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CHEMISTRY · EAPCET (EAMCET)

General Principles of Metallurgy

Previous Year Questions with answers

117 questions · **107** papers · **2010–2026** · newest paper first

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What is in this PDF: every General Principles of Metallurgy 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.

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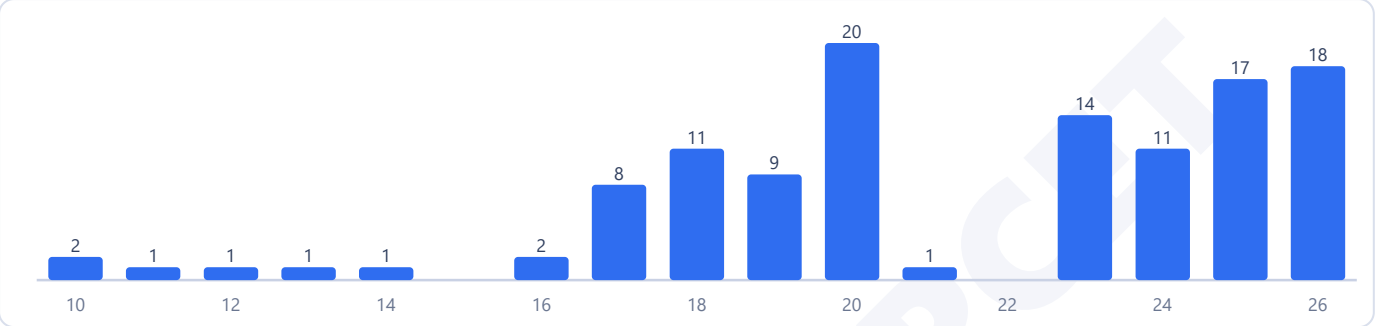
Chapter at a glance

1.9%	117	56 of 77	117 / 0
of Chemistry questions, 2022–2026	questions, 2010–2026	papers asked it, 2022–2026	MCQ / numerical, 2010–2026

Trend. Rising: 1 questions per paper in 2024–2026 against 0.5 in 2022–2023.

Questions per year



Counts are the questions we hold: 117 in 107 papers. 2 questions in this chapter came back in more than one paper.

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

Extraction of Metals	117

How often it comes up

General Principles of Metallurgy holds position 25 among the 31 chemistry chapters in the modern 2022 to 2026 examination span. Across our complete archive of engineering entrance papers from 2010 through 2026, the chapter contributed 117 questions across 149 papers, appearing in 107 of those tests to record a 2.0 percent subject share with an average of 0.8 questions per paper. In the recent five-year timeframe from 2022 to 2026, it gathered 60 questions across 77 sittings, being present in 56 papers to post 0.8 questions per paper and a 1.9 percent subject share.

The chapter did not appear in 2022, but was tested across the remaining years in this window, being absent from twenty-one papers overall during the five-year span. Looking at the two regional state streams between 2022 and 2026, AP examinations yielded 36 questions across 48 papers (appearing in 34 papers, 0.8 questions per paper, 1.9 percent share), while TS examinations generated 24 questions across 29 papers (appearing in 22 papers, 0.8 questions per paper, 2.1 percent share).

During earlier testing between 2010 and 2021, papers included 57 questions across 72 sittings (appearing in 51 tests), delivering 0.8 questions per paper and a 2.0 percent subject share. Across the latest three exam years from 2024 to 2026, question writers set 46 questions across 46 sittings (with 42 papers containing questions), yielding 1.0 question per test and 2.5 percent share. Evaluating trend patterns shows that the share early versus the last three years is up, and the share recent versus the last three years is up.

Most-asked topics

The metallurgy curriculum organizes under one comprehensive testing area:

- **Extraction of Metals** encompasses all 117 questions across the historical archive, including 60 during the recent timeframe through 2026. Frequent problem formats cover ore identification and mineral formulas (bauxite, haematite, magnetite, copper pyrites, malachite, zinc blende, calamine, galena, and cassiterite), concentration techniques (froth flotation, collectors, frothers, and depressants like sodium cyanide), leaching of alumina by the Baeyer process and gold or silver by the MacArthur-Forrest cyanide method, pyrometallurgy and Ellingham

diagram thermodynamic interpretation, roasting versus calcination, blast furnace zones for iron smelting, auto-reduction of copper and lead, and refining methods (distillation, liquation, electrolytic refining, zone refining for semiconductors, Mond process for nickel, Van Arkel de Boer process for zirconium and titanium, and chromatographic methods).

What the questions look like

Exam questions focus on memory recall of specific reagents, ore names, and refining techniques. A classic question asks candidates to identify which metals are purified by the Mond process and the Van Arkel method, requiring recognition of nickel carbonyl formation and volatile iodide decomposition respectively. Another frequent question style tests froth flotation, asking which depressant enables the selective separation of zinc sulphide from lead sulphide by forming a soluble coordination complex with zinc.

Thermodynamic questions based on Ellingham diagrams test whether you can identify the temperature threshold where a carbon or carbon monoxide oxidation line falls below a metal oxide line, making reduction feasible. Questions on copper extraction often test the self-reduction step where copper(I) oxide reacts with copper(I) sulphide in a Bessemer converter to produce blister copper with escaping sulphur dioxide gas.

How to practise it

Construct a master summary table of principal ores for aluminium, iron, copper, and zinc. For each ore, note whether concentration requires gravity separation, magnetic separation, chemical leaching, or froth flotation. Memorise the chemical role of each flotation additive: pine oil or eucalyptus oil acts as a frother; sodium ethyl xanthate acts as a collector; sodium cyanide acts as a depressant.

Review the blast furnace zones for iron extraction: reduction occurs in the upper lower-temperature zone where carbon monoxide reduces iron oxides to spongy iron; limestone decomposes in the central zone to quicklime, which fluxes silica gangue into calcium silicate slag; combustion of coke occurs in the lowest high-temperature hearth. For refining, know that zone refining produces ultra-pure semiconductors like silicon and germanium based on fractional crystallisation principles.

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Q1 AP EAPCET 2026 · 18 May · Shift 2 MCQ

Wrought iron is prepared from cast iron in a reverberatory furnace. The substance commonly used to line the furnace and the chemical process involved in it are respectively

(A) Magnetite , reduction
(B) Magnetite , oxidation
(C) Haematite , oxidation
(D) Haematite , reduction

Answer: (C) Haematite , oxidation · The council's preliminary key

Q2 AP EAPCET 2026 · 15 May · Shift 1 MCQ

Which refining method involves the reactions I and II shown below?

I. $\underset{(Impure)}{Zr} + 2I_2 \rightarrow ZrI_4$

II. $ZrI_4 \xrightarrow{1800\ K} \underset{(Pure)}{Zr} + 2I_2$

(A) Zone refining
(B) Mond process
(C) van Arkel method
(D) Electrolytic refining

Answer: (C) van Arkel method · The council's preliminary key

Q3 AP EAPCET 2026 · 15 May · Shift 2 MCQ

Consider the following steps involved in the extraction of Aluminium. What is Z?

(aq = aqueous ; Hot, conc. = hot, concentrated ; electrolysis)

$$\text{Bauxite} \xrightarrow{\text{Hot,Conc. NaOH/523K}} \text{X (aq)} \xrightarrow{CO_2} \text{Y} \xrightarrow{1473\ \text{K}} \text{Z} \xrightarrow{\text{electrolysis}} \text{Al}$$

(A) $Al(OH)_3$
(B) $Al_2(CO_3)_3$
(C) Al_2O_3
(D) $Al(HCO_3)_3$

Answer: (C) Al_2O_3 · The council's preliminary key

Q4 AP EAPCET 2026 · 14 May · Shift 1 MCQ

Which method of purification is used for refining titanium?

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(A) Zone refining
(B) Van Arkel method
(C) Mond process
(D) Liquation

Answer: (B) Van Arkel method · The council's preliminary key

Q5 AP EAPCET 2026 · 14 May · Shift 2 MCQ

Identify X and Y involved in the extraction of zinc from sphalerite in the sequence given below

Sphalerite $\rightarrow$ Froth flotation $\rightarrow$ X $\rightarrow$ reduction with coke $\rightarrow$ Y $\rightarrow$ Pure zinc

(A) X= Calcination; Y= Electrolysis
(B) X= Roasting; Y= Fractional distillation
(C) X= Roasting; Y= Liquation
(D) X= Calcination; Y= Fractional distillation

Answer: (B) X= Roasting; Y= Fractional distillation · The council's preliminary key

Q6 AP EAPCET 2026 · 13 May · Shift 1 MCQ

The ore calamine on calcination gives its oxide X. The common name of X is

(A) Cuprite
(B) Bauxite
(C) Zincite
(D) Siderite

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

Q7 AP EAPCET 2026 · 13 May · Shift 2 MCQ

Match the following

List – I (Metal refining method)	List – II (Principle)
A. Zone refining	I. Formation and decomposition of volatile compound
B. Liquation	II. Difference in boiling points of the metal and impurities
C. Vapour phase refining	III. Difference in solubilities of impurities in the molten and solid state of metal
D. Distillation	IV. Difference between the melting point of the metal and the impurities

The correct answer is

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

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

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Q8 AP EAPCET 2026 · 12 May · Shift 1 MCQ

Galena is the sulphide ore of element X and cassiterite is the oxide ore of Y. What are X and Y respectively?

(A) Pb, Sn
(B) Sn, Pb
(C) Ge, Sn
(D) Pb, Si

Answer: (A) Pb, Sn · The council's preliminary key

Q9 AP EAPCET 2026 · 12 May · Shift 1 MCQ

Which chemical reaction accurately describes the final step of blister copper formation?

(A) $\mathrm{Cu_2S + O_2 \rightarrow 2\,Cu + SO_2}$
(B) $\mathrm{Cu_2O + C \rightarrow 2\,Cu + CO}$
(C) $\mathrm{2\,Cu_2O + Cu_2S \rightarrow 6\,Cu + SO_2}$
(D) $\mathrm{Cu^{2+} + Fe \rightarrow Cu + Fe^{2+}}$

Answer: (C) $\mathrm{2\,Cu_2O + Cu_2S \rightarrow 6\,Cu + SO_2}$ · The council's preliminary key

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Q10 AP EAPCET 2026 · 12 May · Shift 2 MCQ

What is the depressant used to separate the ore containing a mixture of sphalerite and galena by froth floatation method?

(A) NaCl
(B) NaCN
(C) $\mathrm{Na_2SO_4}$
(D) $\mathrm{Na_2CO_3}$

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

Q11 TS EAPCET 2026 · 11 May · Shift 1 MCQ

Given below are two statements

Statement-I: CO reduces $\mathrm{Al_2O_3}$ to Al

Statement-II: CO is the neutral ligand with one σ and 2π bonds between carbon and oxygen

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

Q12 TS EAPCET 2026 · 11 May · Shift 1 MCQ

In the metallurgy of silver, silver is leached with a dilute solution of KCN in the presence of air to form a complex ion X. This in the presence of zinc converts into another complex ion Y. The ratio of CN^- ligands in X and Y is

(A) $1:1$
(B) $1:2$
(C) $2:1$
(D) $2:3$

Answer: (B) $1:2$ · The council's preliminary key

Q13 TS EAPCET 2026 · 11 May · Shift 2 MCQ

Identify the pair of metals which are refined by zone refining method?

(A) Zr, Ti
(B) Ga, Ti
(C) Ga, In
(D) Al, Cu

Answer: (C) Ga, In · The council's preliminary key

Q14 TS EAPCET 2026 · 10 May · Shift 1 MCQ

The sulphide ore of zinc is X and carbonate ore of zinc is Y.

X and Y are respectively

(A) Kaolinite, siderite
(B) Siderite, calamine
(C) Calamine, sphalerite
(D) Sphalerite, calamine

Answer: (D) Sphalerite, calamine · The council's preliminary key

Q15 TS EAPCET 2026 · 10 May · Shift 2 MCQ

Identify the sets of ores of the same metal

I. Kernite, Kaolinite

II. Magnetite, Siderite

III. Zincite, Calamine

IV. Cuprite, Malachite

The correct answer is (only)

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

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

Q16 TS EAPCET 2026 · 10 May · Shift 2 MCQ

Noble metals like Au, Pt dissolve in a mixture of

(A) 1 part of Conc. HCl + 1 part of Conc. HNO_3
(B) 1 part of Conc. H_2SO_4 + 1 part of Conc. HNO_3
(C) 1 part of Conc. HNO_3 + 3 parts of Conc. HCl
(D) 3 parts of Conc. HNO_3 + 1 part of Conc. HCl

Answer: (C) 1 part of Conc. HNO_3 + 3 parts of Conc. HCl · The council's preliminary key

Q17 TS EAPCET 2026 · 9 May · Shift 1 MCQ

In leaching alumina, concentrated solution of 'X' and in leaching gold, dilute solution of 'Y' are used as leaching agents. X and Y respectively are

(A) $KCN, NaOH$
(B) $NaOH, KCN$
(C) $Ca(OH)_2, NaCN$
(D) $NaCl, KCN$

Answer: (B) $NaOH, KCN$ · The council's preliminary key

Q18 TS EAPCET 2026 · 9 May · Shift 2 MCQ

The metal which is refined by Mond process is X and the metal refined by Van Arkel method is Y. What are X and Y respectively?

(A) Mn, Ga
(B) In, Zr
(C) Ti, Ni
(D) Ni, Zr

Answer: (D) Ni, Zr · The council's preliminary key

Q19 AP EAPCET 2025 · 27 May · Shift 1 MCQ

The metal purified by Mond process is X. The number of unpaired electrons in X is

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

Answer: (D) 2 · The council's preliminary key

Q20 AP EAPCET 2025 · 26 May · Shift 1 MCQ

Which of the following are carbonate ores ?

I. Siderite

II. Kaolinite

III. Calamine

IV. Sphalerite

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

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

Q21 AP EAPCET 2025 · 26 May · Shift 2 MCQ

Which of the following methods is useful for producing semiconductor grade metals of high purity ?

(A) Liquation
(B) Vapour phase refining
(C) Electrolytic refining
(D) Zone refining

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

Q22 AP EAPCET 2025 · 24 May · Shift 1 MCQ

Which of the following is not associated with water molecules ?

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(A) cryolite
(B) bauxite
(C) kernite
(D) borax

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

Q23 AP EAPCET 2025 · 24 May · Shift 1 MCQ

Match the following

List-I (Process)	List-II (Metal)
A) Hall-Heroult process	I) Ti
B) Mond process	II) In
C) van-Arkel process	III) Al
D) Zone refining process	IV) Ni

The correct answer is

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

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

Q24 AP EAPCET 2025 · 23 May · Shift 1 MCQ

Consider the following.

Statement-I : In the extraction of Al by Hall-Heroult process, pure Al_2O_3 mixed with Na_3AlF_6 lowers its melting point and increases conductivity.

Statement-II : Zirconium metal is purified by zone refining method.

The correct answer is

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

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

Q25 AP EAPCET 2025 · 23 May · Shift 2 MCQ

Which of the following reactions is an example of roasting ?

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(A) $ZnCO_3 \longrightarrow ZnO + CO_2$
(B) $2PbS + 3O_2 \longrightarrow 2PbO + 2SO_2$
(C) $Fe_2O_3 + 3C \longrightarrow 2Fe + 3CO$
(D) $FeO + SiO_2 \longrightarrow FeSiO_3$

Answer: (B) $2PbS + 3O_2 \longrightarrow 2PbO + 2SO_2$ · The council's preliminary key

Q26 AP EAPCET 2025 · 22 May · Shift 1 MCQ

In the extraction of iron from haematite, the impurity (x) of the ore is removed in the form of 'y', what are x and y respectively ?

(A) $SiO_2, CaSiO_3$
(B) $CaO, CaSiO_3$
(C) $SiO_2, FeSiO_3$
(D) $P_2O_5, Ca_3(PO_4)_2$

Answer: (A) $SiO_2, CaSiO_3$ · The council's preliminary key

Q27 AP EAPCET 2025 · 22 May · Shift 2 MCQ

Which of the following is used as froth stabilizer in froth floatation process ?

(A) xanthate
(B) aniline
(C) pine oil
(D) $NaCN$

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

Q28 AP EAPCET 2025 · 21 May · Shift 1 MCQ

Kaolinite, a form of clay is the ore of metal x and malachite is the ore of metal y. x and y respectively are

(A) Cu, Zn
(B) K, Cu
(C) Al, Cu
(D) Zn, Al

Answer: (C) Al, Cu · The council's preliminary key

Q29 AP EAPCET 2025 · 21 May · Shift 2 MCQ

Which of the following sets are correctly matched ?

Metal Refining process

I) Hg distillation

II) Cu poling

III) B zone refining

IV) Ti liquation

(A) I, III & IV only

(B) I, II & III only

(C) II, III & IV only

(D) I, II, III & IV

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

Q30 TS EAPCET 2025 · 4 May · Shift 1 MCQ

The ore of which metal is concentrated by leaching?

(A) Zn

(B) Cu

(C) Al

(D) Fe

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

Q31 TS EAPCET 2025 · 4 May · Shift 2 MCQ

Composition of siderite ore is

(A) $FeCO_3$

(B) $ZnCO_3$

(C) $CuCO_3.Cu(OH)_2$

(D) $CuFeS_2$

Answer: (A) $FeCO_3$ · The council's preliminary key

Q32 TS EAPCET 2025 · 3 May · Shift 1 MCQ

In the extraction of iron using blast furnace to remove the impurity (X), chemical (Y) is added to the ore. X and Y are respectively

(A) SiO_2, $MgCO_3$

(B) FeO, SiO_2

(C) SiO_2, $CaCO_3$

(D) SiO_2, $FeCO_3$

Answer: (C) SiO_2, $CaCO_3$ · The council's preliminary key

Q33 TS EAPCET 2025 · 3 May · Shift 2 MCQ

Observe the following statements

Statement – I: The choice of reducing agent for the reduction of an oxide ore can be predicted by using Ellingham diagram, a plot of $\Delta G^{\ominus}$ Vs T.

Statement – II: According to Ellingham diagram, metal oxide with higher $\Delta G^{\ominus}$ is more stable than the oxide with lower $\Delta G^{\ominus}$.

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

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Q34 TS EAPCET 2025 · 2 May · Shift 1 MCQ

Identify the reaction, which is not related to extraction of copper

(A) $2Cu_2S + 3O_2 \rightarrow 2Cu_2O + 2SO_2$
(B) $2FeS + 3O_2 \rightarrow 2FeO + 2SO_2$
(C) $FeO + SiO_2 \rightarrow FeSiO_3$
(D) $SiO_2 + CaO \rightarrow CaSiO_3$

Answer: (D) $SiO_2 + CaO \rightarrow CaSiO_3$ · The council's preliminary key

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Q35 TS EAPCET 2025 · 2 May · Shift 2 MCQ

Metal X obtained from sphalarite ore can be purified by which of the following methods?

(A) Distillation
(B) Poling
(C) Zone refining
(D) Vapour phase refining

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

Q36 AP EAPCET 2024 · 23 May · Shift 1 MCQ

In the extraction of iron, the reaction which occurs at 900-1500 K in blast furnace is

(A) $Fe_2O_3 + 3C \rightarrow 2Fe + 3CO$
(B) $FeO + CO \rightarrow Fe + CO_2$
(C) $3Fe_2O_3 + CO \rightarrow 2Fe_3O_4 + CO_2$
(D) $Fe_3O_4 + 4CO \rightarrow 3Fe + 4CO_2$

Answer: (B) $FeO + CO \rightarrow Fe + CO_2$ · The council's preliminary key

Q37 AP EAPCET 2024 · 22 May · Shift 1 MCQ

In which of the following metals extraction, impurities are removed as slag?

i. Al ii. Fe iii. Cu iv. Zn

The correct option is

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

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

Q38 AP EAPCET 2024 · 22 May · Shift 2 MCQ

Two statements are given below

Statement I: The reaction $Cr_2O_3 + 2Al \rightarrow Al_2O_3 + 2Cr$ ($\Delta G^{\ominus} = -421$ kJ) is thermodynamically feasible

Statement II: The above reaction occurs at room temperature

The correct answer is

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

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

Q39 AP EAPCET 2024 · 21 May · Shift 2 MCQ

The flux used in the preparation of wrought iron from cast iron in reverberatory furnace is

(A) SiO_2
(B) $CaCO_3$
(C) C
(D) $NaCN$

Answer: (B) $CaCO_3$ · The council's preliminary key

Q40 AP EAPCET 2024 · 20 May · Shift 1 MCQ

The reactions which occur in blast furnace at 500 – 800 K during extraction of iron from haematite are

i. $3Fe_2O_3 + CO \rightarrow 2Fe_3O_4 + CO_2$

ii. $Fe_2O_3 + 3C \rightarrow 2Fe + 3CO$

iii. $Fe_3O_4 + 4CO \rightarrow 3Fe + 4CO_2$

iv. $Fe_2O_3 + CO \rightarrow 2FeO + CO_2$

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

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

Q41 AP EAPCET 2024 · 20 May · Shift 2 MCQ

The type of iron obtained from Blast furnace in the extraction of iron is

(A) Wrought iron
(B) Pig iron
(C) Cast iron
(D) Steel

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

Q42 AP EAPCET 2024 · 18 May · Shift 1 MCQ

Which one of the following sets is not correctly matched?

(A) Cuprite, haematite – oxide ores
(B) Calamine, siderite – carbonate ores
(C) Magnetite, malachite – silicate ores
(D) Sphalerite, fool's gold – sulphide ores

Answer: (C) Magnetite, malachite – silicate ores · The council's preliminary key

Q43 TS EAPCET 2024 · 11 May · Shift 1 MCQ

Copper matte is a mixture of

(A) Oxides of Cu and Fe
(B) Carbonates of Cu and Fe
(C) Sulphides of Cu and Fe
(D) Silicates of Cu and Fe

Answer: (C) Sulphides of Cu and Fe · The council's preliminary key

Q44 TS EAPCET 2024 · 10 May · Shift 1 MCQ

Kaolinite is a silicate mineral of metal 'X' and calamine is a carbonate mineral of metal 'Y'. X and Y respectively are

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(A) Fe, Cu
(B) Zn, Al
(C) Al, Zn
(D) Zn, Cu

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

Q45 TS EAPCET 2024 · 10 May · Shift 2 MCQ

Among the following, the calcination process is

(A) $2Cu_2S + 3O_2 \xrightarrow{\Delta} 2Cu_2O + 2SO_2 \uparrow$
(B) $Al_2O_3(s) + 2NaOH(aq) + 3H_2O(l) \rightarrow 2Na[Al(OH)_4](aq)$
(C) $2CuFeS_2 + O_2 \rightarrow Cu_2S + 2FeS + SO_2 \uparrow$
(D) $Fe_2O_3.xH_2O(s) \xrightarrow{\Delta} Fe_2O_3(s) + xH_2O(g)$

Answer: (D) $Fe_2O_3.xH_2O(s) \xrightarrow{\Delta} Fe_2O_3(s) + xH_2O(g)$ · The council's preliminary key

Q46 TS EAPCET 2024 · 9 May · Shift 1 MCQ

A low boiling point metal contains high boiling point metal as impurity. The correct refining method is

(A) Liquation
(B) Distillation
(C) Poling
(D) Vapour phase refining

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

Q47 AP EAPCET 2023 · 19 May · Shift 1 MCQ

In the extraction of copper from copper glance, blister copper is formed by the evolution of a gas X. The shape of molecule of X is

(A) Angular
(B) Planar trigonal
(C) Tetrahedral
(D) Pyramidal

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

Q48 AP EAPCET 2023 · 18 May · Shift 1 MCQ

The metal purified by Mond process is X and metal purified by van Arkel method is Y. X and Y respectively are

(A) Ni, Zr
(B) Mn, Ti
(C) Zr, Ti
(D) Ni, Cu

Answer: (A) Ni, Zr · The council's preliminary key

Q49 AP EAPCET 2023 · 18 May · Shift 2 MCQ

The process which involves the treatment of the ore with a suitable reagent so as to make it soluble but not impurities is called

(A) Froth floatation
(B) Roasting
(C) Hydrometallurgy
(D) Leaching

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

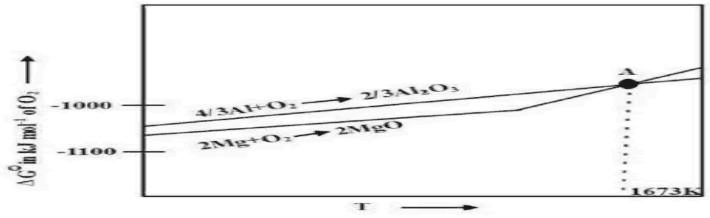
Q50 AP EAPCET 2023 · 17 May · Shift 1 MCQ

Observe the following Ellingham diagram, and identify the incorrect statement regarding it

(see the figure above)

Observe the following Ellingham diagram, and identify the incorrect statement regarding it

క్రింది ఎల్లింఘం పటంను పరిశీలించి, క్రింది వాటిలో ఏ వ్యాఖ్య సరైనది కాదో గుర్తించుము



Options :

1. At point 'A' for the reduction of Al_2O_3 by Mg, $\Delta G^\circ = 0$
   బిందువు A వద్ద Mg తో Al_2O_3 క్షయకరణానికి $\Delta G^\circ = 0$
2. Below 1673K, Mg can reduce Al_2O_3 to Al
   1673K క్రింద, Mg, Al_2O_3 ను Al గా క్షయీకరించును
3. Below 1673K, Al can reduce MgO to Mg
   1673K క్రింద, Al, MgO ను Mg గా క్షయీకరించును
4. Above 1673K, Al can reduce MgO to Mg
   1673K పైన, Al, MgO ను Mg గా క్షయీకరించును

(A) At point 'A' for the reduction of Al_2O_3 by Mg, $\Delta G^\circ = 0$
(B) Below 1673K, Mg can reduce Al_2O_3 to Al
(C) Below 1673K, Al can reduce MgO to Mg
(D) Above 1673K, Al can reduce MgO to Mg

Answer: (C) Below 1673K, Al can reduce MgO to Mg · The council's preliminary key

Q51 AP EAPCET 2023 · 16 May · Shift 1 MCQ

The correct statements regarding froth floatation method in metallurgy are

I. Used for the purification of sulphide ores

II. Used for the roasting of sulphide ores

III. It is based on the relative densities of gangue and ore particles

IV. It is based on the difference in the wetting properties of gangue and ore particles in frothing agent and water

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

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

Q52 AP EAPCET 2023 · 16 May · Shift 2 MCQ

Match the following

List I (Method)	List II (Metal refined)
A) Zone refining	I) Sn
B) Liquation	II) In
C) Vapour phase refining	III) Zn
D) Distillation	IV) Zr
	V) Al

The correct answer is

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

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

Q53 AP EAPCET 2023 · 15 May · Shift 1 MCQ

How many of the following can be purified by using zone refining method?

Ni, B, Ti, In, Ge, Mn, Ag, Si, Ga

(A) 4
(B) 5
(C) 6
(D) 7

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

Q54 AP EAPCET 2023 · 15 May · Shift 2 MCQ

Match the following

List –I (Name of the mineral)	List-II (Type)
A. Calamine	I) Sulphide
B. Bauxite	II) Halide
C. Kaolinite	III) Carbonate
D. Cryolite	IV) Oxide
	V) Silicate

The correct answer is

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

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

Q55 TS EAMCET 2023 · 14 May · Shift 1 MCQ

The ore which is purified by Leaching process is

(A) Zinc blende
(B) Bauxite
(C) Calamine
(D) Haematite

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

Q56 TS EAMCET 2023 · 14 May · Shift 2 MCQ

The metal which is refined by Mond process is (X), by van Arkel process is (Y) and by zone refining is (Z). X, Y and Z respectively are

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(A) Ni, Zr, Ga
(B) Zr, Ni, Ga
(C) Ga, Ni, Zr
(D) Ni, Ga, Zr

Answer: (A) Ni, Zr, Ga · The council's preliminary key

Q57 TS EAMCET 2023 · 13 May · Shift 1 MCQ

Ellingham diagram is the plot of X vs Y. what are X and Y?

(A) ΔG°, T
(B) ΔG°, $\frac{1}{T}$
(C) ΔS°, T
(D) ΔH°, $\frac{1}{T}$

Answer: (A) ΔG°, T · The council's preliminary key

Q58 TS EAMCET 2023 · 13 May · Shift 2 MCQ

$4\mathrm{Ag}(s) + 8\mathrm{CN}^{-}(aq) + 2\mathrm{H_2O}(aq) + \mathrm{O_2}(g) \longrightarrow 4[\mathrm{Ag(CN)_2}]^{-}(aq) + 4\,^{-}\mathrm{OH}(aq)$

The above reaction represents the process of concentration of ore in the extraction of silver. This process is

(A) Leaching
(B) Levigation
(C) Froth floatation
(D) Liquation

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

Q59 TS EAMCET 2023 · 12 May · Shift 1 MCQ

Sphalerite, siderite and malachite are the ores of metals X, Y and Z. The atomic numbers of them are respectively

(A) 30, 26, 29
(B) 26, 30, 29
(C) 30, 29, 26
(D) 29, 30, 26

Answer: (A) 30, 26, 29 · The council's preliminary key

Q60 TS EAMCET 2023 · 12 May · Shift 2 MCQ

Match the following

List –I (Refining method) List-II (Metal to be refined)

A) Zone refining	I) Titanium
B) Poling	II) Tin
C) Liquation	III) Gallium
D) Vapour phase refining	IV) Copper

The correct answer is

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

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

Q61 AP EAPCET 2021 · 19 Aug · Shift 1 MCQ

A compound A is used in paints instead of salts of lead. Compound A is obtained when a white compound B is strongly heated. Compound B is insoluble in water but dissolves in NaOH solution forming a solution of compound C. The compound A on heating with coke gives a volatile metal D and a gas E which burns with a blue flame. Identify the possible species D and C can be respectively?

(A) $D-\mathrm{Hg}\ C-\mathrm{Hg(OH)_2}$
(B) $D-\mathrm{Cd}\ C-\mathrm{Na_2[CdO_2]}$
(C) $D-\mathrm{Zn}\ C-\mathrm{Na_2ZnO_2}$
(D) $D-\mathrm{Zn}\ C-\mathrm{Zn(OH)_2}$

Answer: (C) $D-\mathrm{Zn}\ C-\mathrm{Na_2ZnO_2}$ · The council's preliminary key

Q62 AP EAMCET 2020 · 7 Oct · Shift 1 MCQ

In froth floatation process for concentration of ores, the ore particles float because

(A) They are light
(B) Their surface is not easily wetted by water
(C) They are insoluble in water
(D) They are charged

Answer: (B) Their surface is not easily wetted by water · The council's preliminary key

Q63 AP EAMCET 2020 · 23 Sep · Shift 1 MCQ

Which of the following metals cannot be obtained by auto-reduction of their compounds?

(A) Lead
(B) Mercury
(C) Titanium
(D) Copper

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

Q64 AP EAMCET 2020 · 22 Sep · Shift 2 MCQ

Which of the following statements is NOT correct?

(A) froth floatation is used for removing gangue from sulphide ore
(B) cresols are used to stabilize the froth
(C) sodium cyanide can be used as depressant for preferential separation
(D) aniline can be used as froth enhancer

Answer: (D) aniline can be used as froth enhancer · The council's preliminary key

Q65 AP EAMCET 2020 · 21 Sep · Shift 1 MCQ

Match the following items of List-I with those of List-II
A) Nickel
B) Titanium
C) Germanium
D) Copper
I) Electrolytic refining
II) Zone refining
III) Van Arkel method
IV) Mond process
(printed as a) b) c) d) and i. ii. iii. iv.)

(A) a-(iv), b-(i), c-(iii), d-(ii)
(B) a-(iii), b-(iv), c-(ii), d-(i)
(C) a-(iv), b-(iii), c-(ii), d-(i)
(D) a-(ii), b-(i), c-(iv), d-(iii)

Answer: (C) a-(iv), b-(iii), c-(ii), d-(i) · The council's preliminary key

Q66 AP EAMCET 2020 · 21 Sep · Shift 1 MCQ

In the extraction of silver, zinc metal is used as a reducing agent. What is the molecular structure of the zinc complex formed in this reaction?

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(A) Tetrahedral
(B) Linear
(C) Bent
(D) Square planar

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

Q67 AP EAMCET 2020 · 18 Sep · Shift 1 MCQ

Which of the following statements is not correct?
A) Reduction of alumina to give aluminum by magnesium is thermodynamically feasible
B) The point of intersection of AlO_3 (sic) and MgO curves in Ellingham diagram is below 1665 K
C) Use of magnesium as reducing agent in metallurgy of aluminum is economical
D) Ellingham diagram represents the graphical plot of Gibbs energy vs temp. for the formation of the oxides of common metals and reducing agents

(A) A
(B) B
(C) C
(D) D

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

Q68 AP EAMCET 2020 · 18 Sep · Shift 1 MCQ

Match the items of List-I with those of List-II and choose the correct option given below.
List-I
a) Calcination
b) Roasting
c) Magnetic separation
d) Carbon reduction of metal oxide
List-II
i. Galena
ii. Magnetite
iii. Pyrometallurgy
iv. Malachite

(A) a) $\rightarrow$ (iv), b) $\rightarrow$ (i), c) $\rightarrow$ (iii), d) $\rightarrow$ (ii),
(B) a) $\rightarrow$ (iv), b) $\rightarrow$ (i), c) $\rightarrow$ (ii), d) $\rightarrow$ (iii)
(C) a) $\rightarrow$ (ii), b) $\rightarrow$ (iv), c) $\rightarrow$ (iii), d) $\rightarrow$ (ii)
(D) a) $\rightarrow$ (iii), b) $\rightarrow$ (ii), c) $\rightarrow$ (i), d) $\rightarrow$ (iv)

Answer: (B) a) $\rightarrow$ (iv), b) $\rightarrow$ (i), c) $\rightarrow$ (ii), d) $\rightarrow$ (iii) · The council's preliminary key

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Q69 AP EAMCET 2020 · 18 Sep · Shift 2 MCQ

Which statement is incorrect regarding Hall-Heroult process for metallurgy of aluminum?
1) Use of Na_3AlF_6 lowers the melting point of Al_2O_3
2) Steel vessel with lining of carbon acts as cathode
3) Graphite is used as anode
4) Carbon dioxide gas is generated at cathode

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

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

Q70 AP EAMCET 2020 · 18 Sep · Shift 2 MCQ

Calamine, Bauxite, Malachite and Siderite respectively are ores of _____

(A) Zn, Al, Cu, Fe
(B) Cu, Al, Zn, Fe
(C) Zn, Al, Fe, Cu
(D) Al, Fe, Zn, Cu

Answer: (A) Zn, Al, Cu, Fe · The council's preliminary key

Q71 AP EAMCET 2020 · 17 Sep · Shift 1 MCQ

"Copper matte" is composed of _____

(A) Cu_2S & Cu_2O
(B) Cu_2S & FeS
(C) $CuFeS_2$ & Cu_2S
(D) CuS & FeS

Answer: (B) Cu_2S & FeS · The council's preliminary key

Q72 AP EAMCET 2020 · 17 Sep · Shift 2 MCQ

Which among the following is used as flux in the extraction of iron from oxide ores?

(A) SiO_2
(B) $CaCO_3$
(C) CaO
(D) $CaSiO_3$

Answer: (B) $CaCO_3$ · The council's preliminary key

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Q73 TS EAMCET 2020 · 14 Sep · Shift 1 MCQ

Which one of the following statements is true about the froth flotation method?

(A) Ores possessing magnetic properties can be concentrated in this process
(B) The mineral particles become wet by water
(C) The mineral particles become wet by oil
(D) It is not possible to separate a mixture of two sulphide ores by adjusting proportion of oil to water

Answer: (C) The mineral particles become wet by oil · Official TGCHE final key

Q74 TS EAMCET 2020 · 14 Sep · Shift 2 MCQ

Which element does not exist in elemental state in the earth's crust?

(A) C
(B) S
(C) Fe
(D) Au

Answer: (C) Fe · Official TGCHE final key

Q75 TS EAMCET 2020 · 11 Sep · Shift 1 MCQ

The method which is based on the principle that "different components of a mixture are differently adsorbed on an adsorbent" is called

(A) Zone refining method
(B) Vapour phase refining method
(C) Liquation method
(D) Chromatographic method

Answer: (D) Chromatographic method · Official TGCHE final key

Q76 TS EAMCET 2020 · 11 Sep · Shift 1 MCQ

The solubilities of the impurities in the melt and solid states is not same. This principle is applied during the extraction of boron. This method is known as

(A) Poling
(B) Zone refining
(C) Liquation
(D) van Arkel's method

Answer: (B) Zone refining · Official TGCHE final key

Q77 TS EAMCET 2020 · 11 Sep · Shift 2 MCQ

In the following reactions, identify P, Q and R, respectively

(i) $3Fe_2O_3 + CO \rightarrow 2P + CO_2 \uparrow$

(ii) $Fe_3O_4 + 4CO \rightarrow 3Q + 4CO_2 \uparrow$

(iii) $Fe_2O_3 + CO \rightarrow 2R + CO_2 \uparrow$

(A) P: Fe; Q: Fe_3O_4; R: FeO

(B) P: Fe_3O_4; Q: FeO; R: Fe

(C) P: Fe_3O_4; Q: Fe; R: FeO

(D) P: FeO; Q: Fe_3O_4; R: Fe

Answer: (C) P: Fe_3O_4; Q: Fe; R: FeO · Official TGCHE final key

Q78 TS EAMCET 2020 · 10 Sep · Shift 1 MCQ

Which one of the following ores does not contain iron?

(A) Hematite

(B) Magnetite

(C) Calamine

(D) Siderite

Answer: (C) Calamine · Official TGCHE final key

Q79 TS EAMCET 2020 · 10 Sep · Shift 2 MCQ

Match the following

Ores | Composition

A) Calamine | I) $CuFeS_2$

B) Chalcopyrites | II) $ZnCO_3$

C) Bauxite | III) Fe_2O_3

D) Haematite | IV) $Al_2O_3 \cdot 2H_2O$

The correct match is

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

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

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

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

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

Q80 TS EAMCET 2020 · 9 Sep · Shift 1 MCQ

Ellingham diagram is drawn between

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(A) Change in potential and pH
(B) Change in free energy and oxidation state
(C) Change in free energy and temperature
(D) Change in free energy and polarizability

Answer: (C) Change in free energy and temperature · Official TGCHE final key

Q81 TS EAMCET 2020 · 9 Sep · Shift 2 MCQ

Why iron pyrite is not the ideal choice of ore for the extraction of iron?

(A) It produces polluting gases
(B) Thermodynamically not fessible
(C) Highly stable
(D) Difficult in roasting process

Answer: (A) It produces polluting gases · Official TGCHE final key

Q82 TS EAMCET 2019 · 6 May · Shift 1 MCQ

Which one of the following is used to produce Al by electrolysis?

(A) Molten $Al_2O_3 + Na_3AlF_6$ electrolyte, carbon coated steel vessel cathode, Graphite anode.
(B) $Al_2O_3 + PbF_2$ electrolyte, steel cathode, Graphite anode.
(C) Molten $Al_2O_3 + Na_3AlF_6$ electrolyte, Graphite cathode, Steel anode.
(D) $Al_2O_3 + H_2O$ electrolyte, Graphite cathode, steel anode

Answer: (A) Molten $Al_2O_3 + Na_3AlF_6$ electrolyte, carbon coated steel vessel cathode, Graphite anode. · Official TGCHE final key

Q83 TS EAMCET 2019 · 4 May · Shift 1 MCQ

Statement (A) : Mg can reduce Al_2O_3 above 1350° C.
Statement (B) : Al can reduce MgO below 1350° C.
The correct answer is

(A) Both (A) and (B) are wrong.
(B) (A) is correct, but (B) is wrong.
(C) (A) is wrong, but (B) is correct.
(D) Both (A) and (B) are correct.

Answer: (A) Both (A) and (B) are wrong. · Official TGCHE final key

Q84 TS EAMCET 2019 · 4 May · Shift 2 MCQ

Which of the following statements are correct related to metallurgy?
A) In electrolytic refining of copper, pure Cu is used as anode.
B) Zone refining is based on the principle that impurities are more soluble in the melt than in the

solid state of the metal.

C) TiI_4 upon heating will give pure Ti.

D) Very pure Zr may be obtained by Galvanisation.

E) In copper smelting hot air is used to convert Cu_2S to $CuSO_4$.

The correct answer is

(A) (A), (B), (E)

(B) (B), (C)

(C) (B), (C), (D), (E)

(D) (B), (C), (D)

Answer: (B) (B), (C) · Official TGCHE final key

Q85 TS EAMCET 2019 · 3 May · Shift 1 MCQ

Identify A and B respectively in the following reactions.

$4Au(s) + 8CN^-_{(aq)} + 2H_2O(aq) \xrightarrow{O_2(g)} A(aq) + 4OH^-_{(aq)}$

$A \xrightarrow{Zn(s)} B + 2Au(s)$

(see the figure above)


Question Number : 148 Question Id : 7512364308 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Identify A and B respectively in the following reactions.

$4Au(s) + 8CN^-_{(aq)} + 2H_2O(aq) \xrightarrow{O_2(g)} A(aq) + 4OH^-_{(aq)}$

$A \xrightarrow{Zn(s)} B + 2Au(s)$

క్రింది చర్యలలో A మరియు B లను గుర్తించుము.

$4Au(ఘ) + 8CN^-_{(జల)} + 2H_2O(జల) \xrightarrow{O_2(వా)} A(జల) + 4OH^-_{(జల)}$

$A \xrightarrow{Zn(ఘ)} B + 2Au(ఘ)$

Options :

1. $[Au(CN)_2]^-$; $[Zn(CN)_4]^{2-}$
2. $Au(CN)_4$; $[Zn(CN)_4]^{2-}$
3. HCN ; $[Au(CN)_4]^{2-}$
4. AuCN ; [HCN]

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(A) $[Au(CN)_2]^-$; $[Zn(CN)_4]^{2-}$

(B) $Au(CN)_4$; $[Zn(CN)_4]^{2-}$

(C) HCN ; $[Au(CN)_4]^{2-}$

(D) AuCN ; [HCN]

Answer: (A) $[Au(CN)_2]^-$; $[Zn(CN)_4]^{2-}$ · Official TGCHE final key

Q86 AP EAMCET 2019 · 23 Apr · Shift 1 MCQ

Identify the correct statements from the following:
i. In the extraction of Ag and Au, zinc is used as reducing agent.
ii. Impure zinc can be refined by distillation method.
iii. Malachite is an ore of nickel.

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

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

Q87 AP EAMCET 2019 · 22 Apr · Shift 2 MCQ

In froth-floatation process what is the depressant used in the separation of sulphide ores of Zinc and Lead?

(A) $NaCl$
(B) Na_2CO_3
(C) $NaCN$
(D) Na_2SO_4

Answer: (C) $NaCN$ · Official APSCHE final key

Q88 AP EAMCET 2019 · 21 Apr · Shift 2 MCQ

The pair of metals refined by "vapour phase refining" is

(A) Ni, Cu
(B) Sn, Ni
(C) Zr, Ni
(D) Cu, Zr

Answer: (C) Zr, Ni · Official APSCHE final key

Q89 AP EAMCET 2019 · 20 Apr · Shift 1 MCQ

Which of the following are carbonate ores?
I) Magnetite
II) Kaolinite
III) Siderite
IV) Calamine

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

Answer: (D) III, IV only · Official APSCHE final key

Q90 AP EAMCET 2019 · 20 Apr · Shift 2 MCQ

Which one of the following statements is **not** correct?

(A) Van Arkel method is used for refining of Zirconium
(B) Mond process is used for refining of Nickel
(C) Zone refining is based on the principle that the impurities are more soluble in the melt than in the solid state of the metal
(D) High melting metals are refined by liquation.

Answer: (D) High melting metals are refined by liquation. · Official APSCHE final key

Q91 TS EAMCET 2018 · 7 May · Shift 1 MCQ

Which of the following element is extracted using I_2 as the reactant?

(A) Ni
(B) Zr
(C) Al
(D) Cu

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

Q92 TS EAMCET 2018 · 5 May · Shift 1 MCQ

What is the slag formed during the extraction of iron?

(A) MgO
(B) $FeSiO_3$
(C) $CaSiO_3$
(D) $MgSiO_3$

Answer: (C) $CaSiO_3$ · The council's preliminary key

Q93 TS EAMCET 2018 · 5 May · Shift 2 MCQ

Which of the following reactions is used for Mond's process of metal refining
[s = solid; aq = aqueous (Telugu legend)]

(A) $Ni + 4CO \xrightarrow{350\,K} Ni(CO)_4$

(B) $2[Au(CN)_2]^- + Zn \longrightarrow 2Au + [Zn(CN)_4]^{2-}$ with states (aq), (s), (s), (aq)

(C) $ZnO + C \xrightarrow{1673\,K} Zn + CO$

(D) $Fe_2O_3 + CO \longrightarrow 2FeO + CO_2$

Answer: (A) $Ni + 4CO \xrightarrow{350\,K} Ni(CO)_4$ · The council's preliminary key

Q94 TS EAMCET 2018 · 4 May · Shift 1 MCQ

Identify the correct set of sulphide ores from the following

(A) Fool's gold, Calamine, Kaolinite

(B) Sphalerite, Fool's gold, Chalcopyrites

(C) Copper glance, Siderite, Malachite

(D) Bauxite, Magnetite, Zincite

Answer: (B) Sphalerite, Fool's gold, Chalcopyrites · The council's preliminary key

Q95 TS EAMCET 2018 · 4 May · Shift 2 MCQ

The oxidising and reducing agents respectively for the cyanide extraction of silver from argentite ore are?

(A) O_2, CO

(B) HNO_3, CO

(C) O_2, Zn dust

(D) HNO_3, Zn dust

Answer: (C) O_2, **Zn dust** · The council's preliminary key

Q96 AP EAMCET 2018 · 24 Apr · Shift 1 MCQ

The pair of oxides, which can be leached out, when powdered bauxite containing certain impurities is digested with concentrated solution of NaOH at 473 - 523 K temperature and 35 - 36 bar pressure are

(A) $TiO_2,\ SiO_2$

(B) $SiO_2,\ Al_2O_3$

(C) $SiO_2,\ Fe_2O_3$

(D) $Al_2O_3,\ Fe_2O_3$

Answer: (B) $SiO_2,\ Al_2O_3$ · The council's preliminary key

Q97 AP EAMCET 2018 · 24 Apr · Shift 2 MCQ

Blister copper is extracted from copper pyrites. After removal of slag $FeSiO_3$, blister copper is obtained by

(A) self reduction
(B) reduction with CO
(C) reduction with coke
(D) self oxidation

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

Q98 AP EAMCET 2018 · 23 Apr · Shift 1 MCQ

The ore which is concentrated by leaching

(A) PbS
(B) $Al_2O_3 \cdot 2H_2O$
(C) SnO_2
(D) Fe_2O_3

Answer: (B) $Al_2O_3 \cdot 2H_2O$ · The council's preliminary key

Q99 AP EAMCET 2018 · 23 Apr · Shift 2 MCQ

What is the slag formed in the extraction of iron?

(A) CaO
(B) $CaSiO_3$
(C) $MgSiO_3$
(D) SiO_2

Answer: (B) $CaSiO_3$ · The council's preliminary key

Q100 AP EAMCET 2018 · 22 Apr · Shift 1 MCQ

In Ellingham diagram, the plot is drawn between

(A) Temperature , ΔH°
(B) Temperature , ΔG°
(C) Pressure , ΔS°
(D) Temperature , ΔE°

Answer: (B) Temperature , ΔG° · The council's preliminary key

Q101 AP EAMCET 2018 · 22 Apr · Shift 2 MCQ

The method used for producing semiconductor grade metals of high purity is

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(A) Poling
(B) Electrolysis
(C) Zone refining
(D) Vapour phase refining

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

Q102 TS EAMCET 2017 · 12 May · Offline MCQ

Heating a mixture of Cu_2O and Cu_2S will give

(A) $CuO + CuS$
(B) $Cu + SO_3$
(C) $Cu + SO_2$
(D) $Cu(OH)_2 + CuSO_4$

Answer: (C) $Cu + SO_2$ · The council's preliminary key

Q103 TS EAMCET 2017 · 12 May · Offline MCQ

Which of the following element is purified by vapour phase refining?

(A) Fe
(B) Zr
(C) Cu
(D) Au

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

Q104 AP EAMCET 2017 · 26 Apr · Shift 1 MCQ

Copper matte contains

(A) $CuO,\ Cu_2S$
(B) $CuO,\ FeS$
(C) $Cu_2S,\ FeS$
(D) $Cu_2S,\ FeO$

Answer: (C) $Cu_2S,\ FeS$ · The council's preliminary key

Q105 AP EAMCET 2017 · 26 Apr · Shift 2 MCQ

In vapour phase refining, metal $\underline{A}$ is purified by Van Arkel method and metal $\underline{B}$ is purified by Mond's process. $\underline{A}$ and $\underline{B}$ are respectively.

(A) Zr, Ti
(B) Ti, Zn
(C) Ti, Ni
(D) Zr, Fe

Answer: (C) Ti, Ni · The council's preliminary key

Q106 AP EAMCET 2017 · 25 Apr · Shift 1 MCQ

Reduction of a metal oxide in liquid state is easier than in the solid state because

(A) The value of entropy change of the reduction process is more
(B) The value of entropy change in negligible
(C) The volume is more
(D) The temperature attained is high

Answer: (A) The value of entropy change of the reduction process is more · The council's preliminary key

Q107 AP EAMCET 2017 · 25 Apr · Shift 2 MCQ

Identify the statements which are **not** correct.
a) Copper is refined by Van-Arkel method
b) Zinc is refined by electrolysis method
c) Zirconium is refined by distillation method

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

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

Q108 AP EAMCET 2017 · 24 Apr · Shift 1 MCQ

Match the following:
List - I
A) $Al_2O_3 + 2NaOH + 3H_2O \rightarrow 2Na[Al(OH)_4]$
B) $Ni(CO)_4 \xrightarrow{230^\circ C} Ni + 4\,CO$
C) $Fe_2O_3 \cdot 3H_2O \xrightarrow{\Delta} Fe_2O_3 + 3H_2O$
D) $2PbS + 3O_2 \rightarrow 2PbO + 2SO_2$
List - II
I) Roasting
II) Calcination
III) Vapour phase refining
IV) Electrolysis

V) Leaching

The correct answer is

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

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

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

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

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

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Q109 AP EAMCET 2017 · 24 Apr · Shift 2 MCQ

Identify the correct statement from the following :

(A) Copper matte contains Cu_2S and CdS

(B) Pig iron contains approximately 4% carbon

(C) The cracks formed in the Blister copper is due to the release of H_2S gas

(D) Van Arkel method is used for refining of nickel

Answer: (B) Pig iron contains approximately 4% carbon · The council's preliminary key

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Q110 TS EAMCET 2016 · 15 May · Offline MCQ

Copper matte contains _____.

(A) Cu_2O, Cu_2S

(B) Cu_2O, FeO

(C) Cu_2S, FeS

(D) Cu_2S, FeO

Answer: (C) Cu_2S, FeS · Official TGCHE final key

Q111 AP EAMCET 2016 · 29 Apr · Offline MCQ

Which of the following is carbonate ore?

(A) Cuprite

(B) Siderite

(C) Zincite

(D) Bauxite

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

Q112 AP EAMCET 2014 · 22 May · Offline MCQ

What is the role of limestone during the extraction of iron from haematite ore ?

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(A) leaching agent
(B) oxidizing agent
(C) reducing agent
(D) flux

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

Q113 AP EAMCET 2013 · 10 May · Offline MCQ

Which of the following is not added during the extraction of silver by cyanide process ?

(A) NaCN
(B) Air
(C) Zn
(D) $Na_2S_2O_3$

Answer: (D) $Na_2S_2O_3$ · The council's preliminary key

Q114 AP EAMCET 2012 · 12 May · Offline MCQ

Ni anode is used in the electrolytic extraction of

(A) Al
(B) Mg
(C) Na by Down's process
(D) Na by Castner's process

Answer: (D) Na by Castner's process · Official APSCHE final key

Q115 AP EAMCET 2011 · 8 May · Offline MCQ

Which of the following metallurgical processes does not involve heating ?

(A) Smelting
(B) Calcination
(C) Roasting
(D) Leaching

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

Q116 AP EAMCET 2010 · 30 May · Offline MCQ

Which one of the following is the mineral for tin ?

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(A) galena
(B) cerussite
(C) cassiterite
(D) anglesite

Answer: (C) cassiterite · Official APSCHE final key

Q117 AP EAMCET 2010 · 30 May · Offline MCQ

The chemical reaction that involves roasting process is :

(A) $Fe_2O_3 + 3CO \rightarrow 2Fe + 3CO_2$
(B) $2Al + Fe_2O_3 \rightarrow 2Fe + Al_2O_3$
(C) $2ZnS + 3O_2 \rightarrow 2ZnO + 2SO_2$
(D) $FeO + SiO_2 \rightarrow FeSiO_3$

Answer: (C) $2ZnS + 3O_2 \rightarrow 2ZnO + 2SO_2$ · Official APSCHE final key

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