NEET REVISION SERIES

GENERAL PRINCIPLES AND PROCESSES OF ISOLATION OF ELEMENTS

Revise Most Important Questions to Crack NEET 2020

Q-1 - 12660290

Which one of the following ores is a chloride?

(A) Horn silver

(B) Zincite

(C) Bauxite

(D) Feldspar

CORRECT ANSWER: A

SOLUTION:

Horn silver $(AgC1)$

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Q-2 - 13169521

The method of zone relining of metal is based on the principle of $AIFMIT-2003)$

(A) greatermothilly of the pure metal from that of the impurity

(B) Higher melting poibnt of the impurity then that of the pure metel

(C) greaternoble churactior of the solid metal than that of the impurity

(D) greater solubilly of the impurity in the molten state then the solid

---

CORRECT ANSWER: D

SOLUTION:

The method of pacification called zone refining in based on the praciple that the impurities are more solution in the melt then in the solid state of the metal it is very useful the preducing semiconductors and ofter metals of may hight purity

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Q-3 - 11478970

Which method is not correct for refining of crude metals ?

(A) Liquation : tin

(B) Zone refining : silicon

(C) Electrolytic refining : bliser copper

(D) Mond' process : aluminium

CORRECT ANSWER: D

SOLUTION:

Mond's process : Ni.

Q-4 - 12660332

In zone-refining methode the molten zone

(A) consists of impurities only

(B) contains more impurity than the original metal

(C) contains the purified metal only

(D) moves to either side

CORRECT ANSWER: B

SOLUTION:

Zone refining involves more concentration of original metal by removal of impurity in the fused zone.

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Q-5 - 11479067

Find the number of metals from the given metals which can be commercially purified by zone refining methods :

$Si, Ge, Ga, Al, Ti, Zr.$

CORRECT ANSWER: (3)

SOLUTION:

Metals that can be refined by zone refining are Si, Ge and Ga.

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Q-6 - 12660345

Which technique is used in the manufacture of aluminium from bauxite?

(A) Reduction with magnesium

(B) Reduction with coke

(C) Electrolytic reduction

(D) Reduction with iron

CORRECT ANSWER: C

SOLUTION:

Electroytic reduction Hall and Heroult process.

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Q-7 - 12660413

In zone refining, pure metal is obtained at the

(A) Right end, if zone is travelling from left to right

(B) Left end, if zone is travelling from left ro right

(C) Left end, if zone is travelling from right to left

(D) Centre, if zone is travelling from any side

CORRECT ANSWER: B

SOLUTION:

In zone refining, pure metal is obtained at the left end, if zone is travelling from left to right

Q-8 - 12660365

The substance used in the thermite process of reducing metal ores is

(A) Aluminium

(B) Thorium

(C) Heated platinum gauze

(D) Carbon

CORRECT ANSWER: A

SOLUTION:

In thermite process a mixture of aluminimum powder and ferric oxide in the rate of $1:3$ is used.

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Q-9 - 14158638

Out of the following which ores are calcinated during extraction

(a) Copper pyrites (b) Malachite (c) Bauxite

Correct answer is

(A) a,b,c

(B) b,c

(C) Only a

(D) All

CORRECT ANSWER: B

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Q-10 - 12660295

Which of the following is not an ore of magnesium?

(A) Magnesite

(B) Dolomite

(C) Gypsum

(D) Carnallite

CORRECT ANSWER: C

SOLUTION:

Gypsum $(CaSO_4.2H_2O)$ is an ore of calcium.

Dolomite $(CaCO_3.MgCO_3)$, Magnesite $(MgCO_3)$

and

Carnallite $(KC1.MgC1_2.6H_2O)$ are the ores of

Magnesium.

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Q-11 - 14158610

Which of the following is not an ore:

(A) malachite

(B) calamine

(C) stellite

(D) cerussite

CORRECT ANSWER: C

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Q-12 - 18699180

Generally sulphide ores are concentrated by following process

(A) Hand picking

(B) Washing with water

(C) Leaching

(D) Froth floatation

CORRECT ANSWER: D

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Q-13 - 13169516

Which of the following pairs of metals uis purified by van arkel

method?

(A) Ni and Fe

(B) Ca and In

(C) Zr and Ti

(D) Ag and Au

CORRECT ANSWER: C

SOLUTION:

Small amount very pure metal can be produced when by the van Arkel- deboer metod impure Zx or Ti is heated at an evacuated wessel with I_2. ZrI_4 or TiI_4 is formed and volatilizes (thus swepar ating it from any impurities)

$atatmosphericpressure$

ZrI_(4)$me < sat$499^()C and $boildat$600^()C , Ti_(4)$me < sat$150^()C 377^()C

$. However,$
$underreducedpresure$

the bolding point are lower.

The gasionMI_2 is decompound on a while but magson

filement as more metal in depemds on the filatine it

conductor electricity heter .This more electriic current

must be present to loop a while but

$$\underset{\text{Impure}}{Ti} + 2I_2 \rightarrow TiI_4$$

$$\xrightarrow{\text{tungsten filament}} Ti + 2I_2$$

Zr is produced an a smaller scals than $Ti\ Zr$ is non

more cartain resistence than is Ti and is steel is

chemical plants

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Q-14 - 18256127

van-Arkel method is based on

(A) cupellation method

(B) furnace refining method

(C) poling method

(D) None of the above

CORRECT ANSWER: D

SOLUTION:

van-Arkel method is based on vapour phase refining.

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Q-15 - 12979296

Which of the following metals is purified by converting the metal to the coordination compounds ?

(A) Pt

(B) Ni

(C) Pd

(D) All of these

CORRECT ANSWER: B

SOLUTION:

Purification of metals can be achived through formation and subsequent decomposition of their coordination compounds. For example, impure Ni is converted to $\left[Ni(CO)_4\right]$, which is decomposed to yield pure Ni.

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Q-16 - 18255909

Which of the following metals is extracted by the electrometallurgical method?

(A) Cu

(B) Fe

(C) Na

(D) Ag

SOLUTION:

(c) Na is extracted by the electrometallurgical method.

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Q-17 - 13169509

In the exteraction of copper from its sulphide ore, the metal is

fanally obtained by the reduction of caprous oxide with

(A) copper (1) sulphide

(B) sulphide dioxiode

(C) iron(II) salphide

(D) carbon monoxide

CORRECT ANSWER: A

SOLUTION:

$$4CuFeS_2(s) + 9O_2(g) \overset{\Delta}{T}o 2Cu_2S(l) + 6SO_2(g) + 2Fe_2O(s)$$

$$2Cu_2S(l) + 3O_2(g) \rightarrow 2Cu_2O(s) + 3SO_2(g)$$

The mixture of copper (1) oxide and copper (1) sulphide then undergoes an unusual redox reaction (called self-reduction) to give imkpure copper metal :

$$Cu_2S(I) + 2Cu_2O(s) \rightarrow 6Cu_2l + SO_2(g)$$

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Q-18 - 12660519

Extraction of gold and silver involves leaching with CN^- ion.silver is later recovered by:

(A) distillation

(B) zone refining

(C) displacement with Zn

(D) liquation

CORRECT ANSWER: C

SOLUTION:

Mac arther forest process / cyanide process

$$Ag_2S + 4NaCN \xrightarrow{O_2} 2Na\left[Ag(CH)_2\right] + NaSO_4$$

$$2Na\left[Ag(CN)_2\right] \xrightarrow[Zn]{} Na_2\left[Zn(CN)_4\right] + Ag(\downarrow)$$

Soluble complex

Ag extractes by displacement with Zn

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Q-19 - 12660521

The molecular formula of cryolite is

(A) Fe_3O_4

(B) Na_3A1F_6

(C) $Na_2A1_2O_3$

(D) All of these

CORRECT ANSWER: B

SOLUTION:

Cryolite is an ore of $a1$ containing Na_3A1F_6.

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Q-20 - 12660524

Which of the following is a carbonate ore?

(A) Pyrolusite

(B) Malachite

(C) Diaspore

(D) Cassiterite

CORRECT ANSWER: B

SOLUTION:

Malachite $-CuCO_3.Cu(OH)_2$

Pyrolusite$-MnO$

Diaspore$-A1_2O_3.H_2O$

Cassiterite$-SnO_2$

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Q-21 - 12660321

Calcination is used in matallurgy for removal of

(A) Water and sulphide

(B) Water and CO_2

(C) CO_2 and H_2S

(D) H_2 and H_2S

CORRECT ANSWER: B

SOLUTION:

$$ZnCO_3 \rightarrow ZnO + CO_2$$

In calcination ore is heated in absense of air in a reverberatory furnace to remove moisture and O_2

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Q-22 - 18255946

Aluminothermic process is used for metallurgy of

(A) Pb

(B) Ag

(C) Al

(D) None of these

SOLUTION:

(d) Thermite process is not used for the metallurgy of

Pb. Al and Ag.

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Q-23 - 12660497

Assertion: Durig calcination the ore is heated well below its melting

point in the limited supply of air or absence of air.

Reason: The process of calcination is carried out for sulphide ores.

(A) If both assertion and reason are true and the reason

is the correct explanation of the assertion.

(B) If both assertion and reason are true but reason is

not the correct explanation of the assertion.

(C) If assertion is true but reason is false.

(D) If assertion is false but reason is true.

CORRECT ANSWER: C

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Q-24 - 20470909

In metallurgy process, the flux used for removing acidic impurities is:

(A) silica

(B) sodium chloride

(C) lime stone

(D) sodium carbonate

CORRECT ANSWER: C

SOLUTION:

Limestone,$CaCO_3$ is basic

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Q-25 - 18699192

Hydro metallurgy is used in the extraction of

(A) Cu

(B) Au

(C) Ag

(D) All

CORRECT ANSWER: D

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Q-26 - 12676526

Which of the following process is used in the extractive metallurgy of magnesium ?

(A) Fused salt electrolysis

(B) Self- reduction

(C) aqueous solution electrolysis

(D) Thermite reduction

CORRECT ANSWER: A

SOLUTION:

Highly electropositive metals $(e.\ g.\ ,$ alkali and alkaline earth metals and $Al)$ are extracted by the electrolysis of their fused salts.

Cathode : $Mg^{2+} + 2e \rightarrow Mg$

Anode : $2Cl^{-} \rightarrow Cl_2 + 2e$

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Q-27 - 11478889

Froth flotation process used for the concentration of sulphide ore.

(A) Is based on the difference in wettability of different minerals.

(B) Uses sodium ethyl xanthate, $C_2H_5OCS_2Na$, as collestor

(C) Used $NaCN$ as depressant in the mixture of ZnS and PbS when ZnS forms soluble complex and PbS forms froth

(D) Uses pine oil as frothing agent

CORRECT ANSWER: A::B::C::D

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Q-28 - 18104824

Which one of the following is used as an acidic flux in metallurgy ?

(A) CaO

(B) SiO_2

(C) Na_2CO_3

(D) SO_2

CORRECT ANSWER: B

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Q-29 - 11479014

The method not used in metallurgy to refine impure metal is :

(A) Mond's process

(B) Van Arkel process

(C) Liquation

(D) All are used

CORRECT ANSWER: D

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Q-30 - 11478901

Select the correct statements for calcination :

(A) Carbonate ore is converted in oxide ore

(B) Hydrated oxide ore is converted into its oxide ore

(C) Oxidisable volatile impurities are removed by calcination process

(D) Only calcination occurs for carbinate or oxide ore

CORRECT ANSWER: A::B

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Q-31 - 12660312

Flux is used to remove

(A) Silica

(B) Metal oxide

(C) All impurities from ores

(D) Silica and undersirable metal oxide

CORRECT ANSWER: D

SOLUTION:

Flux is used to remove silica and undesirable metal oxide.

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Q-32 - 14158631

Name the flux to remove the impurity of SiO_2

(A) P_4O_{10}

(B) CaO

(C) N_2O_5

(D) AI_2O_3

CORRECT ANSWER: B

SOLUTION:

CaO is obtained from carbonate.

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Q-33 - 12228038

Zeolite process is used to remove

(A) iron

(B) hardness

(C) zinc

(D) Ph value

CORRECT ANSWER: B

SOLUTION:

Zeolite is a silicate of sodium and found as a rock mineral naturally. When zeolite is brought in contact with harf water a simple exchange of bases takes place. Ca^{2+} and Mg^{2+} ions in hard water are exchanged by Na^{+} ions in zeolite. No precipitate is formed.

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Q-34 - 13169438

Roasting of ores is done in

(A) Presence of an execess of air or oxygen

(B) Presence of superheated steam

(C) Absence of air

(D) Presence of a limited supply of air

CORRECT ANSWER: A

SOLUTION:

Once n ore is concentrated, it may be neccessry to convent the mineral to a compound more suitable the reduction. Reasting is the process of heating a comecetrated ore below its melting point in the pressence of execes of air to obtain the oxide .

Sulphide minerals such as zinc ore (containing the minerals aphalterite ZnS are usually roasted befor reducing them to the metal).

$$2ZnS(s)$$

$$+ 3O_2(g) \overset{heat}{T} o2ZnO(s)$$

$$+ 2SO_2(g)$$

$$\Delta H =$$

$$- 684kJmol^{-1}$$

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Q-35 - 12660331

Heating of ore in presence of air to remove sulphure impurities is called

(A) Calcination

(B) Roasting

(C) Smelting

(D) None of these

CORRECT ANSWER: B

SOLUTION:

Roasting involves heating of the ore either alone or with some other material usually in presence of air below its fusion temperature. In roasting, definite chemical changes like, oxidation, chlorination etc., take place

$$S + O_2 \rightarrow SO_2$$

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Q-36 - 13169485

Which method of parification is represented by the following equation ?

$$Ti(s) + 2I.(2)(g) \rightarrow TiI_4(g)$$
$$\rightarrow Ti(s) + 2I_2(g)$$

(A) van arkel

(B) poling

(C) Cupellation

(D) zone reflation

CORRECT ANSWER: A

SOLUTION:

Van arkel method is very useful for removing all the oxegen nitrogen present in the form imparity in cartain matals like Zr and Ti

The process of capellation involves the septration of Ag At and after noble metals is placed in a capel, it flat dish made of porous refracting meterail, and a blast of but air is directed upon it in a special furnace , the impurities are oxidried by the air and are partly swept awAy by the blass and partly abserhed by the cupel.

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Q-37 - 12660532

Lapis-Lazuli' is a blue coloured precious stone. It is mineral of the class

(A) sodium-alumino silicate

(B) zinc cobaltate

(C) basic copper carbonate

(D) prussian blue

CORRECT ANSWER: A

SOLUTION:

Lapis Lazuli is the aluminium silicate present in earth rocks as blue stone.

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Q-38 - 12660533

During the process of electroytic refining of copper some metals present as impurity settle as 'anode mud'. These are

(A) $Sn$and Ag

(B) $Pb$and Zn

(C) $Ag$and Au

(D) $Fe$and Ni

CORRECT ANSWER: C

SOLUTION:

$Au$and Agsettle down below the anode as anode and during the process of electroylic refining of copper.

Gold is extracted by hydrometallurgical procees based on its property

(A) of bing electropositive

(B) of being less reactive

(C) to form complexes which are water soluble

(D) to form salts which are water soluble

CORRECT ANSWER: C

SOLUTION:

Hydrometallurgy is the process of dissilving the metal or its ore by the action of a suitable chemicla regent followed by recovery of the metal either by electroysis or by the use of a suitable precipitating agent.

$4Au + 8KCN + 2H_0$

$+ \underset{air}{O_2} \rightarrow$

$$4K\left[Au(CN)_2\right] + 4KOH$$

$$2K\left[Au(CN)_2\right] + Zn \rightarrow 2Au + K_2\left[Zn(CN)_4\right]$$

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Q-40 - 12660400

During extraction of Fe, slag obtained is

(A) FeO

(B) $FeSiO_3$

(C) $MgSiO_3$

(D) $CaSiO_3$

CORRECT ANSWER: D

SOLUTION:

During extraction of Fe calcium silicate $(CaSiO_3)$ slag is obtained.

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Q-41 - 13169420

Which of the following statements is incorrect in the contect of minerals ?

(A) All ores are minerals but all minerals are not ores

(B) Minerals form which can be convenienly and rsomonically extracted are know as ores

(C) Minerrals are always a single compounds and have a defnite composition

(D) Naturally occurring crystal bodies consisting of

compounds of metals which are formed as a result of physical and chemical proceswes are called minerals

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CORRECT ANSWER: C

SOLUTION:

Most metals occur in nature (some of the metals ore man made as menetals, the crystalline, inoegenic consitutaents of the rocks that make up the earth's crust ,A mintals may be a definile chemical substant or it may be a homogemens solid mixture

Sillcates and aluminosillicate are the most abundent mkinrals , but they are diffecult to comcetrate and reduce and are therefore generally unimpoltant as commercial source of metals, More importaznt are oxide and sulphides, such as yied iros, tilantum, and meteury respectively.

Minetal depends form which metals can be produced occomically are called ores .All the ores are minerds but all minerals canot be ores,For example, iros is found in the carth's crast as oxide (heamatile, magnetile) sulphides (iros pyrites capper pyrides) and carbonates (siderite) Out of these minerals usially the one (particularally beatmate)which are abandant and do not produse pollating gases .Similar out of the avalible minutes extracted from copper tryrites.

Thus, a metal may occure in a number of minutes but every minetal is not is not stutable for the extraction of the metal, because the mineral may contain low concenction of metal, becomes the minertal may contain low concentriation of metal or may contain a large concentance of impuries which may be may not be feasible or commericially viable

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Q-42 - 11481924

What is the role of depressant in froth floatation process?

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Q-43 - 13169438

Roasting of ores is done in

(A) Presence of an execess of air or oxygen

(B) Presence of superheated steam

(C) Absence of air

(D) Presence of a limited supply of air

CORRECT ANSWER: A

SOLUTION:

Once n ore is concentrated, it may be neccessry to convent the mineral to a compound more suitable the reduction. Reasting is the process of heating a comecetrated ore below its melting point in the pressence of execes of air to obtain the oxide .

Sulphide minerals such as zinc ore (containing the minerals aphalterite ZnS are usually roasted befor reducing them to the metal).

$$2ZnS(s) + 3O_2(g) \overset{heat}{T} o2ZnO(s) + 2SO_2(g)$$

$$\Delta H = -684kJmol^{-1}$$

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Q-44 - 13169446

Which of the following observations made from the Ellingham diagram is wrong ?

(A) The slope of the curves of the formation of metal oxides is negative

(B) Each curve is straight line except when some change takes place in phase $(S - 1 \text{ or } 1 \rightarrow g)$

(C) In the case of less reactive (or less electroposities metal like $Ag \text{ and } Hg, \Delta G^{?}$ become positive at relatively low temperatures .

(D) Any matel oxide with lower value of $\Delta G^{?}$ is more stable than a metal oxide with higher $\Delta G^{?}$.

CORRECT ANSWER: A

SOLUTION:

Consider the formation of a metel oxide (M_2O)

$2sM(s) + O_2(g)$

$\rightarrow 2M_2O(s)$

Is this reaction there is decreases in the value of ΔS ior

M_2O solid and O_2 is a gas i.e. ΔS is negative .This if

temperature is increases $T\Delta S$ becomes . becomes

more negative as is the equation

$\Delta G = \Delta H - T\Delta S$

ΔH

is tengative formation of metal oxide is enothermic and

$T\Delta S$ (it negative quantity) is substrcted ΔG becomes

less negative i.e. ΔG is likely to increases with rise it in

temperature and ythis trend is confirmed from the corves

of metal oxide its Ellingham diagram .The slope of the

curve of th e formation of metal oxides is $-ve$ because

ΔG becomes less negative or temperature with the rise

in temperature

The temperature at which such a change occure is

indicated by an incrfeases in the slope on the $-ve$ side

for example , in the $Zn - ZnO$ "
$curve$,
the melting of Zn is incates by the first abropt increas
-veslope at temperature692K
.The indicates that both silver oxide (Ag,O) and merc

2Ag_(2)O overset (Delta) To 4Ag + O_(2)2HgO overset

(Delta) To 2Hg + o_(2)

$Thisamp \leq st\hat{t}\, hem\eta l$

$\otimes\, ideplacedhigher$

$\rightarrow thediagramcanbereductedbythem\eta l \in vcolved \in$

Ct, Ct_(2) O_(3) + Al rarr Al_(2)O_(3) + 2Ct

$< vbr$

$> Thustherelactivetendencyofthevariousm\eta ls \rightarrow c$

Cu gt Mg gt Al gt Cr gt Zn gt Fe gt Ni`

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Q-45 - 20470928

Ellingham diagram can be drawn for the following:

(A) Sulphides

(B) Oxides

(C) Halides

(D) All of these

CORRECT ANSWER: D

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Q-46 - 20470976

Blister copper is:

(A) impure copper

(B) obtained in self reduction process during bessemerisation

(C) both a and b are correct

(D) None of these

CORRECT ANSWER: C

SOLUTION:

The solidified copper obtained after bessermerisation is impure and contains Fe,Ni,Zn,Ag,Au,etc. as impurity. It has blistered like appearance due to the evolution of SO_2 and so it is called blister copper.

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Q-47 - 13169463

The flex in the smelting of copper is

(A) P_2O_3

(B) CaO

(C) SiO_2

(D) MnO

CORRECT ANSWER: C

SOLUTION:

Durig smelting the roassrted ore is mixed with coke and silica and tranfered to a small blast farunce .The mixture is heated in the processs of axcess of air most of the iron suplhide is oxidiacad to feroms oxide

$2FeS + 3O_2 \rightarrow 2FeO + 2SO_2$

ferrrous oxide conninace with slice and forms femous slicate by this reaction mass of the iron is reamoved as slag

$FeO + SiO_2 \rightarrow FeSiO_3$

Thus sillicu is added to raction copper ore during smelting to removes femous oxide (obtained from iron ore, FeS as a slag and the is $FeSiO_3$

Since fe has greater affinality its oxygen than copper the copper oxide formad during smelting rearts with unclanged irons sulphaide to form oxide and reproshare copper sulphide

$$FeS + cu_2O \rightarrow FeO + Cu_2S$$

Thus it is diffcuit to oxide copper sulphide cotil whete of the irons sulphide is oxidoesed

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Q-48 - 13169472

Which of the following processes causes are pollution ?

(A) Roasting

(B) Calctration

(C) Froth floatation

(D) Both (1) and (2)

CORRECT ANSWER: A

SOLUTION:

Some sulphides ores are are convented to oxides by roatsting. That is, heating below their melting point in the presence of oxygen from air, for example

$$2ZnS(s) + 3O_2(g) \rightarrow 2ZnO(S) + 2SO_2 + 2SO_2(g)$$

Reasting sulphide ores causes air pollation large quentities of SO_2 escape into the atmosphere, where it

cause great enviromental damage .Regulation now required limiting the amount of SO_2 Now most of SO_2 is trapped and used in the marufacture of sulphuric acid

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Q-49 - 11478910

Which of the following processes involve the roasting process ?

(A)

$ZnCO_3 \rightarrow ZnO + CO_2$

(B)

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

(C)

$2PbS + 3O_2 \rightarrow 2PbO + 2SO_2$

(D)

$Al_2O_3.2H_2O \rightarrow Al_2O_3$
$+ 2H_2O$

CORRECT ANSWER: C

SOLUTION:

Roasting involves heating the ore strongly in presence of excess of air (O_2).

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Q-50 - 20470874

Which of the following ore is converted into oxide by roasti but not by calcination?

(A) Chalcocite

(B) Cerrusite

(C) Anglesite

(D) Dolomite

CORRECT ANSWER: A

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Q-51 - 11478867

Which of the following reactions occurs during calcination ?

(A)

$CaCO_3 \rightarrow CaO + CO_2$

(B)

$2Al(OH)_3 \rightarrow Al_2O_3 + 3H_2O$

(C)

$4FeS_2 + 11O_2 \rightarrow 2Fe_2O_3 + 8SO_2$

(D)

$Cu_2S + 2CuO \rightarrow 4Cu + SO_2$

CORRECT ANSWER: A::B

SOLUTION:

Reaction (a) and (b) represent calcination process, whereas (c) is roasting as reduction is done by heating in presence of O_2 and (d) is auto-reduction process.

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Q-52 - 14277895

Which of the following statement ore incorrect regarding roasting?

(A) Impurities are removed in the form of their elemental vapours

(B) Lower oxidation states are oxidised further

(C) Sulphide ores are converted to their oxides

(D) The temperature of the process is maintained just

above the melting point of mixture

CORRECT ANSWER: A

SOLUTION:

Fact based

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Q-53 - 11478783

(xi) While furnace can be used to get temperature above 3000^{C} ?

(A) Blast furnace

(B) Reverberatory furnace

(C) Arc furnace

(D) None of the above

CORRECT ANSWER: C

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Q-54 - 11478855

Liquation process may be applied for the purification of.

(A) Copper

(B) Tin

(C) Iron

(D) Lead

CORRECT ANSWER: B::D

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Q-55 - 18255943

Mond's process is used for the purification of

(A) Ni

(B) Ti

(C) Zr

(D) Hg

SOLUTION:

(a) Mond's process is used for the purification of Ni.

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Q-56 - 11478861

Metallury involves steps :

(A) Cencentration of ore

(B) Reduction of ore

(C) Purification

(D) Alloy formation

CORRECT ANSWER: A::B::C

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Q-57 - 11478866

Auto-reduction process is used for the extraction of :

(A) Cu

(B) Hg

(C) Pb

(D) Al

CORRECT ANSWER: A::B::C

SOLUTION:

Sulphides of Cu, Hg, Pb (less electropositive metals

can be reduced with the use of any additional reducing agent.

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Q-58 - 11478873

Which of the following statements are correct regarding metallurgy of iron ?

(A) Coke reduces FeO to Fe above $1073K$

(B) CO reduces Fe_2O_3 to FeO below $1073K$

(C) Coke reduces Fe_2O_3 to FeO above $1073K$

(D) Coke reduces Fe_2O_3 to FeO above $1073K$.

CORRECT ANSWER: A::B

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Q-59 - 11478971

Which of the following combination represents the correct matching of metals with the most commonly employed ores for their extraction ?

(A)

Fe	Zn	Cu	Al
Haematite	Sphalerite	Copper pyrites	Bauxite

(B)

Fe	Zn	Cu	Al
Iron pyrites	Zincite	Cuprite	Clay

(C)

Fe	Zn	Cu	Al
Siderite	Calamine	Malachite	Clay phosphate

(D)

Fe	Zn	Cu	Al
Chalcocite	Magnetite	Copper glance	Bauxite

CORRECT ANSWER: A

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Q-60 - 12660389

$Ag_2S + NaCN \rightarrow (a)$

(a) $+ Zn \rightarrow (d)$

(b) is a metal. Hence (a) and (b) are

(A) $Na_2\left[Zn(CN)_4\right], Zn$

(B) $Na\left[Ag(CN)_2\right], Ag$

(C) $Na_2\left[Ag(CN)_4\right], Ag$

(D) $Na_3\left[Ag(CN)_4\right], Ag$

CORRECT ANSWER: B

SOLUTION:

Hydrometallurgy.