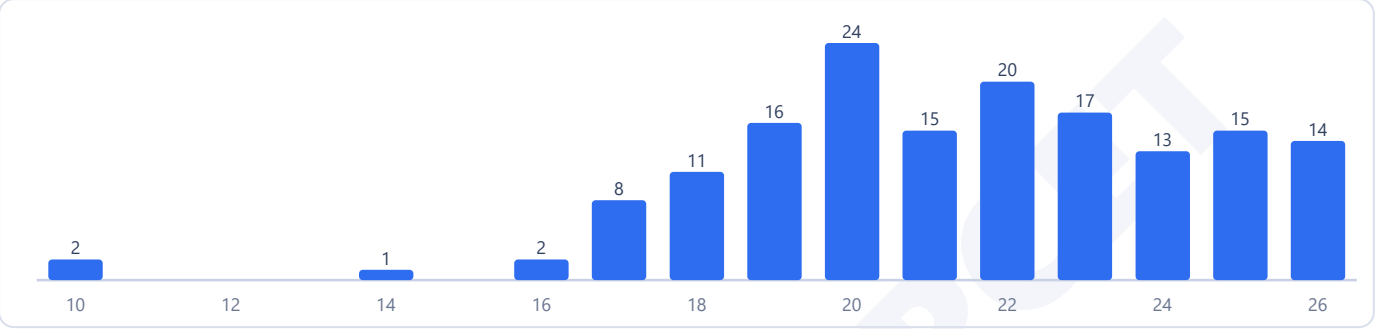
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Chapter at a glance

2.6%	158	64 of 77	158 / 0
of Chemistry questions, 2022–2026	questions, 2010–2026	papers asked it, 2022–2026	MCQ / numerical, 2010–2026

Trend. Falling: 0.9 questions per paper in 2024–2026 against 1.2 in 2022–2023.

Questions per year



Counts are the questions we hold: 158 in 122 papers. No question in this chapter was found repeated across papers.

Most-asked topics in this chapter (2010–2026)

Transition Elements	96
Lanthanoids & Actinoids	43
Important Compounds	19

How often it comes up

The d- and f-Block Elements sits at rank 19 among the 31 chemistry chapters in the modern five-year testing period from 2022 to 2026. Looking back across our complete examination compilation from 2010 through 2026, the chapter registered 158 questions across 149 papers, appearing in 122 of those tests to account for 2.7 percent of the subject with an average of 1.1 questions per paper. In the recent five-year timeframe from 2022 to 2026, it provided 79 questions across 77 sittings, being present in 64 papers to maintain 1.0 question per paper and a 2.6 percent subject share.

The chapter has featured in every exam year since 2022, though it was absent from thirteen papers across that five-year span. Looking at the two regional state boards between 2022 and 2026, AP tests delivered 47 questions across 48 papers (appearing in 38 papers, 1.0 question per paper, 2.4 percent share), while TS tests generated 32 questions across 29 papers (appearing in 26 papers, 1.1 questions per paper, 2.8 percent share).

During earlier testing between 2010 and 2021, papers contained 79 questions across 72 sittings (appearing in 58 tests), delivering 1.1 questions per paper and a 2.7 percent subject share. Across the most recent three exam years from 2024 to 2026, question banks carried 42 questions across 46 sittings (with 37 papers containing questions), yielding 0.9 questions per test and 2.3 percent share. Comparing early testing with the last three years shows the share is about the same, and comparing the recent five-year window with the last three years shows the share is about the same.

Most-asked topics

Questions in this branch divide across three major inorganic themes:

- **Transition Elements** represents the core topic with 96 questions overall and 50 during the recent timeframe through 2026. Frequent problem formats test electronic configurations, enthalpy of atomisation, variable

oxidation states, standard reduction electrode potentials for divalent and trivalent couples, catalytic mechanisms, interstitial alloy formation, and spin-only magnetic moments.

- **Lanthanoids & Actinoids** accounts for 43 questions across the archive, with 19 appearing from 2022 to 2026. Key themes include the lanthanoid contraction and its consequences on zirconium-hafnium atomic radii similarity, characteristic oxidation states (predominant plus three alongside plus two and plus four exceptions like europium and cerium), basicity of lanthanoid hydroxides, and actinoid contraction with wider oxidation state ranges.
- **Important Compounds** supplies 19 questions in total, with 10 occurring between 2022 and 2026. This area centers on industrial preparations, crystal structures, and redox reactions of potassium dichromate and potassium permanganate, including chromyl chloride tests and chromate-dichromate pH equilibrium.

What the questions look like

Transition element problems frequently present data matching tables where candidates match metal ions with physical properties such as standard reduction potential, atomic radius, density, or melting point. A standard calculation asks for the spin-only magnetic moment in Bohr magnetons for an ion in a designated oxidation state using the formula square root of n times open parenthesis n plus two close parenthesis, where n is the number of unpaired d electrons.

Lanthanoid questions frequently test chemical consequences of the four f contraction, asking why pairs of elements in the second and third transition series have nearly identical atomic and covalent radii. Questions on potassium permanganate and potassium dichromate focus on stoichiometry and color changes: fusing pyrolusite with potassium hydroxide in air to form green manganate, oxidizing it to purple permanganate, or acidifying yellow chromate to orange dichromate.

How to practise it

Master electronic configurations across the first transition series from scandium to zinc. Memorise the two prominent ground-state exceptions: chromium has five unpaired electrons in the 3d subshell and one in the four s subshell, while copper has ten electrons in 3d and one in four s to achieve half-filled and completely filled subshell stabilization.

Understand how reduction potential trends connect to atomisation, ionisation, and hydration enthalpies. Note that copper has a positive standard reduction potential because its high atomisation and ionisation energies are not compensated by hydration enthalpy. In f-block chemistry, remember that lanthanoid contraction arises from poor shielding by diffuse four f electrons, making covalent radii of zirconium and hafnium virtually identical.

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Q1 AP EAPCET 2026 · 18 May · Shift 1 MCQ

In which of the following sets, the alloy is correctly matched with its components?

I Brass : Cu, Zn

II Bronze : Cu, Sn

III German silver : Cu, Zn, Cr

Correct answer is

(A) I, III only
(B) II, III only
(C) I, II, III
(D) I, II only

Answer: (D) I, II only · The council's preliminary key

Q2 AP EAPCET 2026 · 18 May · Shift 1 MCQ

Identify the pair of ions which act as good reducing agents

(A) Ce^{4+}, Yb^{2+}
(B) Ce^{4+}, Tb^{4+}
(C) Ce^{3+}, Tb^{2+}
(D) Eu^{2+}, Yb^{2+}

Answer: (D) Eu^{2+}, Yb^{2+} · The council's preliminary key

Q3 AP EAPCET 2026 · 15 May · Shift 1 MCQ

The fusion of chromite ore with Na_2CO_3 in free access of air leads to the formation of yellow coloured solution of compound A and residue B along with the evolution of CO_2 gas. Identify the correct statements regarding A and B.

I. A contains $Cr - O - Cr$ linkage

II. B is Fe_2O_3

III. Oxidation state of chromium in A is +6

The correct answer is

(A) I, II only
(B) II, III only
(C) I, III only
(D) I, II, III

Answer: (B) II, III only · The council's preliminary key

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Q4 AP EAPCET 2026 · 15 May · Shift 2 MCQ

A transition metal ion X^{3+} has a magnetic moment of $\sqrt{15}\ BM$. The atomic number of the metal X is

(A) 24
(B) 25
(C) 26
(D) 27

Answer: (A) 24 · The council's preliminary key

Q5 AP EAPCET 2026 · 14 May · Shift 1 MCQ

The spin only magnetic moment of the element having highest third ionization enthalpy among Ti, V, Cr, Mn, Fe in its +3 state (in BM) is

(A) 3.87
(B) 4.90
(C) 5.92
(D) 2.84

Answer: (B) 4.90 · The council's preliminary key

Q6 AP EAPCET 2026 · 14 May · Shift 2 MCQ

During the preparation of $\mathrm{K_2Cr_2O_7}$ from chromite ore, in one of the steps, the yellow solution of sodium chromate is converted into orange sodium dichromate crystals. This is achieved by,

(A) Increasing the pH
(B) Decreasing the pH
(C) Maintaining neutral pH
(D) Adding NaCl

Answer: (B) Decreasing the pH · The council's preliminary key

Q7 AP EAPCET 2026 · 12 May · Shift 1 MCQ

Consider the following

Ti, V, Cr, Mn, Fe

The spin only magnetic moment (in BM) of the metal with lowest melting point in its +3 oxidation state is

(A) $\sqrt{15}$
(B) $\sqrt{24}$
(C) $\sqrt{35}$
(D) $\sqrt{3}$

Answer: (B) $\sqrt{24}$ · The council's preliminary key

Q8 AP EAPCET 2026 · 12 May · Shift 2 MCQ

Which of the following is not correct regarding $K_2Cr_2O_7$?

(A) The angle $Cr - O - Cr$ in it is 118°
(B) It oxidises Sn^{2+} to Sn^{4+} in acidic medium
(C) It is used as a primary standard in volumetric analysis
(D) It is an orange colored solid

Answer: (A) The angle $Cr - O - Cr$ in it is 118° · The council's preliminary key

Q9 TS EAPCET 2026 · 11 May · Shift 1 MCQ

The colour and magnetic nature of the compound formed, when MnO_2 is fused with a mixture of KOH and KNO_3 are respectively

(A) Green, paramagnetic
(B) Blue, paramagnetic
(C) Green, diamagnetic
(D) Violet, diamagnetic

Answer: (A) Green, paramagnetic · The council's preliminary key

Q10 TS EAPCET 2026 · 11 May · Shift 2 MCQ

In which of the following compounds, the size of manganese is maximum?

(A) $KMnO_4$
(B) K_2MnO_4
(C) Mn_2O_7
(D) MnO_2

Answer: (D) MnO_2 · The council's preliminary key

Q11 TS EAPCET 2026 · 11 May · Shift 2 MCQ

Match the following

List-1 (Transition metal)		List-2 ($E^{\ominus}_{M^{2+}\mid M}$ in V)
A Cr	I	-1.18
B Co	II	-0.28

C	Mn	III -0.44
D	Fe	IV -0.90

The correct answer is

(A) A – IV, B – I, C – II, D – III
(B) A – I, B – II, C – IV, D – III
(C) A – III, B – IV, C – II, D – I
(D) A – IV, B – II, C – I, D – III

Answer: (D) A – IV, B – II, C – I, D – III · The council's preliminary key

Q12 TS EAPCET 2026 · 10 May · Shift 1 MCQ

In which of the following, elements are correctly arranged in the decreasing order of atomic radii?

(A) $\mathrm{Eu} > \mathrm{Ce} > \mathrm{Gd} > \mathrm{Ho}$
(B) $\mathrm{Ce} > \mathrm{Eu} > \mathrm{Gd} > \mathrm{Ho}$
(C) $\mathrm{Gd} > \mathrm{Eu} > \mathrm{Ce} > \mathrm{Ho}$
(D) $\mathrm{Ho} > \mathrm{Ce} > \mathrm{Eu} > \mathrm{Gd}$

Answer: (A) $\mathrm{Eu} > \mathrm{Ce} > \mathrm{Gd} > \mathrm{Ho}$ · The council's preliminary key

Q13 TS EAPCET 2026 · 10 May · Shift 2 MCQ

Given below are two statements

Statement-I: Due to lanthanoid contraction 4d- and 5d- series of elements have more or less same atomic and ionic radii

Statement-II: Lanthanoids exhibit more number of oxidation states than actinoids

The correct answer is

(A) Both statements I and II are correct
(B) Statement I is correct but statement II is not correct
(C) Statement I is not correct but statement II is correct
(D) Both statements I and II are not correct

Answer: (B) Statement I is correct but statement II is not correct · The council's preliminary key

Q14 TS EAPCET 2026 · 9 May · Shift 2 MCQ

Match the following

	List-1 (Order)		List-2 (Property)
A	Fe > Cr > Mn	I	Melting point
B	Co > Fe > Mn	II	Metallic Radius
C	Ti > V > Cr	III	Enthalpy of atomization
D	Cr > V > Mn	IV	Density

The correct answer is

(A) A – III, B – II, C – I, D – IV
(B) A – II, B – I, C – IV, D – III
(C) A – IV, B – III, C – II, D – I
(D) A – III, B – IV, C – II, D – I

Answer: (D) A – III, B – IV, C – II, D – I · The council's preliminary key

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Q15 AP EAPCET 2025 · 26 May · Shift 1 MCQ

Identify the incorrect statement regarding the interstitial compounds

(A) They have high melting points
(B) They lose electrical conductivity during the formation from metal
(C) They are chemically inert
(D) They are very hard.

Answer: (B) They lose electrical conductivity during the formation from metal · The council's preliminary key

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Q16 AP EAPCET 2025 · 24 May · Shift 1 MCQ

Which one of the following statements is not correct ?

(A) CrO is basic but Cr_2O_3 is amphoteric
(B) Nitrite is oxidised to nitrate in acidic medium by $KMnO_4$
(C) $PdCl_2$ is the catalyst in Wacker process
(D) The reactivity of the earlier members of lanthanide series is similar to that of aluminium

Answer: (D) The reactivity of the earlier members of lanthanide series is similar to that of aluminium · The council's preliminary key

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Q17 AP EAPCET 2025 · 23 May · Shift 1 MCQ

The amphoteric oxide of Vanadium (V) reacts with alkali and forms an oxoion 'X' and with acid forms an oxoion Y. The oxidation states of 'V' in X and Y are respectively

(A) +2, +5
(B) +3, +3
(C) +5, +5
(D) +5, +2

Answer: (C) +5, +5 · The council's preliminary key

Q18 AP EAPCET 2025 · 23 May · Shift 2 MCQ

Match the following

List-I (Transition metal, M) List-II ($E^{\ominus}_{M^{2+}/M}$)

A) Ni	I) -1.18
B) Mn	II) -0.91
C) Fe	III) -0.25
D) Cr	IV) -0.44

The correct answer is

(A) A-III, B-II, C-IV, D-I
(B) A-III, B-IV, C-I, D-II
(C) A-III, B-I, C-IV, D-II
(D) A-I, B-IV, C-II, D-III

Answer: (C) A-III, B-I, C-IV, D-II · The council's preliminary key

Q19 AP EAPCET 2025 · 22 May · Shift 1 MCQ

Which of the following is not correct ?

(A) Potassium permanganate on heating gives potassium manganate and manganese dioxide only
(B) Phosphine is used in smoke screens
(C) Bleaching action of chlorine is due to oxidation
(D) Noble gases have very low boiling points

Answer: (A) Potassium permanganate on heating gives potassium manganate and manganese dioxide only · The council's preliminary key

Q20 AP EAPCET 2025 · 22 May · Shift 1 MCQ

How many of the following lanthanide elements exhibit +4 oxidation state ?

Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy

(A) 5
(B) 4
(C) 3
(D) 6

Answer: (A) 5 · The council's preliminary key

Q21 AP EAPCET 2025 · 22 May · Shift 2 MCQ

For which of the following the $E^{\ominus}(\mathrm{M}^{3+}/\mathrm{M}^{2+})$ is negative ?

(A) Mn
(B) Co
(C) Fe
(D) Cr

Answer: (D) Cr · The council's preliminary key

Q22 AP EAPCET 2025 · 21 May · Shift 1 MCQ

The alloy that contains copper and Zn is x and the one that contains copper and Ni is y. What are x and y respectively ?

(A) Brass, Bronze
(B) Bronze, 'Silver' UK coin
(C) German silver, Bronze
(D) Brass, 'Silver' UK coin

Answer: (D) Brass, 'Silver' UK coin · The council's preliminary key

Q23 AP EAPCET 2025 · 21 May · Shift 2 MCQ

Match the following

List-I (aquated ion)

A) Ni^{2+}

B) Fe^{3+}

C) Mn^{3+}

D) V^{4+}

List-II (colour)

I) violet

II) blue

III) yellow

IV) red

V) green

Correct answer is

(A) A-V, B-III, C-IV, D-II
(B) A-IV, B-V, C-I, D-III
(C) A-I, B-III, C-IV, D-V
(D) A-V, B-III, C-I, D-II

Answer: (D) A-V, B-III, C-I, D-II · The council's preliminary key

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Q24 AP EAPCET 2025 · 21 May · Shift 2 MCQ

The ion with $4f^7$ configuration is

(A) Pr^{3+}
(B) Lu^{3+}
(C) Eu^{2+}
(D) Ce^{4+}

Answer: (C) Eu^{2+} · The council's preliminary key

Q25 TS EAPCET 2025 · 4 May · Shift 1 MCQ

In which of the following transition metal ion (aquated) is not correctly matched with its colour?

(A) Fe^{2+} - Green
(B) Cu^{2+} - Blue
(C) Fe^{3+} - Pink
(D) V^{3+} - Green

Answer: (C) Fe^{3+} - Pink · The council's preliminary key

Q26 TS EAPCET 2025 · 4 May · Shift 2 MCQ

The pair of ions with paramagnetic nature and same number of electrons is

(A) Lu^{3+}, Yb^{2+}
(B) Eu^{3+}, Pm^{2+}
(C) Eu^{2+}, Gd^{3+}
(D) La^{3+}, Ce^{4+}

Answer: (C) Eu^{2+}, Gd^{3+} · The council's preliminary key

Q27 TS EAPCET 2025 · 3 May · Shift 1 MCQ

$E^{\circ}_{M^{3+}|M^{2+}}$ (in V) is highest for

(A) Fe
(B) Mn
(C) Cr
(D) V

Answer: (B) Mn · The council's preliminary key

Q28 TS EAPCET 2025 · 3 May · Shift 2 MCQ

Consider the following pairs of elements and identify the pairs of elements which have nearly same atomic radius.

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I. Y, La II. Zr, Hf III. Mo, W IV. Cr, Mo

(A) I & II
(B) II & III
(C) III & IV
(D) I & III

Answer: (B) II & III · The council's preliminary key

Q29 TS EAPCET 2025 · 2 May · Shift 2 MCQ

Identify the correct statements about lanthanoids

I. Ce^{4+} and Tb^{4+} act as oxidising agents

II. Eu^{2+} and Yb^{2+} act as oxidising agents

III. Mischmetal is an alloy of 95% iron and 5% lanthanoid metal

IV. La^{3+} and Ce^{4+} are diamagnetic in nature

(A) I & II only
(B) I & IV only
(C) II, III & IV only
(D) I, II & IV only

Answer: (B) I & IV only · The council's preliminary key

Q30 AP EAPCET 2024 · 23 May · Shift 1 MCQ

Acidification of chromate gives 'Z'. The oxidation state of chromium in 'Z' is

(A) +3
(B) +6
(C) +7
(D) +2

Answer: (B) +6 · The council's preliminary key

Q31 AP EAPCET 2024 · 22 May · Shift 1 MCQ

The correct order of oxidizing power of the given ions is

(A) $VO_2^+ < Cr_2O_7^{2-} < MnO_4^-$
(B) $VO_2^+ < MnO_4^- < Cr_2O_7^{2-}$
(C) $MnO_4^- < Cr_2O_7^{2-} < VO_2^+$
(D) $Cr_2O_7^{2-} < VO_2^+ < MnO_4^-$

Answer: (A) $VO_2^+ < Cr_2O_7^{2-} < MnO_4^-$ · The council's preliminary key

Q32 AP EAPCET 2024 · 21 May · Shift 1 MCQ

Which of the following lanthanoids have $[\mathrm{Xe}]\,4\mathrm{f}^{\mathrm{x}}\,5\mathrm{d}^{1}\,6\mathrm{s}^{2}$ configuration in their ground state?

(x = 1-14)

(A) Pr, Tb, Yb
(B) Ce, Yb, Lu
(C) Ce, Gd, Lu
(D) Gd, Tb, Lu

Answer: (C) Ce, Gd, Lu · The council's preliminary key

Q33 AP EAPCET 2024 · 20 May · Shift 1 MCQ

Which transition metal does not form 'MO' type oxide? (M= transition metal)

(A) V
(B) Cr
(C) Mn
(D) Sc

Answer: (D) Sc · The council's preliminary key

Q34 AP EAPCET 2024 · 20 May · Shift 2 MCQ

The transition metal with highest melting point is

(A) Re
(B) Cr
(C) Mo
(D) W

Answer: (D) W · The council's preliminary key

Q35 AP EAPCET 2024 · 19 May · Shift 2 MCQ

In neutral medium potassium permanganate oxidises I^{-} to X. Identify the X

(A) Iodine
(B) Iodate
(C) Per iodate
(D) Hypo iodite

Answer: (B) Iodate · The council's preliminary key

Q36 AP EAPCET 2024 · 18 May · Shift 1 MCQ

Identify the basic oxide from the following

(A) Cr_2O_3
(B) CrO_3
(C) V_2O_5
(D) V_2O_3

Answer: (D) V_2O_3 · The council's preliminary key

Q37 TS EAPCET 2024 · 11 May · Shift 1 MCQ

Observe the following f-block elements

Eu (Z = 63) ; Pu (Z = 94) ; Cf (Z = 98) ; Sm (Z = 62) ; Gd (Z = 64) ; Cm (Z = 96)

How many of the above have half-filled f-orbitals in their ground state?

(A) 3
(B) 4
(C) 2
(D) 5

Answer: (A) 3 · The council's preliminary key

Q38 TS EAPCET 2024 · 10 May · Shift 1 MCQ

The set of elements which obey the general electronic configuration $(n-1)d^{1-10}\,ns^2$ is

(A) Bh, Eu, Po
(B) Ho, Er, Lu
(C) Hs, Hg, W
(D) K, Bi, Ba

Answer: (C) Hs, Hg, W · The council's preliminary key

Q39 TS EAPCET 2024 · 10 May · Shift 1 MCQ

In which of the following ions the spin only magnetic moment is lowest?

(A) $[Ti(H_2O)_6]^{3+}$
(B) $[Mn(H_2O)_6]^{2+}$
(C) $[Ni(H_2O)_6]^{2+}$
(D) $[Co(H_2O)_6]^{2+}$

Answer: (A) $[Ti(H_2O)_6]^{3+}$ · The council's preliminary key

Q40 TS EAPCET 2024 · 10 May · Shift 2 MCQ

Which of the following orders is correct for the property given?

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(A) $Cr < Mn < Fe$ - standard electrode potential value for M^{3+}/M^{2+}

(B) $Cr^{2+} < Mn^{2+} < Fe^{2+}$ - magnetic moments

(C) $VO_2^+ < Cr_2O_7^{2-} < MnO_4^-$ - oxidizing power

(D) $Ti < V < Cr$ - first ionization enthalpy

Answer: (C) $VO_2^+ < Cr_2O_7^{2-} < MnO_4^-$ **- oxidizing power** · The council's preliminary key

Q41 TS EAPCET 2024 · 9 May · Shift 1 MCQ

Identify the correct statements from the following

(i) Ti (IV) is more stable than Ti(III) and Ti(II)

(ii) Among 3d – series elements (from Z = 22 to 29) only copper has positive reduction potential (M^{2+}/M)

(iii) Both Sc and Zn exhibit +1 oxidation state

(A) i, ii only

(B) i, iii only

(C) ii, iii only

(D) i, ii, iii

Answer: (A) i, ii only · The council's preliminary key

Q42 TS EAPCET 2024 · 9 May · Shift 2 MCQ

In which of the following, ions are correctly arranged in the increasing order of oxidizing power?

(A) $Cr_2O_7^{2-} < MnO_4^- < VO_2^+$

(B) $VO_2^+ < Cr_2O_7^{2-} < MnO_4^-$

(C) $VO_2^+ < MnO_4^- < Cr_2O_7^{2-}$

(D) $MnO_4^- < Cr_2O_7^{2-} < VO_2^+$

Answer: (B) $VO_2^+ < Cr_2O_7^{2-} < MnO_4^-$ · The council's preliminary key

Q43 AP EAPCET 2023 · 19 May · Shift 1 MCQ

Identify the correct statement

(A) Yb^{2+} is an oxidant

(B) Lu^{3+} is paramagnetic

(C) CrO is basic

(D) Brass is an alloy of Cu, Sn

Answer: (C) CrO **is basic** · The council's preliminary key

Q44 AP EAPCET 2023 · 18 May · Shift 1 MCQ

Which of the following are correct?

i. V^{2+} liberates hydrogen from a dilute acid

ii. The earlier members of lanthanide series behave more like aluminium

iii. The 'silver' UK coins are made of Cu/Ni alloy

iv. The maximum oxidation state exhibited by Neptunium is +7

(A) i, iii only
(B) ii, iv only
(C) i, iii, iv only
(D) i, ii, iii only

Answer: (C) i, iii, iv only · The council's preliminary key

Q45 AP EAPCET 2023 · 17 May · Shift 1 MCQ

Select the correct order of radii of the given ions

(A) $Yb^{3+} < Sm^{3+} < Dy^{3+} < Pr^{3+}$
(B) $Yb^{3+} < Dy^{3+} < Sm^{3+} < Pr^{3+}$
(C) $Pr^{3+} < Sm^{3+} < Dy^{3+} < Yb^{3+}$
(D) $Pr^{3+} < Sm^{3+} < Yb^{3+} < Dy^{3+}$

Answer: (B) $Yb^{3+} < Dy^{3+} < Sm^{3+} < Pr^{3+}$ · The council's preliminary key

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Q46 AP EAPCET 2023 · 17 May · Shift 1 MCQ

Among V, Cr, Zn, Fe, the metal having lowest enthalpy of atomization is

(A) V
(B) Cr
(C) Zn
(D) Fe

Answer: (C) Zn · The council's preliminary key

Q47 AP EAPCET 2023 · 17 May · Shift 2 MCQ

Identify the correct statements from the following

I. Brass is an alloy of copper and nickel

II. Bronze is an alloy of copper and zinc

III. German silver is an alloy of copper, zinc and nickel

IV. Brass is an alloy of copper and zinc

(A) I & II only
(B) II & III only
(C) III & IV only
(D) I & IV only

Answer: (C) III & IV only · The council's preliminary key

Q48 AP EAPCET 2023 · 16 May · Shift 1 MCQ

Correct order of basic strength of metallic hydroxides

(A) $Ce(OH)_3 < Lu(OH)_3 < Eu(OH)_3$
(B) $Ce(OH)_3 < Eu(OH)_3 < Lu(OH)_3$
(C) $Lu(OH)_3 < Eu(OH)_3 < Ce(OH)_3$
(D) $Lu(OH)_3 < Ce(OH)_3 < Eu(OH)_3$

Answer: (C) $Lu(OH)_3 < Eu(OH)_3 < Ce(OH)_3$ · The council's preliminary key

Q49 AP EAPCET 2023 · 15 May · Shift 1 MCQ

Which of the following alloys are correctly matched with their uses?

i) Li/Mg — armour plates

ii) Cu/Be — high strength springs

iii) Mg/Al — aircraft construction

(A) i, ii only
(B) ii, iii only
(C) i, iii only
(D) i, ii, iii

Answer: (D) i, ii, iii · The council's preliminary key

Q50 AP EAPCET 2023 · 15 May · Shift 1 MCQ

From the list given below, the number of lanthanides which exhibit +4 state in their oxides is

Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy

(A) 5
(B) 4
(C) 6
(D) 2

Answer: (B) 4 · The council's preliminary key

Q51 AP EAPCET 2023 · 15 May · Shift 1 MCQ

Given below are two statements

Assertion (A): All Cu (II) halides are known except the iodide

Reason (R): Cu^{2+} oxidizes I^- to I_2

The correct answer is

(A) Both (A) and (R) are correct and (R) is the correct explanation of (A)
(B) Both (A) and (R) are correct and (R) is the correct but (R) is not the correct explanation of (A)
(C) (A) is correct but (R) is not correct
(D) (A) is not correct but (R) is correct

Answer: (A) Both (A) and (R) are correct and (R) is the correct explanation of (A) · The council's preliminary key

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Q52 AP EAPCET 2023 · 15 May · Shift 2 MCQ

Identify the correctly matched pairs

i. TiO – pigment industry

ii. MnO_2 – dry battery cells

iii. Cu/Ni alloy – UK 'copper' coins

(A) i, ii, iii
(B) ii, iii only
(C) i, ii only
(D) i, iii only

Answer: (C) i, ii only · The council's preliminary key

Q53 TS EAMCET 2023 · 14 May · Shift 1 MCQ

Among the following the incorrect statement about transition metals is

(A) Cr, Mo and W have high melting points
(B) With increase in number of unpaired electrons melting point increases
(C) Mn^{3+} is more stable than Mn^{2+}
(D) They show variable oxidation states

Answer: (C) Mn^{3+} is more stable than Mn^{2+} · The council's preliminary key

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Q54 TS EAMCET 2023 · 14 May · Shift 2 MCQ

The products formed during thermal decomposition of ammonium dichromate are

(A) $O_2,\ H_2O,\ Cr(OH)_3$
(B) $NO_2,\ H_2O,\ Cr_2O_3$
(C) $N_2,\ Cr_2O_3,\ H_2O$
(D) $N_2O,\ Cr(OH)_3$

Answer: (C) $N_2,\ Cr_2O_3,\ H_2O$ · The council's preliminary key

Q55 TS EAMCET 2023 · 14 May · Shift 2 MCQ

In +2 oxidation state, which of the following lanthanoids act as reducing agents?

(A) Ce, Pr
(B) Eu, Gd
(C) Eu, Yb
(D) Lu, Er

Answer: (C) Eu, Yb · The council's preliminary key

Q56 TS EAMCET 2023 · 13 May · Shift 1 MCQ

Cr^{2+} and Mn^{3+} do possess d^4 electronic configuration. So,

(A) Mn^{3+} is oxidizing agent while Cr^{2+} is reducing agent
(B) Both are reducing agents
(C) Mn^{3+} is reducing agent while Cr^{2+} is oxidizing agent
(D) Both are oxidizing agents

Answer: (A) Mn^{3+} **is oxidizing agent while** Cr^{2+} **is reducing agent** · The council's preliminary key

Q57 TS EAMCET 2023 · 13 May · Shift 2 MCQ

Observe the following ions

$V^{2+}, Zn^{2+}, Cu^{2+}, Fe^{2+}, Fe^{3+}, Ti^{3+}, Sc^{3+}, Ti^{4+}, Ni^{3+}, Co^{3+}, Cu^{+}$

How many ions in the above list have zero magnetic moment?

(A) 4
(B) 3
(C) 5
(D) 2

Answer: (A) 4 · The council's preliminary key

Q58 TS EAMCET 2023 · 12 May · Shift 1 MCQ

The number f-electrons in +3 oxidation state of gadolinium (Z=64) is x and in +2 oxidation state of Ytterbium (Z=70) is y. The sum of x and y is

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(A) 13
(B) 20
(C) 18
(D) 21

Answer: (D) 21 · The council's preliminary key

Q59 TS EAMCET 2023 · 12 May · Shift 2 MCQ

The order of melting points of Cr, Mo and W is

(A) $\mathrm{Cr} > \mathrm{Mo} > \mathrm{W}$
(B) $\mathrm{Mo} > \mathrm{Cr} > \mathrm{W}$
(C) $\mathrm{W} > \mathrm{Mo} > \mathrm{Cr}$
(D) $\mathrm{W} > \mathrm{Cr} > \mathrm{Mo}$

Answer: (C) $\mathrm{W} > \mathrm{Mo} > \mathrm{Cr}$ · The council's preliminary key

Q60 TS EAMCET 2022 · 20 Jul · Shift 1 MCQ

The elements with full d^{10} electronic configuration in their "+2" oxidation state are

(A) Cu, Ni, Zn
(B) Ni, Au, Cd
(C) Au, Hg, Pd
(D) Zn, Cd, Hg

Answer: (D) Zn, Cd, Hg · The council's preliminary key

Q61 TS EAMCET 2022 · 20 Jul · Shift 2 MCQ

Choose the correct statement.
Fe^{3+} ion is more stable than Fe^{2+} ion because

(A) More the charge on the atom, more is its stability
(B) Configuration of Fe^{2+} is $3d^6$ while Fe^{3+} is $3d^5$
(C) Fe^{2+} has a larger size than that of Fe^{3+}
(D) Fe^{3+} ions are coloured

Answer: (B) Configuration of Fe^{2+} is $3d^6$ while Fe^{3+} is $3d^5$ · The council's preliminary key

Q62 TS EAMCET 2022 · 19 Jul · Shift 1 MCQ

Identify all the correct statements for Lanthanide contraction.

a) The covalent properties of the Lanthanide metal hydroxides increases from La to Lu.
b) The chemical reactivity decreases from La to Lu.
c) $\mathrm{La(OH)_3}$ is more basic than $\mathrm{Lu(OH)_3}$.

d) Zr and Hf have about the same radius.
e) Separation of Lanthanides from one another is easy.

(A) a, b, c, e only
(B) a, b, c, d only
(C) a, b, c only
(D) b, c, d only

Answer: (B) a, b, c, d only · The council's preliminary key

Q63 TS EAMCET 2022 · 19 Jul · Shift 1 MCQ

On treating SO_2 with aqueous solution of $KMnO_4$, the manganese ion reduces to

(A) Mn^{2+} only
(B) Mn^{4+} only
(C) Mn^{6+} only
(D) Mn^{4+} and Mn^{6+}

Answer: (A) Mn^{2+} only · The council's preliminary key

Q64 TS EAMCET 2022 · 19 Jul · Shift 1 MCQ

The correct order of ionic radii of trivalent ions Y^{3+}, La^{3+}, Eu^{3+}, and Lu^{3+} is
(Y = 39, La = 57, Eu = 63, Lu = 71)

(A) $Lu^{3+} < Eu^{3+} < La^{3+} < Y^{3+}$
(B) $La^{3+} < Eu^{3+} < Lu^{3+} < Y^{3+}$
(C) $Y^{3+} < Lu^{3+} < Eu^{3+} < La^{3+}$
(D) $Y^{3+} < La^{3+} < Eu^{3+} < Lu^{3+}$

Answer: (C) $Y^{3+} < Lu^{3+} < Eu^{3+} < La^{3+}$ · The council's preliminary key

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Q65 TS EAMCET 2022 · 19 Jul · Shift 1 MCQ

When permanganate ion is heated at 513 K, led to the formation of two manganese based products. The physical properties of the product in which manganese with the higher oxidation state than the other are

(A) Diamagnetic and colourless
(B) Paramagnetic and colourless
(C) Paramagnetic and green
(D) Diamagnetic and green

Answer: (C) Paramagnetic and green · The council's preliminary key

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Q66 TS EAMCET 2022 · 19 Jul · Shift 2 MCQ

The increase in the atomic radii of the third (5d) series of transition elements is very small, which may be accounted for the filling of 'X' orbitals before 'Y' orbitals. X and Y are

(A) X = 4f, Y = 5d
(B) X = 5f, Y = 5d
(C) X = 5d, Y = 4f
(D) X = 4f, Y = 4d

Answer: (A) X = 4f, Y = 5d · The council's preliminary key

Q67 TS EAMCET 2022 · 18 Jul · Shift 2 MCQ

Assertion (A) : In general, transition metals have high melting points.
Reason (R) : More number of electrons from '(n-1)d' and 'ns' are involved in interatomic metallic bonding.
The correct option among the following is

(A) (A) is true, (R) is true and (R)is the correct explanation for (A)
(B) (A) is true, (R) is true but (R) is not the correct explanation for (A)
(C) (A) is true but (R) is false
(D) (A) is false but (R) is true

Answer: (A) (A) is true, (R) is true and (R)is the correct explanation for (A) · The council's preliminary key

Q68 AP EAPCET 2022 · 8 Jul · Shift 1 MCQ

Assertion (A): Transition elements have higher enthalpies of atomization.
Reason (R): Large number of unpaired electrons present in transition elements facilitate strong interatomic interaction and strong bonding between atoms.

(A) Both (A) and (R) are correct and (R) is the correct explanation of (A)
(B) Both (A) and (R) are correct and (R) is not the correct explanation of (A).
(C) (A) Is correct and (R) is incorrect.
(D) (A) Is incorrect and (R) is correct.

Answer: (A) Both (A) and (R) are correct and (R) is the correct explanation of (A) · The council's preliminary key

Q69 AP EAPCET 2022 · 8 Jul · Shift 2 MCQ

The correct electronic configuration of the element Au is

(A) $[Xe]4f^{14}5d^{10}6s^2$
(B) $[Xe]4f^{14}5d^{9}6s^2$
(C) $[Xe]4f^{14}5d^{10}6s^1$
(D) $[Xe]4f^{14}5d^{9}6s^1$

Answer: (C) $[Xe]4f^{14}5d^{10}6s^1$ · The council's preliminary key

Q70 AP EAPCET 2022 · 8 Jul · Shift 2 MCQ

High second ionization enthalpies than expected are observed for

(A) Ti, Zn
(B) Mn, Fe
(C) V, Ni
(D) Cr, Cu

Answer: (D) Cr, Cu · The council's preliminary key

Q71 AP EAPCET 2022 · 7 Jul · Shift 2 MCQ

Which of the following elements are not regarded as transition elements?

(A) Zn, Cd, Hg
(B) Cu, Zn, Hg
(C) Ag, Zn, Hg
(D) Ag, Cd, Hg

Answer: (A) Zn, Cd, Hg · The council's preliminary key

Q72 AP EAPCET 2022 · 6 Jul · Shift 1 MCQ

Which of the following ions can reduce dilute acid to give hydrogen gas?

(A) Ti^{2+}, Cr^{2+}
(B) Mn^{3+}, Ti^{2+}
(C) Mn^{3+}, Cr^{2+}
(D) Co^{3+}, Cr^{2+}

Answer: (A) Ti^{2+}, Cr^{2+} · The council's preliminary key

Q73 AP EAPCET 2022 · 6 Jul · Shift 2 MCQ

Which of the following f − block element exhibits the highest oxidation state?

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(A) U
(B) Np
(C) Am
(D) Pa

Answer: (B) Np · The council's preliminary key

Q74 AP EAPCET 2022 · 5 Jul · Shift 1 MCQ

Identify the isoelectronic pair of ions from the following

(A) Pr^{3+}, Nd^{3+}
(B) Tb^{3+}, Dy^{2+}
(C) Eu^{2+}, Gd^{3+}
(D) Pr^{3+}, Ce^{4+}

Answer: (C) Eu^{2+}, Gd^{3+} · The council's preliminary key

Q75 AP EAPCET 2022 · 5 Jul · Shift 2 MCQ

Calculated magnetic moment value for Fe^{2+} ion in BM is

(A) 3.87
(B) 4.90
(C) 2.84
(D) 1.73

Answer: (B) 4.90 · The council's preliminary key

Q76 AP EAPCET 2022 · 5 Jul · Shift 2 MCQ

In ruby and emerald, the metal ion(s) present is/are

(A) Cr^{6+}, Mn^{3+}
(B) Cr^{3+}
(C) Mn^{3+}, Co^{3+}
(D) Co^{3+}

Answer: (B) Cr^{3+} · The council's preliminary key

Q77 AP EAPCET 2022 · 4 Jul · Shift 1 MCQ

Photographic plates are prepared by coating emulsion of which of the following in gelatin.

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(A) AgBr
(B) CuBr
(C) ZnB_2
(D) $FeBr_2$

Answer: (A) AgBr · The council's preliminary key

Q78 AP EAPCET 2022 · 4 Jul · Shift 1 MCQ

Which of the following is correct related to the colours of $TiCl_3$ (X) $[Ti(H_2O)_6]Cl_3$ (Y).

(A) X = Colourless Y = Coloured
(B) X = Coloured Y = Coloured
(C) X = Colourless Y = Colourless
(D) X = Coloured Y = Colourless

Answer: (A) X = Colourless Y = Coloured · The council's preliminary key

Q79 AP EAPCET 2022 · 4 Jul · Shift 2 MCQ

Assertion (A): Transition metals and their complexes show catalytic activity.
Reason (R): The activation energy of a reaction is lowered by the catalyst.

(A) Both (A) and (R) are correct and (R) is the correct explanation of (A).
(B) Both (A) and (R) are correct but (R) is not the correct explanation of (A).
(C) (A) Is correct but (R) is incorrect.
(D) (A) Is incorrect but (R) is correct.

Answer: (B) Both (A) and (R) are correct but (R) is not the correct explanation of (A). · The council's preliminary key

Q80 AP EAPCET 2021 · 5 Oct · Shift 1 MCQ

The general trend of enthalpies of atomisation of d-block elements is ____

(A) Series- 1 > Series- 2 > Series- 3
(B) Series- 1 > Series- 3 > Series- 2
(C) Series- 3 > Series- 2 > Series- 1
(D) Series- 2 > Series- 1 > Series- 2 (sic)

Answer: (C) Series- 3 > Series- 2 > Series- 1 · The council's preliminary key

Q81 AP EAPCET 2021 · 5 Oct · Shift 1 MCQ

The most common oxidation state among lanthanoids is _____

(A) $+4$
(B) $+3$
(C) $+2$
(D) $+1$

Answer: (B) $+3$ · The council's preliminary key

Q82 AP EAPCET 2021 · 25 Aug · Shift 1 MCQ

Among the following options, identify the one which exhibits the greatest number of oxidation states.

(A) Fe
(B) Mn
(C) Cr
(D) V

Answer: (B) Mn · The council's preliminary key

Q83 AP EAPCET 2021 · 25 Aug · Shift 2 MCQ

Which of the following compounds is expected to be colored?

(A) $\mathrm{ZnSO_4}$
(B) $\mathrm{MgCl_2}$
(C) $\mathrm{CuCl_2}$
(D) AgCl

Answer: (C) $\mathrm{CuCl_2}$ · The council's preliminary key

Q84 AP EAPCET 2021 · 23 Aug · Shift 1 MCQ

Gadolinium (atomic number 64) is a member of $4f$ series. Its electronic configural in +3 oxidation state is $[Xe]\ 4f^7$. What is the ground state electronic configuration of Gadolinium _____

(A) $[Xe]\ 4f^{10}$
(B) $[Xe]\ 4f^8\ 6s^2$
(C) $[Xe]\ 4f^7\ 5d^3$
(D) $[Xe]\ 4f^7\ 5d^1\ 6s^2$

Answer: (D) $[Xe]\ 4f^7\ 5d^1\ 6s^2$ · The council's preliminary key

Q85 AP EAPCET 2021 · 23 Aug · Shift 2 MCQ

In f-block elements, _____ orbitals are progressively filled by the electrons

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(A) $3f$ & $4f$
(B) $4f$ & $5f$
(C) $5f$ & $6f$
(D) $6f$ & $7f$

Answer: (B) $4f$ & $5f$ · The council's preliminary key

Q86 AP EAPCET 2021 · 20 Aug · Shift 1 MCQ

Which of the following is not arranged in the correct sequence?

(A) MO, M_2O_3, MO_2, M_2O_5 - Decreasing basic nature
(B) Sc, V, Cr, Mn - Increasing number of oxidation states
(C) d^5, d^3, d^1, d^4 - Increasing magnetic moment
(D) $Mn^{2+}, Fe^{2+}, Cr^{2+}, Co^{2+}$ - decreasing stability

Answer: (C) d^5, d^3, d^1, d^4 **- Increasing magnetic moment** · The council's preliminary key

Q87 AP EAPCET 2021 · 20 Aug · Shift 1 MCQ

Which among the following is colored?

(A) $CuCl$
(B) $ScCl_3$
(C) $CuCl_2$
(D) $TiCl_4$

Answer: (C) $CuCl_2$ · The council's preliminary key

Q88 AP EAPCET 2021 · 20 Aug · Shift 2 MCQ

A purple colored compound of Manganese (X) decomposes on heating to liberate oxygen and forms compounds of Manganese (Y and Z) compound Z reacts with KOH in presence of potassium nitrate to give compound Y. Compounds X, Y and Z respectively are _____

(A) $X - KMnO_4\ Y - Mn_2O_7\ Z - MnO_2$
(B) $X - K_2MnO_4\ Y - KMnO_4\ Z - Mn_2O_7$
(C) $X - KMnO_4\ Y - K_2MnO_4\ Z - MnO_2$
(D) $X - KMnO_4\ Y - MnO_2\ Z - MnO$

Answer: (C) $X - KMnO_4\ Y - K_2MnO_4\ Z - MnO_2$ · The council's preliminary key

Q89 AP EAPCET 2021 · 20 Aug · Shift 2 MCQ

Match the following?
Property | Metal
A) Element with highest second ionization enthalpy $(\Delta_i H_2)$
B) Element with highest third ionization enthalpy $(\Delta_i H_3)$

C) M in $[M(CO)_6]$
D) Element with highest heat of atomization $(\Delta_a H)$
I) Co
II) Cr
III) Cu
IV) Zn
V) Ni

(A) A-III, B-I, C-V, D-IV
(B) A-III, B-IV, C-II, D-V
(C) A-IV, B-I, C-II, D-III
(D) A-V, B-IV, C-I, D-III

Answer: (B) A-III, B-IV, C-II, D-V · The council's preliminary key

Q90 AP EAPCET 2021 · 19 Aug · Shift 2 MCQ

The magnetic moment of Fe^{2+} is _____ B.M.

(A) 3.87
(B) 0
(C) 4.9
(D) 1.73

Answer: (C) 4.9 · The council's preliminary key

Q91 AP EAPCET 2021 · 19 Aug · Shift 2 MCQ

Which of the following statement is not correct?

(A) $\mathrm{Fe}^{3+}/\mathrm{Fe}^{2+}$ redox couple has less positive electron potential than $\mathrm{Mn}^{3+}/\mathrm{Mn}^{2+}$ couple
(B) MnO_4^{2-} is a strong oxidizing agent but CrO_4^{2-} is not
(C) The second and third series of transition elements have almost similar atomic radii
(D) The E^0 value for $\mathrm{Mn}^{3+}/\mathrm{Mn}^{2+}$ couple is much more positive than for $\mathrm{Cr}^{3+}/\mathrm{Cr}^{2+}$ couple

Answer: (B) MnO_4^{2-} **is a strong oxidizing agent but** CrO_4^{2-} **is not** · The council's preliminary key

Q92 TS EAMCET 2021 · 6 Aug · Shift 1 MCQ

The element with highest standard reduction potential (in Volt) $[\mathrm{M}^{2+} \rightarrow \mathrm{M}]$ among the I^{st} row of transition elements is

(A) Ti
(B) Ni
(C) Cr
(D) Cu

Answer: (D) Cu · The council's preliminary key

Q93 TS EAMCET 2021 · 4 Aug · Shift 2 MCQ

The most basic hydroxide among the following is

(A) $Ce(OH)_4$
(B) $Ce(OH)_3$
(C) $Lu(OH)_3$
(D) $Gd(OH)_3$

Answer: (B) $Ce(OH)_3$ · The council's preliminary key

Q94 TS EAMCET 2021 · 4 Aug · Shift 2 MCQ

Assertion (A) : VF_5 is stable while VCl_5 is not.
Reason (R) : Fluorine stabilises the higher oxidation state due to its higher bond enthalpy.
The correct option among the following is

(A) (A) is true, (R) is true and (R) is the correct explanation for (A)
(B) (A) is true, (R) is true but (R) is not the correct explanation for (A)
(C) (A) is true but (R) is false
(D) (A) is false but (R) is true

Answer: (A) (A) is true, (R) is true and (R) is the correct explanation for (A) · The council's preliminary key

Q95 AP EAMCET 2020 · 23 Sep · Shift 1 MCQ

Which of the following metal ions is colorless?

(A) Ti^{3+}
(B) Sc^{3+}
(C) V^{4+}
(D) Cr^{4+}

Answer: (B) Sc^{3+} · The council's preliminary key

Q96 AP EAMCET 2020 · 23 Sep · Shift 1 MCQ

Which of the following is called "Lunar Caustic"?

(A) $NaOH$
(B) $AgCl$
(C) $AgOH$
(D) $AgNO_3$

Answer: (D) $AgNO_3$ · The council's preliminary key

Q97 AP EAMCET 2020 · 22 Sep · Shift 2 MCQ

The formula for calculating 'spin only' magnetic moment is.

(A) $n(n+2)$
(B) $\sqrt{n(n-2)}$
(C) $\sqrt{n(n+2)}$
(D) $n(n-2)$

Answer: (C) $\sqrt{n(n+2)}$ · The council's preliminary key

Q98 AP EAMCET 2020 · 22 Sep · Shift 2 MCQ

Choose the correct option regarding the following
Assertion: Actinides exhibit a larger number of oxidation states than lanthanides
Reason: There is a large energy gap between 5f, 6d and 7s subshells.

(A) Assertion and reason are correct, and reason is the correct explanation for the assertion
(B) Assertion and reason are correct, and reason is not the correct explanation for the assertion
(C) Assertion is correct, reason is wrong
(D) Assertion is wrong, reason is correct

Answer: (C) Assertion is correct, reason is wrong · The council's preliminary key

Q99 AP EAMCET 2020 · 21 Sep · Shift 1 MCQ

Which of the following is the common oxidation state for 'transition' elements?

(A) $+3$
(B) $+1$
(C) $+2$
(D) $+4$

Answer: (C) $+2$ · The council's preliminary key

Q100 AP EAMCET 2020 · 21 Sep · Shift 2 MCQ

Which element of the $3d$ series has highest third ionisation enthalpy?

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(A) Mn
(B) Zn
(C) Fe
(D) Cu

Answer: (B) Zn · The council's preliminary key

Q101 AP EAMCET 2020 · 18 Sep · Shift 1 MCQ

The yellow color of chromate ion and orange color of dichromate ion is due to

(A) $d-d$ transition only
(B) Charge transfer only
(C) Both $d-d$ transition and Charge transfer
(D) $s-d$ transitions only

Answer: (B) Charge transfer only · Checked by our team

Q102 AP EAMCET 2020 · 18 Sep · Shift 2 MCQ

Which among the following statements is incorrect for interstitial compounds?
1) They are very hard and rigid
2) They have higher melting point than pure metal
3) They do not show conductivity
4) They are chemically inert

(A) 1
(B) 2
(C) 3
(D) 4

Answer: (C) 3 · The council's preliminary key

Q103 AP EAMCET 2020 · 18 Sep · Shift 2 MCQ

The compounds formed when $KMnO_4$ is heated to 513 K are _____

(A) MnO_2, O_2 and KOH
(B) K_2MnO_4, MnO_2 and O_2
(C) K_2MnO_4, MnO_2 and H_2O
(D) MnO, MnO_2 and O_2

Answer: (B) K_2MnO_4, MnO_2 and O_2 · The council's preliminary key

Q104 AP EAMCET 2020 · 17 Sep · Shift 1 MCQ

The correct statement about Cr^{2+} and Mn^{3+} among the following is (Given, atomic numbers of Cr = 24 and Mn = 25)

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(A) Cr^{2+} is a reducing agent

(B) Mn^{3+} is a reducing agent.

(C) Both Cr^{2+} and Mn^{3+} exhibit d^5 outer electronic configuration.

(D) When Cr^{2+} is used as a reducing agent, it attains d^5 configuration.

Answer: (A) Cr^{2+} **is a reducing agent** · The council's preliminary key

Q105 AP EAMCET 2020 · 17 Sep · Shift 2 MCQ

The alloy which contains 95% aluminium and small amounts of copper, magnesium and manganese is _____

(A) Magnalium

(B) Aluminium bronze

(C) Invar

(D) Duralumin

Answer: (D) Duralumin · The council's preliminary key

Q106 AP EAMCET 2020 · 17 Sep · Shift 2 MCQ

Which among the following statements is incorrect for manganate and permanganate ions?

(A) Both ions are tetrahedral structure

(B) In both the ions, $p\pi - d\pi$ bonding is observed between oxygen and manganese

(C) Both ions are paramagnetic

(D) Permanganate is stronger oxidizing agent than manganate

Answer: (C) Both ions are paramagnetic · The council's preliminary key

Q107 TS EAMCET 2020 · 14 Sep · Shift 1 MCQ

Which of the following is a diamagnetic ion?

(A) Co^{2+}

(B) Cu^{2+}

(C) Mn^{2+}

(D) Sc^{3+}

Answer: (D) Sc^{3+} · Official TGCHE final key

Q108 TS EAMCET 2020 · 14 Sep · Shift 2 MCQ

Transuranium elements are

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(A) Elements before uranium
(B) Inter transition elements
(C) Elements after uranium
(D) Actinoid elements

Answer: (C) Elements after uranium · Official TGCHE final key

Q109 TS EAMCET 2020 · 14 Sep · Shift 2 MCQ

When $[Ti(H_2O)_6]Cl_3$ is heated at $250\,^{\circ}C$, the change in color is from

(A) Violet to red
(B) Violet to blue
(C) Blue to green
(D) Violet to colourless

Answer: (D) Violet to colourless · Official TGCHE final key

Q110 TS EAMCET 2020 · 11 Sep · Shift 1 MCQ

What is the oxidation state of Cr, when the pH of the aqueous solution of potassium dichromate changes from acidic to basic?

(A) +5
(B) +4
(C) +6
(D) +3

Answer: (C) +6 · Official TGCHE final key

Q111 TS EAMCET 2020 · 11 Sep · Shift 2 MCQ

Which of the following ions will exhibit colour in aqueous solution?

(A) La^{+3} (Z = 57)
(B) Ti^{3+} (Z = 22)
(C) Lu^{3+} (Z = 71)
(D) Sc^{3+} (Z = 21)

Answer: (B) Ti^{3+} (Z = 22) · Official TGCHE final key

Q112 TS EAMCET 2020 · 10 Sep · Shift 1 MCQ

Which of the following statement is not true about interstitial complexes?

(A) Small atom like C, H or N are trapped inside crystal lattice
(B) They are usually non-stoichiometric
(C) They generally retain metallic conductivity
(D) They are chemically very active

Answer: (D) They are chemically very active · Official TGCHE final key

Q113 TS EAMCET 2020 · 10 Sep · Shift 1 MCQ

Which of the following molecules is colorless?

(A) $CuSO_4 \cdot 5H_2O$ (crystal)
(B) $CuSO_4$(anhydrous)
(C) $[Cu(NH_3)_4]^{2+}$ (aq)
(D) $[CuCl_4]^{2-}$(aq)

Answer: (B) $CuSO_4$(anhydrous) · Official TGCHE final key

Q114 TS EAMCET 2020 · 10 Sep · Shift 2 MCQ

The highest oxidation state observed in first row transition metal is

(A) +6
(B) +7
(C) +8
(D) +9

Answer: (B) +7 · Official TGCHE final key

Q115 TS EAMCET 2020 · 10 Sep · Shift 2 MCQ

Among the following series of transition metal ions, the one in which all the metal ions have $3d^2$, $3p^6$ electronic configuration is
(atomic number, Ti = 22, V = 23, Cr = 24, Mn = 25)

(A) Ti^{3+}, V^{2+}, Cr^{3+} and Mn^{4+}
(B) Ti^{+}, V^{4+}, Cr^{6+} and Mn^{7+}
(C) Ti^{4+}, V^{3+}, Cr^{2+} and Mn^{3+}
(D) Ti^{2+}, V^{3+}, Cr^{4+} and Mn^{5+}

Answer: (D) Ti^{2+}, V^{3+}, Cr^{4+} and Mn^{5+} · Official TGCHE final key

Q116 TS EAMCET 2020 · 9 Sep · Shift 1 MCQ

Which of the following statements is incorrect?

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(A) The enthalpy of atomization decreases down a group in s-block elements
(B) The enthalpy of atomization decreases down a group in p-block elements
(C) The enthalpy of atomization decreases down a group in d-block elements
(D) The enthalpy of atomization increases down a group in d-block elements

Answer: (C) The enthalpy of atomization decreases down a group in d-block elements · Official TGCHE final key

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Q117 TS EAMCET 2020 · 9 Sep · Shift 1 MCQ

Which of the following sets correctly represents the increase in the paramagnetic property of the ions?

(A) $Cu^{2+} < V^{2+} < Cr^{2+} < Mn^{2+}$
(B) $Cu^{2+} < Cr^{2+} < V^{2+} < Mn^{2+}$
(C) $Mn^{2+} < V^{2+} < Cr^{2+} < Cu^{2+}$
(D) $Mn^{2+} < Cu^{2+} < Cr^{2+} < V^{2+}$

Answer: (A) $Cu^{2+} < V^{2+} < Cr^{2+} < Mn^{2+}$ · Official TGCHE final key

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Q118 TS EAMCET 2020 · 9 Sep · Shift 2 MCQ

What is the effect of lanthanoid contraction in lanthanoid series of elements with increasing atomic number?

(A) Decreases in atomic radii
(B) Increases in atomic radii
(C) Decreases in melting point
(D) Increases in melting point

Answer: (A) Decreases in atomic radii · Official TGCHE final key

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Q119 TS EAMCET 2019 · 6 May · Shift 1 MCQ

Assertion (A) : While going from left to right of the periodic table, the atomic size decreases more rapidly for the $3d$ series compared to the $4f$ series of elements.
Reason (R) : $3d$ electrons experience lesser shielding than $4f$ electrons
The correct answer is

(A) Both (A) and (R) are correct and (R) is the correct explanation of (A)
(B) Both (A) and (R) are correct, but (R) is not the correct explanation of (A)
(C) (A) is correct but (R) is not correct
(D) (A) is not correct but (R) is correct

Answer: (C) (A) is correct but (R) is not correct · Checked by our team

Q120 TS EAMCET 2019 · 4 May · Shift 1 MCQ

Match the following.

List - I

A) Oxidation state of V in $VOCl_2$

B) Number of unpaired electrons in MnO_4^{2-} ion

C) Number of unpaired electrons in $[NiCl_4]^{2-}$ ion

D) This oxidation state is exhibited by all lanthanide ions

List - II

I) 0

II) 1

III) 5

IV) 3

V) 4

VI) 2

The correct answer is

(A) A-V, B-II, C-VI, D-IV

(B) A-V, B-I, C-IV, D-III

(C) A-VI, B-I, C-V, D-IV

(D) A-IV, B-II, C-V, D-III

Answer: (A) A-V, B-II, C-VI, D-IV · Official TGCHE final key

Q121 TS EAMCET 2019 · 4 May · Shift 2 MCQ

Match the following.

Metal ion

A) V^{4+}

B) Ti^{3+}

C) Ti^{4+}

D) Ni^{2+}

Color

I) Colorless

II) Purple

III) Green

IV) Blue

V) Yellow

The correct answer is

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(A) A-IV, B-II, C-I, D-III
(B) A-II, B-V, C-I, D-III
(C) A-III, B-II, C-I, D-V
(D) A-IV, B-V, C-I, D-III

Answer: (A) A-IV, B-II, C-I, D-III · Official TGCHE final key

Q122 TS EAMCET 2019 · 3 May · Shift 1 MCQ

Common oxidation state of f-block elements is III. The other stable oxidation states of ^{63}Eu and ^{65}Tb are respectively

(A) II, IV
(B) IV, II
(C) II, V
(D) V, II

Answer: (A) II, IV · Official TGCHE final key

Q123 TS EAMCET 2019 · 3 May · Shift 1 MCQ

Match the following.
List - I (Metal ion)
A) Co^{2+}
B) Fe^{2+}
C) Ni^{2+}
D) Cu^{2+}
List - II (Color)
I) Yellow
II) Dark green
III) Blue
IV) Pale green
V) Pink
The correct answer is

(A) A-V, B-IV, C-II, D-III
(B) A-I, B-II, C-III, D-IV
(C) A-V, B-I, C-IV, D-II
(D) A-I, B-V, C-IV, D-II

Answer: (A) A-V, B-IV, C-II, D-III · Official TGCHE final key

Q124 TS EAMCET 2019 · 3 May · Shift 2 MCQ

The correct increasing order of basic character of $Ce(OH)_3$, $Gd(OH)_3$ and $Nd(OH)_3$ is

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(A) $Ce(OH)_3 < Nd(OH)_3 < Gd(OH)_3$
(B) $Gd(OH)_3 < Ce(OH)_3 < Nd(OH)_3$
(C) $Gd(OH)_3 < Nd(OH)_3 < Ce(OH)_3$
(D) $Ce(OH)_3 < Gd(OH)_3 < Nd(OH)_3$

Answer: (C) $Gd(OH)_3 < Nd(OH)_3 < Ce(OH)_3$ · Official TGCHE final key

Q125 TS EAMCET 2019 · 3 May · Shift 2 MCQ

The elements with the highest and lowest enthalpy of atomisation, respectively for first row transition elements are

(A) Sc ; Zn
(B) Ti ; Ni
(C) V ; Zn
(D) Cr, Mn

Answer: (C) V ; Zn · Official TGCHE final key

Q126 AP EAMCET 2019 · 23 Apr · Shift 1 MCQ

Which one of the following reactions does not take place?

(A) $2CuSO_4(aq) + 4KI(aq) \longrightarrow 2CuI_2 + 2K_2SO_4$
(B) $2CuSO_4(aq) + 4KCl(aq) \longrightarrow 2CuCl_2 + 2K_2SO_4$
(C) $CuSO_4(aq) + Zn(s) \longrightarrow ZnSO_4(aq) + Cu(s)$
(D) $2CuSO_4(aq) + 4KF(aq) \longrightarrow 2CuF_2 + 2K_2SO_4$

Answer: (A) $2CuSO_4(aq) + 4KI(aq) \longrightarrow 2CuI_2 + 2K_2SO_4$ · Official APSCHE final key

Q127 AP EAMCET 2019 · 22 Apr · Shift 1 MCQ

Which one of the following is the correct order of ionic radii?

(A) $Pr^{3+} > Gd^{3+} > Tm^{3+}$
(B) $Pr^{3+} < Gd^{3+} < Tm^{3+}$
(C) $Pr^{3+} > Tm^{3+} > Gd^{3+}$
(D) $Pr^{3+} < Tm^{3+} < Gd^{3+}$

Answer: (A) $Pr^{3+} > Gd^{3+} > Tm^{3+}$ · Official APSCHE final key

Q128 AP EAMCET 2019 · 22 Apr · Shift 1 MCQ

Identify the correct statements from the following
i. The ionic radius of Pr^{3+}, Dy^{3+} and Sm^{3+} follow the order, $Sm^{3+} > Pr^{3+} > Dy^{3+}$
ii. Eu^{2+} acts as strong reducing reagent
iii. Pu exhibits +7 oxidation state

(A) i, ii only
(B) i, iii only
(C) i, ii, iii
(D) ii, iii only

Answer: (D) ii, iii only · Official APSCHE final key

Q129 AP EAMCET 2019 · 22 Apr · Shift 2 MCQ

In acidic medium, aqueous potassium permanganate with hydrogen peroxide gives

(A) Mn^{3+}, H_2
(B) Mn^{2+}, O_2
(C) Mn^{2+}, H_2
(D) MnO_2, O_3

Answer: (B) Mn^{2+}, O_2 · Official APSCHE final key

Q130 AP EAMCET 2019 · 21 Apr · Shift 1 MCQ

Identify the metal which is not common to German Silver and Brass.

(A) Cu
(B) Zn
(C) Fe
(D) Ni

Answer: (D) Ni · Official APSCHE final key

Q131 AP EAMCET 2019 · 21 Apr · Shift 1 MCQ

Which of the following set of elements do not possess f-electrons?

(A) La, U, Lr
(B) La, Th, Lr
(C) La, Ac, Th
(D) Ce, Ac, Th

Answer: (C) La, Ac, Th · Official APSCHE final key

Q132 AP EAMCET 2019 · 21 Apr · Shift 2 MCQ

The copper (II) halide which does **not** exist is

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(A) CuF_2
(B) $CuBr_2$
(C) CuI_2
(D) $CuCl_2$

Answer: (C) CuI_2 · Official APSCHE final key

Q133 AP EAMCET 2019 · 20 Apr · Shift 1 MCQ

$KMnO_4$ oxidises $S_2O_3^{2-}$ to SO_4^{2-} in medium x and NO_2^- to NO_3^- in medium y. x and y are respectively.

(A) acidic, basic
(B) acidic, acidic
(C) acidic, neutral
(D) neutral, acidic

Answer: (D) neutral, acidic · Official APSCHE final key

Q134 AP EAMCET 2019 · 20 Apr · Shift 2 MCQ

Disproportionation products of one mole of MnO_4^{-2} in aqueous acidic medium are

(A) $\frac{1}{3}$ mole of MnO_4^-, $\frac{2}{3}$ mole of MnO_2
(B) $\frac{2}{3}$ mole of MnO_4^-, $\frac{1}{3}$ mole of MnO_2
(C) $\frac{1}{3}$ mole of Mn_2O_7, $\frac{1}{3}$ mole of MnO_2
(D) $\frac{2}{3}$ mole of Mn_2O_7, $\frac{1}{3}$ mole of MnO_2

Answer: (B) $\frac{2}{3}$ **mole of** MnO_4^-, $\frac{1}{3}$ **mole of** MnO_2 · Official APSCHE final key

Q135 TS EAMCET 2018 · 5 May · Shift 1 MCQ

Which of the elements possess only one electron in 5d orbital?

(A) ^{69}Tm, ^{61}Pm
(B) ^{59}Pr, ^{71}Lu
(C) ^{57}La, ^{61}Pm
(D) ^{57}La, ^{71}Lu

Answer: (D) ^{57}La, ^{71}Lu · The council's preliminary key

Q136 TS EAMCET 2018 · 5 May · Shift 2 MCQ

Statement (a) : Co^{2+} has higher magnetic moment than Cr^{3+}
Statement (b) : Ionisation enthalpies of Ce, Pr and Nd are higher than Th, Pa, U
Which of the following is correct?

(A) Both (a) and (b) are not correct
(B) Both (a) and (b) are correct
(C) (a) is correct but (b) is not correct
(D) (a) is not correct but (b) is correct

Answer: (D) (a) is not correct but (b) is correct · Checked by our team

Q137 TS EAMCET 2018 · 4 May · Shift 1 MCQ

Which of the following sets correctly represent the increasing paramagnetic property of the ion?

(A) $Cu^{2+} < V^{2+} < Cr^{2+} < Mn^{2+}$
(B) $Cu^{2+} < Cr^{2+} < V^{2+} < Mn^{2+}$
(C) $Mn^{2+} < V^{2+} < Cr^{2+} < Cu^{2+}$
(D) $Mn^{2+} < Cu^{2+} < Cr^{2+} < V^{2+}$

Answer: (A) $Cu^{2+} < V^{2+} < Cr^{2+} < Mn^{2+}$ · The council's preliminary key

Q138 TS EAMCET 2018 · 4 May · Shift 2 MCQ

Identify the correct actinide series from the following

(A) Nd, Np, No
(B) Pr, Pa, Pu
(C) Pa, Lr, Pu
(D) Lu, Lr, Th

Answer: (C) Pa, Lr, Pu · The council's preliminary key

Q139 AP EAMCET 2018 · 24 Apr · Shift 1 MCQ

Identify the reactions in which dichromate acts as an oxidizing reagent.
I) $Cr_2O_7^{2-} + 6Fe^{2+} + 14H^+ \rightarrow 2Cr^{3+} + 6Fe^{3+} + 7H_2O$
II) $Cr_2O_7^{2-} + 2OH^- \rightarrow 2CrO_4^{2-} + H_2O$
III) $Cr_2O_7^{2-} + 6I^- + 14H^+ \rightarrow 2Cr^{3+} + 3I_2 + 7H_2O$
IV) $Na_2Cr_2O_7 + 2KCl \rightarrow K_2Cr_2O_7 + 2NaCl$

(A) I, IV
(B) I, III
(C) II, III
(D) II, IV

Answer: (B) I, III · The council's preliminary key

Q140 AP EAMCET 2018 · 24 Apr · Shift 2 MCQ

Identify the statements which are **not** correct.
i. CrO_3 and Mn_2O_7 are basic oxides

ii. V_2O_3 and V_2O_4 are acidic oxides
iii. Cr(VI) is more stable than W(VI)

(A) i, ii
(B) ii, iii
(C) i, iii
(D) i, ii, iii

Answer: (D) i, ii, iii · The council's preliminary key

Q141 AP EAMCET 2018 · 23 Apr · Shift 1 MCQ

In lanthanides, with increase in atomic number atomic radius decreases, except for the element X. What is X?

(A) Gd
(B) Eu
(C) Tm
(D) Dy

Answer: (B) Eu · The council's preliminary key

Q142 AP EAMCET 2018 · 23 Apr · Shift 1 MCQ

For which one of the following elements, $M^{3+} \mid M^{2+}$ standard electrode potential is more positive?

(A) V
(B) Cr
(C) Mn
(D) Fe

Answer: (C) Mn · The council's preliminary key

Q143 AP EAMCET 2018 · 23 Apr · Shift 2 MCQ

Assertion (A): CuI_2 cannot be prepared by the reaction of Cu^{2+} (aq) with I^- (aq)
Reason (R): Aqueous Cu^{2+} solution is blue in colour
The correct answer is

(A) Both (A) and (R) are correct and (R) is the correct explanation of (A)
(B) Both (A) and (R) are correct but (R) is not the correct explanation of (A)
(C) (A) is correct but (R) is not correct
(D) (A) is not correct but (R) is correct

Answer: (B) Both (A) and (R) are correct but (R) is not the correct explanation of (A) · The council's preliminary key

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Q144 AP EAMCET 2018 · 22 Apr · Shift 1 MCQ

In Lanthanide series, the element well known to exhibit $+4$ oxidation state is

(A) Lu
(B) Ce
(C) Pm
(D) Nd

Answer: (B) Ce · The council's preliminary key

Q145 AP EAMCET 2018 · 22 Apr · Shift 2 MCQ

Identify the correct statements from the following
a) Eu^{2+} and Yb^{2+} are reducing agents
b) The electronic configuration of Pr^{3+} is $[\mathrm{Xe}]\,4f^3$
c) Aqueous solution of $\mathrm{LaCl_3}$ is colourless.

(A) a, b, c
(B) a, c
(C) a, b
(D) b, c

Answer: (B) a, c · The council's preliminary key

Q146 TS EAMCET 2017 · 12 May · Offline MCQ

The electronic configuration of $_{59}\mathrm{Pr}$ (praseodimium) is

(A) $[_{54}\mathrm{Xe}]\,4f^2\,5d^1\,6s^2$
(B) $[_{54}\mathrm{Xe}]\,4f^1\,5d^2\,6s^2$
(C) $[_{54}\mathrm{Xe}]\,4f^3\,6s^2$
(D) $[_{54}\mathrm{Xe}]\,4f^3\,5d^2$

Answer: (C) $[_{54}\mathrm{Xe}]\,4f^3\,6s^2$ · The council's preliminary key

Q147 AP EAMCET 2017 · 26 Apr · Shift 1 MCQ

What are X and Y in the following reactions ?
a) $\mathrm{MnO_4^-} + \mathrm{I^-} \xrightarrow{\mathrm{H^+}} \mathrm{X}$
b) $\mathrm{MnO_4^-} + \mathrm{I^-} \xrightarrow{\mathrm{H_2O}} \mathrm{Y}$

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(A) IO_3^-, I_2
(B) I_2, IO_3^-
(C) IO_3^-, IO_4^-
(D) I_2, IO_4^-

Answer: (B) I_2, IO_3^- · The council's preliminary key

Q148 AP EAMCET 2017 · 25 Apr · Shift 1 MCQ

Which of the following are used as catalysts in petroleum cracking?

(A) Oxides of phosphorus
(B) Oxides of carbon
(C) Oxides of sulphur
(D) Oxides of lanthanoids

Answer: (D) Oxides of lanthanoids · The council's preliminary key

Q149 AP EAMCET 2017 · 25 Apr · Shift 2 MCQ

Cu^{2+} does not form CuI_2. This is because Cu^{2+}

(A) reduces I^- to I^{3-}
(B) undergoes self oxidation and reduction to form Cu and Cu^{3+}
(C) oxidizes I^- to I_2
(D) is unstable in water

Answer: (C) oxidizes I^- **to** I_2 · The council's preliminary key

Q150 AP EAMCET 2017 · 24 Apr · Shift 1 MCQ

Which pair of actinides exhibit the highest oxidation state of +7?

(A) U & Np
(B) Np & Pu
(C) U & Pu
(D) Pu & Am

Answer: (B) Np & Pu · The council's preliminary key

Q151 AP EAMCET 2017 · 24 Apr · Shift 2 MCQ

Observe the following statements :
a) The basic strength of $Lu(OH)_3$, $Gd(OH)_3$ and $Ce(OH)_3$ follow the order : $Ce(OH)_3 > Gd(OH)_3 > Lu(OH)_3$
b) O^{2-}, N^{3-}, O^- and Mg^+ are isoelectronic species
c) The sizes of Zr and Hf are approximately same
The correct statements are :

(A) a, b, c
(B) a, c
(C) a, b
(D) b, c

Answer: (B) a, c · The council's preliminary key

Q152 AP EAMCET 2017 · 24 Apr · Shift 2 MCQ

Which pair of ions have same magnetic moment ?

(A) Mn^{2+}, Fe^{2+}
(B) Ti^{2+}, Co^{2+}
(C) V^{2+}, Co^{2+}
(D) Cr^{2+}, Co^{2+}

Answer: (C) V^{2+}, Co^{2+} · The council's preliminary key

Q153 AP EAMCET 2017 · 24 Apr · Shift 2 MCQ

Which one of the following ions exhibit paramagnetic property?

(A) Lr^{3+}
(B) Ac^{3+}
(C) Th^{3+}
(D) Lu^{3+}

Answer: (C) Th^{3+} · The council's preliminary key

Q154 TS EAMCET 2016 · 15 May · Offline MCQ

Which of the following metal ions has a calculated magnetic moment value of $\sqrt{24}$ B.M. ?

(A) Mn^{2+}
(B) Fe^{2+}
(C) Fe^{3+}
(D) Co^{2+}

Answer: (B) Fe^{2+} · Official TGCHE final key

Q155 AP EAMCET 2016 · 29 Apr · Offline MCQ

Which of the following characteristics of the transition metals is associated with their catalytic activity?

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(A) Colour of hydrated ions
(B) Diamagnetic behaviour
(C) Paramagnetic behaviour
(D) Variable oxidation states

Answer: (D) Variable oxidation states · The council's preliminary key

Q156 AP EAMCET 2014 · 22 May · Offline MCQ

Which one of the following ions has same number of unpaired electrons as those present in V^{3+} ion ?

(A) Fe^{3+}
(B) Ni^{2+}
(C) Mn^{2+}
(D) Cr^{3+}

Answer: (B) Ni^{2+} · The council's preliminary key

Q157 AP EAMCET 2010 · 30 May · Offline MCQ

The orange coloured compound formed when H_2O_2 is added to TiO_2 solution acidified with conc. H_2SO_4 is :

(A) Ti_2O_3
(B) $H_2Ti_2O_8$
(C) H_2TiO_3
(D) H_2TiO_4

Answer: (D) H_2TiO_4 · Official APSCHE final key

Q158 AP EAMCET 2010 · 30 May · Offline MCQ

Which of the following is a correct statement ?

(A) Aqueous solutions of Cu^+ and Zn^{2+} are colourless
(B) Aqueous solutions of Cu^{2+} and Zn^{2+} are colourless
(C) Aqueous solution of Fe^{3+} is green in colour
(D) Aqueous solution of MnO_4^- is colourless

Answer: (A) Aqueous solutions of Cu^+ and Zn^{2+} are colourless · Official APSCHE final key

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